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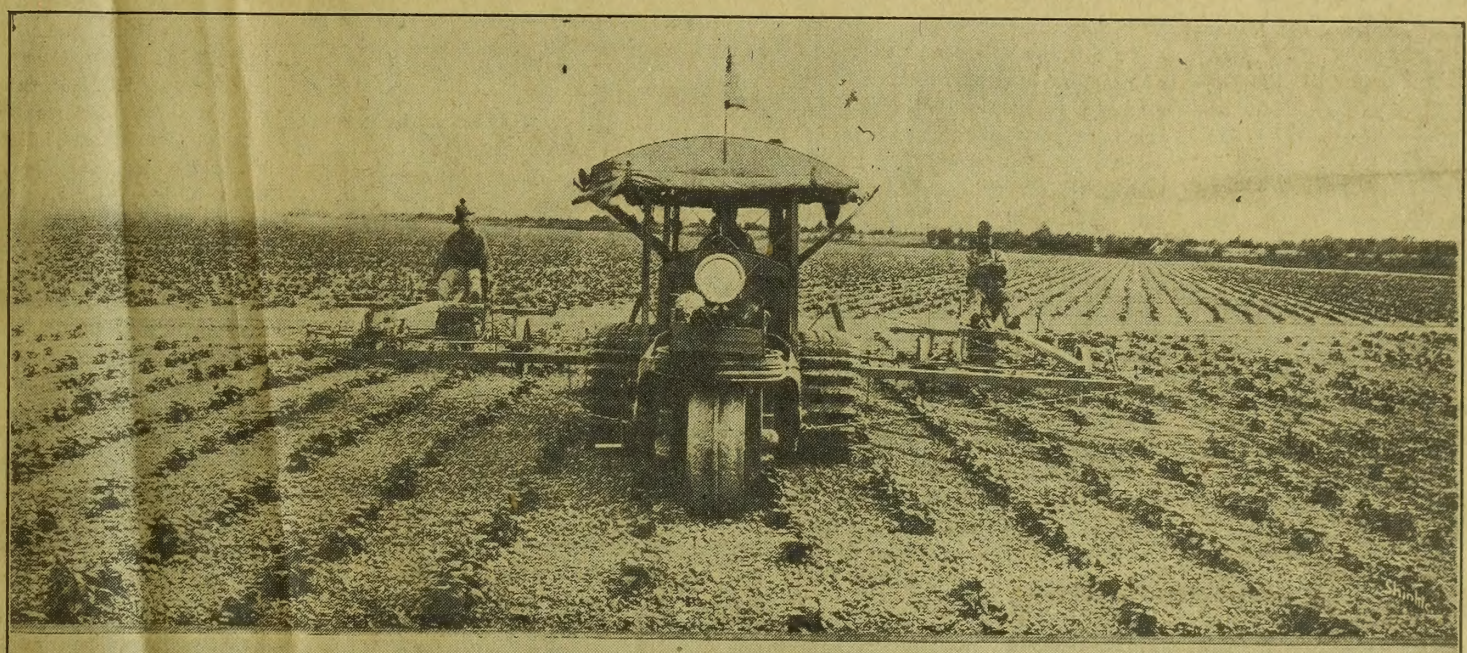
# CALIFORNIA CULTIVATOR

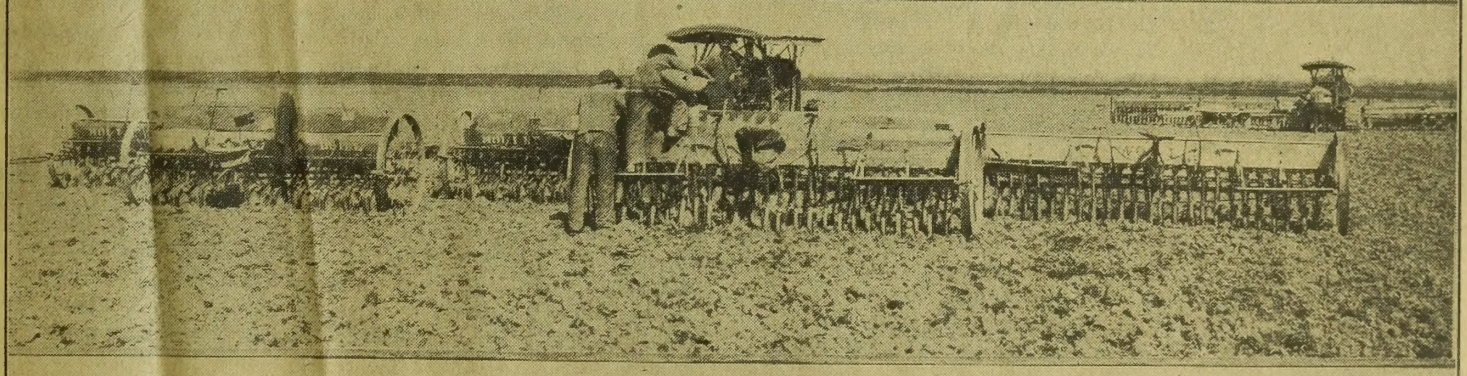
and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — July 1 1922 — No. 1

## Motive Power on the Large Ranches





Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877. Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, July 1, 1922

OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

☞ If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## EDITORIALETTES

This week's cover illustrates the use of farm tractors in the present day large farm operations. The photographs were furnished by Sutter Basin Company, Sacramento. The tractor has made it possible to cover a large acreage, where it is necessary that it be done, in a limited time. You will note from the lower picture, however, that the horse drawn implements still have their place. There will always be some work that can be done better or more cheaply by horses despite the fact that the tractor is the modern motive power for the farm.

* * *

The Cultivator is fortunate in being able to give its readers again this week an article by Mr. Cruess, for Mr. Cruess wastes no words; every column is packed full of information. Last week he explained the process of making maraschino cherries; this week he tells how to can meats, fruits and vegetables. In the fruit products laboratory at Berkeley and in the orchards he has been for years working out processes of economical utilization of California fruits, and the results of his work have consistently been put into the fruit growers hands through university bulletins and circulars, through the farm papers, through the daily press and through personal contact. Mr. Cruess has been a very busy man and a valuable one to the California fruit grower.

* * *

The federal government has investigated the causes of wear on highways, and army engineers report that light weight, swiftly running automobiles cause more damage than heavy trucks at low speed. Bear in mind this does not refer to heavy loaded trucks run at high speed—which often occurs in California, causing serious damage to our highways. The investigation suggests that the people are paying a tremendous cost for allowing all kinds of cars to tear around the country like mad, without regard to the enormous damage they do to highway surfaces.

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## INDEPENDENCE DAY

Before another issue of the Cultivator comes from the press we will have celebrated another national birthday and started on the 147th year of our existence as an independent nation.

To the small boy and even to some of us older ones the Fourth of July is simply a holiday with the noise of fire crackers, toy pistols and other fireworks, all of which is all right as it serves to impress on our memory the fact that this is a holiday different from all the rest, but we often wonder if the price paid in loss of life, fires, etc., due to careless handling of fire works is not too great considering the enjoyment we get out of it.

The writer still remembers as a boy the joys of looking forward to the coming of the Fourth of July and also some of the pain and sorrow of the day after, and would be the last to take away the small boy's pleasure in fireworks, but if some other way of celebrating this grand day could be invented, that would do away with the death dealing fireworks, we would gladly welcome it. However, so long as we must use firecrackers, toy pistols and all the other paraphernalia to properly celebrate our natal day, let's be careful and try to reduce the accidents as much as possible. The cities have their regulations regarding fireworks, but not so the farms. If the small boy must have fireworks be sure they are set off far enough from buildings or other inflammable material so that there is no danger of fire.

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## A FIELD

Here's to the meadow lark! Cheering on as I left the orange groves and passed through the alfalfa fields, again amongst the Joshua trees of the Mojave, in Nevada, in the great and as yet unproductive plains of Uteah, and then early this morning in Eastern Colorado, or maybe Kansas, as the engineer wakened and jerked out two sections of vertebrae by backing his long train to secure some slack which he promptly "took up" and got started by a tremendous pull on the throttle, the meadowlark saves the day. I wanted to sleep this morning, but not knowing that, the engineer saw the sun was about to rise, besides it was time to move the watches ahead one hour, so he jerked. I was mad and said—something—and was about to repeat it when, floating through the window in the clear liquid notes of the lark came

We-have-much-to-be-thankful-f-o-r.

Of course everyone else has heard the meadowlark say that a million times, but with me it took a trip from the Pacific to the Atlantic to get into the right frame of mind to hear what the little bird has been saying all his blessed life.

### Ute-ah!

Then there's Utah. Since the days of red school house geography the "Great American Desert" in big letters which covered much of the map west of the Mississippi was supposed to be maintained as a location for the stories of one J. Fennimore Cooper and for the activities of Kit Carson, Buffalo Bill and certain Indian tribes. Also in the western Rockies and in the Wasatch range were other Indians called the Utes. I don't know whether the Utes called their home Utah, but apparently the map makers came along and wrote in that unknown country "Utah," and it stuck. Everyone else has probably known that always—I didn't.

### Colorado

The state of Colorado pours so much of its red mud into the river which bears its name—rather whose name it bears—that "Colored" is easy to remember, even if poor Spanish.

### Kansas

The Indians established their early connection with Kansas by fixing "Great Smoky Water" as its name. Missouri means muddy, so it appears mud enters quite generously into our existence.

It sure does so far as these black Kansas fields are concerned. But there is little of the black to be seen today. Solid gold! As far as the eye reaches on either side, wheat, wheat, wheat! These fields were one of the many "saviors of the world war."

This morning when the meadowlark was singing we were much farther north, and while all grain was headed out, rich dark green prevailed. Later a hint of gold was followed by deep golden waving grain, mile after mile. Only once did I see bound sheaves. Harvesting will begin soon and it's to be one big job. This is Sunday, June 18. Today's Kansas City Star says regarding one county under the head "Need 2,000 Hands:" "The first binder started yesterday in Harvey County's 135,000 acre wheat field on the farm of Henry Rogers northeast of town. Wheat is unusually good this year. An average of 20 bushels to the acre is expected. There are whole neighborhoods that are talking 35. There are fields so thick and rank a jackrabbit cannot get through them, which may yield 50 bushels to the acre. Harvey County will need 2000 harvest hands in the next few days. High wages are being offered, with good beds and fried chicken thrown in for good measure."

At Salina I dropped off and chatted a moment with a dirt farmer. I asked as to wheat all being bearded wheat and he said: "Yes, this is hard wheat—real wheat—Kansas wheat, the kind the world makes bread of." He added: "The general condition of the wheat about Salina is better than was thought, some of the heads being longer than usual and the berry plump and well filled. Some fields on the upland, however, are not so good. The damage from all sources, including the heat, does not exceed ten per cent."

By the time these words are read by Cultivator readers the wheat harvest of Kansas will be in full swing. The only danger now is a hail or windstorm to lodge the heavy straw.

The corn is a foot high along here, Manhattan. If it were not such an old chestnut I might refer to its growing making a sound like unto the hum of an electric fan motor.

### About California

One thing noticeable in traveling is that the principal topic of conversation is—California. If the train stops and all is quiet,—Listen!

"Well, sir, when I was in Los Angeles" or "Those folks in San Francisco, etc.," is sure to be heard up from the other end of the car. For California there is usually expressed either intense hatred or strongest love. The hatred is, however, most evident on the part of those who have never been in California. They have it "from those who live there and would get away if they could" that there is "nothing in California but climate and suckers." I have occasionally tried to break in with some reference to "The two first counties in all America" and besides a total of 13 out of highest 50 in the matter of value of crops produced, and have brought forth "By gosh, I don't believe it!"

### You See, It's This Way

I have a little fund of facts on hand to pull on these California haters—and lovers. We Californians do supply ourselves with information as to California's worth and accomplishments, but really we who live in it, don't—I don't, at least—begin to appreciate its solid, substantial wealth producing, comfort giving worth. Lately I have been gathering some additional data. Inspiration has come to us all from California's mountains bearing the oldest and biggest of living trees, its valleys carpeted with golden poppies, its mountain peak reaching the highest of any in the nation, its valley in the Colorado desert which decends to lowest altitude, or rather to greatest lack of altitude, but there is sometimes opportunity for clinching an argument in referring to more

### Material Things in California

First in gold—though the golden orange brings five times more wealth than does the metal—first in lemons, oranges, prunes, raisins, peaches, olives, pears, dates, almonds, walnuts, cantaloupes, lettuce, celery, asparagus (two-thirds of U. S. supply from California), barley, beans (dry and green), honey (one-seventh of all produced by the nation) and—but stop a moment for a fish story. The state maintains 19 hatcheries located on mountain streams from Bear Lake, San Bernardino County, to Clear Creek in Siskiyou, and these hatcheries are turning literally billions of young fry into stream and ocean so that we will have fish stories for the next generation; meantime we skin the world on quality and quantity of sardines, we are the whole show on canned tuna (the chicken of the sea) the finest lobsters (you fellows back here in the East have the record on crabs), have the biggest bass, the finest trolling, the meanest shark, the biggest whales and, when I stopped for breath, the fellow across the aisle shouted "The —est liars" and as he grabbed his valise and went for the door, I shot at him "California excels in everything!"

If any are poor at guessing and can not supply the letters in the blank before "est" let them try b-i-g.—C. B. M.

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# California Cultivator

Vol. LIX No. 1 | Los Angeles, July 1, 1922 | One Dollar Yearly

# Improved Method of Inarching or Bridge-Grafting

By C. S. Pomeroy

IN view of the interest in bridge grafting or inarching of injured or decadent citrus trees which is indicated by the numerous references to such practices in recent issues of the horticultural press it seems worth while to call attention to a method of performing this operation which has proven new to the large number of growers to whom it has been mentioned but which has been in successful use by at least one budder for 12 or 15 years.

The usual practice in inarching is to insert the cut end of the seedling or scion into an inverted T-shaped cut in the bark and with proper attention to the details of the work many operators become very successful. Failure is most often due to the breaking loose of the scion from the tree trunk, the natural swaying of the tree with the wind often being sufficient to prevent healing of the tissues. When the operation is successful the small area of the scion carrying nourishment to the trees makes it necessary to have several of them in order that the tree may function properly.

L. H. Dawson of Corona is the budder who has been using what appears to be an improved method for this operation. For inarching seedlings he digs a hole near the base of the tree and sets in the balled seedling. He then cuts out a section of bark from the tree trunk about an inch and a quarter wide and 12 to 15 inches long., leaving a loose flap of bark at the upper end of the area as shown in the accompanying illustration. The seedling is then laid alongside the tree and its top cut back to a point a little above the top of the area where the bark was removed from the tree. The side of the seedling next the tree is then cut flat, removing about one-fourth the diameter of the twig from the part opposite the cut in the tree. The top of the twig is beveled to a thin edge which is placed under the flap of bark at the upper end of the cut in the tree. The seedling is placed snugly in position against the exposed wood of the tree

**Inarching Eureka Lemon**

Decadent old Eureka lemon tree showing seedling sour orange being inarched by Dawson method. Whip of seedling has been nailed in place against the wood of the tree trunk, the end of the whip extending under a flap of bark. Note pot of hot grafting wax at right.

and nailed with several copper or iron brads, one being driven through the flap of bark covering the cut end of the seedling. This gives two long lines of possible union of the scion and tree, each extending the entire length of the exposed area on the tree, thereby greatly increasing the chances of success of the operation and providing such large areas for the transferring of food elements that only one or two such seedlings need be inarched even on very large trees.

After nailing the seedling in place against the tree it and the remaining area of exposed wood of the tree are painted with hot grafting wax, all parts being thoroughly covered, including the outer side of the flap of bark. A double thickness of waxed cloth is then prepared of the proper width to fit inside the edges of the wound and long enough to cover the wound and extend an inch or so above the flap of bark. This is laid on the hot wax just applied to the wound and is tucked snugly around the seedling and inside the edges of the wound so as to fill it. Another coating of hot grafting wax is then applied to the cloth completely filling all crevices and making a weather proof covering.

The strings holding the sack around the ball of the seedling are then cut and the sack opened from the ball. The dirt is filled in around the ball and it is thoroughly watered at once. The trees inarched in this way should be watered sufficiently often to make sure that the roots of the seedling do not dry out.

It will be seen from the above description that by this operation the inarched seedling is held in close contact with the trunk of the tree for a considerable distance and the wound made in the operation is thoroughly and completely covered and made entirely weather proof. A similar method to this can be employed for bridge grafting by simply making the long cuts on both sides of the area as described above instead of simply inserting the ends of the grafts as is customarily done.

# Sidelights on the L. A. Union Stockyards

By A. L. Spellmeyer

RECENTLY in the Cultivator we asked for information regarding the stockyards plan, and the cards on the table, and the response has been full and frank. Though I have for many years believed a stockyards at Los Angeles would supply a definite market and stimulate production in this Southwest it has been a question of reserved judgment on this particular stockyards plan until we could secure complete information as to the backers and their plans of procedure.

In common with many stockmen and farmers who have suffered heavy loss from what we consider economic injustice and greed of middle marketers, I am inclined to suspicion and close scrutiny of any particular plan that apparently affects production. Therefore, there was much information I wanted about this stockyards, the men in it, and whether it was to be a stockyards for producers and production, or merely a promotion for the real estate, industrial and stock handling profits, with a central market merely created for its milking qualities. I did not use gloves, or leave anything unasked, and with suspicion probed the matter so fully that I am convinced this present stockyards effort is started to benefit and stimulate the livestock industry. I am quite sure this stockyards matter is the one thing of present vital interest to every stockman and farmer of this Southwest.

It may be well to outline the conditions that convinced Dr. Clements and others of the necessity for this stockyards market. The time has arrived when swine production in the vicinity is totally inadequate to supply pork needs or even a considerable percentage of them, and this production in cattle has been at times of the year also spotted. Production has lagged, and the small man in cattle, sheep and swine is notable by his absence, and pig and calf clubs are mostly past memories. Yet meat needs are growing. Hundreds of thousands come to this Southwest yearly. They must be fed, and it does not build up our California, Arizona, Utah and Nevada district to have that meat come from a thousand miles, or from Kansas, in cold storage cars.

The Los Angeles chamber of commerce wanted a market. J. A. McNaughton responded and enlisted the support of some of the heaviest financial men in the country, and the stockyards are here, breaking ground and ready to open for business next winter. They are born from a demand for a market that will stimulate production, through better returns for producers and the encouragement of small production.

The stockyards are organized as a syndicate with subsidiary companies, and the backers include Arthur G. Leonard, John A. Spoor, Halsey E. Poronto, Richard Fitzgerald, John J. Mitchell, E. V. R. Thayer, F. H. Prince, G. F. Gardner and P. D. C. Ball. F. S. L. Harman will be industrial agent and J. A. McNaughton represents the syndicate.

The men listed have various connections in Chicago stockyards and transit companies and in New York, Boston and St. Louis bank and finance circles. They are far more intimately connected with this district of the Southwest than most stockmen realize. I note a name or two I have seen prominent in the federal trade commission reports of meat packers and stockyards. On the whole they are a very heavy and constructive bunch of men, converted to the fundamental that producers must prosper before the city business makes a profit. We can't ask for more, and no group of men know stockyards and livestock finance necessity better than they.

One of these men supplied the money that made possible the activity in cattle here ten years ago in feeding and production develop-

(Continued on Page 14.)

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# Agricultural News Notes of the Pacific Coast

## Northern California

California has ten cooperative creameries owned by dairymen.

Potatoes are being dug in several sections of the Sacramento Valley.

Dodgeland, Butte County, is making second cutting of alfalfa. Wheat harvesting has begun.

The first carload of table plums was shipped from Colusa, June 21, through the Fruit Exchange.

E. B. Prine of Fairview, Colusa County, says barley is running from 12 to 18 sacks per acre.

Sale of 18,000 sacks of rice is reported by the California Rice Growers Association at $2.77 for No. 1 Paddy.

More than 25 bids were received by the Prune and Apricot Growers Association on its big plant to be built at Colusa.

Dry north winds in the Sacramento Valley during the early growth of lettuce and carrots have cut down crop quality.

Several fires have been reported in harvest fields with destruction of thousands of sacks of harvested and standing grain.

The Sebastopol Berry Growers Association expects to ship about 150 carloads of berries to Eastern markets this season.

Wm. Gould has resigned his position as horticultural commissioner of Yolo County. H. W. Van Tassell has been named his successor.

The Sebastopol Berry Growers Association has started carload shipments of loganberries to the East. The first carload went to Omaha.

Hetch-Hetchy dam and reservoir, to supply water and power to San Francisco, is expected to be completed by the middle of December.

Work on the new packing house at Colusa of the Prune and Apricot Growers, is being rushed to completion to handle this season's crop.

The Glenn County farm bureau picnic will be held at Butte City, July 4. President Walker of the state farm bureau will be the principal speaker.

Colusa barley growers say: "Some sales have been made in this vicinity. Prices, however, are not sufficiently high to warrant any particular enthusiasm."

Sonoma County supervisors have let contracts for grading and rocking the western section of the Sebastopol-Freestone highway and the one over Brooks Creek.

I. H. Wilson of the California Canning Peach Growers says that practically every ton of peaches in Sutter County has been sold. Sales on the basis of the association's price of $60 per ton.

Berry growers of Sebastopol, Sonoma County, say that the berries this year have had ideal weather to bring them to highest perfection. They have had no trouble in securing plenty of pickers.

Over 200 Napa County farmers made a tour of poultry ranches and hatcheries in Sonoma County on Saturday, June 17. The visitors were guests of the Sebastopol chamber of commerce and Cunningham farm center at a noon lunch at Analy high school.

## Central California

Sweet potato planting is practically finished in Stanislaus County.

Tulare County groves will soon start fumigating for citricola scale.

There are over 2,000 acres planted to melons in the Turlock district.

Citrus thrips have been extremely numerous in Tulare County this season.

The Turlock district expects to ship its first melons by July 15; carload lots by July 25.

Selma, Fresno County, started the fruit shipping season in this district, June 6, on apricots.

At Reedley, Fresno County, fruit packing has begun with the expectation of shipping two cars a day.

The Turlock and Modesto irrigation districts have voted to distribute for themselves power from the Don Pedro dam.

First cutting of the new crop of lettuce in the Salinas Valley of Monterey County will be made within a few days.

Horticultural Commissioner Brann of Tulare County is arranging for cantaloupe inspection in the southern districts of the county.

Frank Daybell, president of the Tri-City Citrus Club of Ducor, Richgrove and Jasmine promises that the club will make exhibit at the state fair.

About 1,000 acres have been planted to cantaloupes in the Earlimart, Tipton, Pixley and Delano sections. This district will be ready for shipments about July 5.

The 920 acre ranch of F. A. Waldeck in the Auckland district 12 miles north of Woodlake, Tulare County, was sold last week to Fred Hedden of Los Angeles.

More than 500 farmers of the Turlock irrigation district made inspection tour and visited drainage demonstrations along canals and ditches of the district, June 22.

Fresno County farm bureau has a square deal department. The purpose of the organization is to assist ranchers in dealing with questions of production and marketing.

Following the resignation of A. E. Beers of Merced, E. E. Welty has been appointed county horticultural commissioner. Mr. Welty has served San Joaquin County as inspector for the past 15 years.

The Valley Fruit Growers Association at a recent meeting at Fresno set a price of 35 cents an hour for fruit picking, five cents per 40 pound box for peach cutting, six and one-half cents per 50 pound box.

Monterey County supervisors have relinquished to the state highway commission control over a portion of the race track road within the city of Salinas. Work will at once be commenced on this strip to put it in condition in time for the Rodeo July 24-29.

At the dairymen's convention held in Modesto, June 12, Manager Baird of the Northern California Milk Producers and J. N. Henderson, president of the Associated Dairymen, were speakers. Joseph Paxton of Athlone and F. H. Davis of Fairmead were delegates.

## Southern California

Many cantaloupe growers fear that heavy shipments will break the market.

Riverside County will have a half a dozen canneries in operation this season.

Onion growers of the Coachella Valley are talking marketing organization plans.

The Deglet Noor Date Association has let contracts for its new packing house.

Yucaipa Valley estimates that at least 5,000 persons visited that section during cherry week.

The Southern California Purebred Livestock Association met at the Maxwell farms in the San Fernando Valley, June 24.

Imperial Valley is making very heavy shipments of cantaloupes, several days' count running close to the 500 carload mark.

Eight carloads of feeder cattle have gone in last week from Hackberry, Arizona, to Cram Bros. ranch in the Chucawalla Valley.

A citrus growers department is to be organized in the Los Angeles County farm bureau at the citrus institute held at Pomona, July 14.

The Elsimore farm center held its annual farm meeting, June 12, electing T. L. Rush director, and R. H. Kirkpatrick secretary-treasurer.

Permanent buildings are to be erected on the fair grounds at Pomona. Two cattle barns and two hog buildings are included in the plan.

Chris Westgard of Brawley shipped to New York a carload of Newcastle apricots for which he received $1.75 per crate at the Brawley station.

W. B. Hooper of Carpinteria has been selected by the state college of agriculture as walnut specialist with headquarters at the experiment station at Riverside.

Bee Inspector Hanson of San Diego County is making a tour of inspection of all the apiaries in the county. He says there will be an unusually large production of water white honey.

The preliminary estimate of the Lima Bean Growers Association: 96,000 acres planted to Limas, 13,000 to Baby Limas. This was in the five counties of Southern California.

Calipatria reported on June 1: "More watermelons have been shipped so far this season than cantaloupes. Cantaloupes are later this season than usual wnile watermelons are earlier."

Apricot growers met at Elsinore June 20. Manager Coykendall and Field Manager Dunlap of the California Prune and Apricot Growers were present and talked over the reorganization plans of the asociation.

The Apple and Pear Growers Committee of Sixteen of Southern California has recommended formation of a grower controlled sales organization to be known as the Deciduous Fruit Distributors of Southern California.

The Southern California Automobile Club is insisting on honest labeling of all oil reservoirs in the thousands of oil stations throughout the southern counties. Los Angeles County has already passed an ordinance and it is hoped others will.

## The Coast and General

Alfalfa harvest is reported lagging in Arizona because of labor shortage.

A good yield of alfalfa seed is indicated in the Yuma section of Arizona.

Skagit County fair will be held at Burlington, Washington, August 15-29.

Nevada reports abundant water for irrigation. Alfalfa and grain crops are growing rapidly.

The Wenatchee District Cooperative Association, Washington, sold last year 2500 cars of fruit.

Yuma section of Arizona reports June drop of citrus normal, leaving promising crop on the trees.

Royal apricots, Mission figs, Santa Rosa plums and some blackberries are on the market from Arizona.

Oregon State Grange met last week at McMinnville. C. E. Spence of Oregon City was elected master.

Hot weather has knocked out the aphis which were something of a problem in fields of Southern Arizona.

Florida shipments of watermelons to June 3 were 4,136 cars compared with 1,473 to same date last year.

Prospects are for a full crop of pears in the Willamette Valley, Oregon; Cherries from one-half to two-thirds.

The annual farmers excursion to Western Washington experiment station will be held the week of July 17.

Cotton growers in Arizona report Pima developing rapidly; in the earlier planted fields the plants are branching.

Farm laborers are being brought into Saskatchewan, Canada, from Holland under guarantee of one year's work at good wages.

Cherry buyers in the Wenatchee district of Washington are paying 7 to 12 cents. Estimated yield of the valley is 140 to 150 cars.

Rain has not fallen on many range sections of Arizona and Western New Mexico for 60 days. Summer rains usually begin early in July.

Moscow, Idaho, will observe the Fourth of July in a two day celebration July 3-4. Wild West roundup, racing and roping, etc., will be featured.

D. W. Working, who has been for some years dean of the college of agriculture of the University of Arizona, has resigned and will go to Colorado.

Two of the largest concrete silos in Arizona have been built on the John Orme ranch in the Salt River Valley. They have a capacity of 500 tons each.

Grass is drying quite noticeably on the northern plateau of Arizona and cattle are thin. Owing to poor range in early spring the calf crop on the plateau is poor.

Cattle ranges of Lower California have not been depleted by revolutionary raiders as have those in other sections of Mexico. The cattle are said to be in good condition.

Prof. E. H. Wiegand, in charge of the fruit by-products laboratory of the Oregon Agricultural College, is now conducting experiments in producing a Maraschino cherry equal to the French product. Large quantities of Oregon Royal Ann cherries are every year pickled and barreled and sent East to be made into Maraschino cherries by methods carefully kept secret.

# Safe Methods of Home Canning

By W. V. Cruess, Fruit Products Laboratory, University of California

BECAUSE of the wide publicity given to botulism from home canned foods many of the home canners have become frightened and have either given up home canning or have greatly reduced the amount of their canned and glassed fruits and vegetables. If tried and tested methods of home canning are followed there is no danger from the much over-advertised bugbear of botulism. The present article is an attempt to cover in brief several safe methods of home canning.

### Sterilizers

For the canning of fruits and tomatoes no special sterilizer is necessary. All that is needed is a wash boiler or any other large covered vessel fitted with a false bottom on which the jars or cans can be placed during sterilization. In using the wash boiler the writer prefers to fill the boiler with water to about one-third the height of the jars or cans. The practice of covering the jars completely with water involves the use of a large amount of fuel for heating and often results in contamination of the contents of the jars with the water from the boiler.

For the home canning of vegetables the writer strongly recommends the use of a steam pressure sterilizer and tin cans. Fruit jars when placed in a pressure sterilizer lose from one-fourth to one-half of the brine or syrup during the cooling process. The use of jars in a pressure cooker is usually disappointing to the home canner.

Pressure cookers made of aluminum may be used for many purposes in addition to home canning. Meats and vegetables may be cooked for the table in a pressure cooker with the expenditure of very much less gas or other fuel than is necessary in cooking in an open kettle. Roasts may be given a preliminary cooking in the pressure cooker to make them tender, before browning them in the oven. These pressure cookers can be obtained from any hardware dealer at the present time for a very reasonable figure and because of their many uses should be a part of every kitchen equipment.

The time, temperature and pressure necessary for sterilizing various products in a steam pressure sterilizer are given in the time table.

In using the pressure cooker for vegetables the product is canned scalding or boiling hot and sealed at once. The sealed cans are then placed in the pressure cooker with about three inches of water. The pressure cooker is then sealed and the release cock is left open. The sterilizer is placed over the flame and heated until steam escapes freely from the release cock. This release valve is then closed and the pressure is allowed to rise to the desired point. Then this pressure is maintained by regulating the flame or opening the valve slightly. The temperature and time used are those indicated in the time table; thus, for string beans for ten pounds pressure the time of sterilization should be 40 minutes. Corn would require 90 minutes at ten to fifteen pounds pressure.

### Cans and Can Sealers

For the home canning of vegetables the writer would use, if possible, quart or pint sanitary cans sealed by a special can sealer, obtainable from dealers in California whose names will be sent on request. These can sealers at the present time cost from $18.00 to $30.00 approximately and are very satisfactory for home canning purposes. Cans cost approximately 3½ cents apiece. With care they can be used twice, but under ordinary circumstances one season's use is all that can be expected of them. The can sealers do not use solder nor solder flux. The lid is sealed to the can by a special rolling or seaming device operated by hand. The can sealer clamps to the kitchen table and is very simple in operation.

### Jars

Every home canner has his or her preference in regard to jars. The writer prefers jars with glass tops held in place with a wire bail. Jars with metal caps frequently become corroded. This is particularly true of jars which carry lids sealed with rubber composition. The glass top jar is very convenient to use and leaks may be easily detected. With care it will last a lifetime. For these reasons, in our experimental work at the university we have found the glass top jars most satisfactory for our purpose.

### Brines and Syrups

In the cold pack process of canning, which is the most convenient method, brines and syrups are added to the prepared fruit and vegtables in the jar or can. If vegetables are to be canned in boiling water by use of the wash boiler sterilizer it is recommended that brines containing from five to six ounces of lemon juice per gallon of brine be used as it reduces the time and the temperature necessary for sterilization. The slight acid flavor resulting from the lemon juice can be neutralized by the addition of a small amount of baking soda when the jar or can is opened for cooking or for use on the table. Just a pinch of the baking soda is all that is necessary. The lemon juice can be conveniently added to the brine by the use of a measuring cup. About two-thirds of an eight ounce measuring cup is added to every gallon of brine. Do not attempt to add the lemon juice direct to the jar or can, always add it to the brine and mix it thoroughly before adding the brine to the vegetables. The brine should be boiling hot when added. A large teakettle will be found convenient for heating brines and syrups. The brine in addition to the lemon juice should contain about two level tablespoons of salt per gallon.

If the pressure cooker is used omit the lemon juice and add only the salt to the brine.

Syrup for fruits will vary in sugar concentration according to the tartness of the fruits. Sour fruits will require a heavy syrup consisting of about one cup sugar to one cup water, which is brought to boiling and added boiling hot to the fruit. Sweet fruits may be canned in syrup containing one cup sugar to two or three cups water.

### Berries

Berries are disappointing if canned in syrup in the manner described for other fruits. The writer prefers to heat the beries with an equal weight of sugar, without the addition of any water, to the boiling point for two or three minutes. They are then allowed to stand over night in the syrup formed by the cooking process. They are then put up in glass jars and the glass jars immersed in water in the wash boiler sterilizer with the jars sealed. The water is then heated to 180 degrees Fahrenheit for about 35 minutes or to the simmering point for about 30 minutes. This will yield a very attractive product.

### Time Tables

At the end of this article will be found three tables which give the times and temperatures for sterilization of various products.

### Effect of Altitude

The table is designed for altitudes from sea level to 1,000 feet altitude. For altitudes above 1,000 feet increase

(Continued on Page 11.)

# This Month in the Vegetable Garden

## Northern California

By A. R. Gould

THE sensational rainfall recorded in Northern California last month although slight was of some value to the garden and made us wish that it might become regular as it would mean less irrigation artificially which means so much extra labor.

The need for intensive cultivation is still as great as ever and considerable thought must be given to close cropping of all the plots. To do this it will be necessary to keep them well manured as they are cleaned off, and the best quality vegetables will only be secured in this way. It is better to spend a little more on fertilizers than to spend time and money on poor land and get nothing at the finish, hence it will aways pay to have a load or two of farmyard manure on hand and a few sacks of artificial fertilizer. Any plots of poor soil which were planted to carrots, beets, lettuce, turnips, etc., and the plants show signs of being unhealthy should have a little artificial fertilizer worked in between the rows. It can be raked in and afterwards the sprinkler can be applied. There will still be successional sowings of some vegetables and the wise gardener will look ahead and be preparing for the winter supply.

### Carrots

Make another sowing on rich soil of French Forcing and Danvers Half long which is excellent for the table and is also a good keeper for the winter. Sow about 16 inches apart in rows very thinly.

### Lettuce

Sow very thinly broadcast and transplant or in rows and thin out, California Cream Butter and Los Angeles, on a well prepared plot. Established plants now making heads should have plenty of water at regular intervals and be kept well cultivated between the rows.

### Squash, Melons and Cucumbers

These should now be making large plants. See that only one or two are left to each mound and carefully cultivate after each watering. If the squash bug becomes troublesome dust the foliage with lead arsenate every week at least.

### Corn

Still time to make another sowing of Country Gentleman, Golden Bantam or Golden Cream. As the cobs develop they should each one be dusted with lead arsenate as this will destroy the larva of the moth which lays its eggs in the silk of the cob.

### Peppers

Secure strong healthy plants of the Bell and Chili pepper and plant out 8 to 10 inches apart in fairly rich soil.

### Turnips

Make a sowing of Early Snowball and Purple Top White Globe for late fall use. Keep the bed moist.

### Kale and Brussels Sprouts

Sow the tall green kale and Aigburth sprouts on a well prepared border which should be partially shaded. Prepare the plots during the month by trenching deeply with manure. As soon as the plants are strong enough they may be transplanted.

### Beans

Sow Golden Wax and Stringless Green pod for a successional late crop and keep the cultivator busy between the rows of the earlier sown varieties.

### Peas

Collect all the dried pods from the vines and store for winter use. Clean up all the plots and prepare for some winter crop.

### Tomatoes

Cultivate these frequently and spray with Black Leaf 40 at the first sign of aphis.

### Berries

Irrigate twice during the month and mulch between the plants with well rotted manure.

## Southern California

By D. F. Reichard

WHILE July is one of our principal harvest months it is also time to get ready for planting as the next three months, July, August and September, may be called a second spring in Southern California. In many ways this period is as important as the real spring of the year as it is during these months that our winter gardens are started.

As the spring and summer crops mature and are harvested thoroughly wet the ground by flood irrigation, or in small patches a sprinkler may be utilized, and as soon as the ground is dry enough to work, pulverize it to the depth of ten or twelve inches, being sure to have the surface in a good fine condition so that the evaporation will be as slight as possible. If you are not ready to plant immediately after getting the soil in shape it is just as well to let it lie in this condition for two or three weeks and then a few days before you expect to plant irrigate again, or if you use the "ridge" system you may furrow out the land to be planted and sow the seed on the sides of the ridges, if the land has held the moisture well, but

(Continued on Page 8.)

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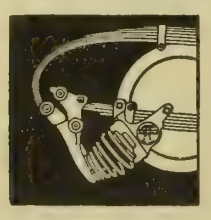

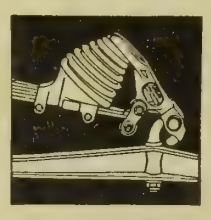

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# Frosted Citrus Trees

NOT all citrus trees that appear in excellent condition at present are in the full vigor of health nor are they functioning sufficiently to insure a good tree for the future. The young tree shown in the accompanying illustration was well leaved and of good color, yet a close examination of the trunk showed that it was almost completely girdled by the freeze of January, but a half-inch strip of the cambium or inner bark remaining alive.

So it was sawn off as shown, for a half-inch of live cambium is not sufficient to feed a tree of this size. As the trunk was severely injured in all parts, bridge grafting with young seedlings was inadvisable if not impossible. So Farm Advisor Hodgson of Los Angeles County, who was demonstrating, said: "Cut off the top. Leave the old trunk for the present, in lieu of a stake, to tie the young shoot to. You will notice that three or four small shoots have started above the bud union. Leave the strongest of these and build a new tree, tying it to the old trunk for support and pulling off the remaining shoots. Next spring a clean cut of the old trunk should be made, close to the young tree, on a slope, with the new tree on the upper side and the stump well waxed over.

**A Deceitful Appearance**

Young orange tree in full leaf, with large top. Investigation proved it had but a half inch strip of live bark, hence its beheading.

### Does It Pay?

"The main question to be settled in the case of frosted trees is: What is best for the tree owner? It is not enough that the tree be saved if it will not build up into a good crop producer for future years. A careful survey of trees injured in the 1913 freeze shows that young orange trees are easier to rebuild than young lemon trees. In coastal districts young lemons up to three years old should be pulled out. Trees older than three years may be rebuilt but the question should be asked, and seriously considered: is it profitable? Many of the rebuilt trees of 1913 have not yet recovered from the freeze of that winter. It would have been better to have pulled them out and replanted. In interior districts it is easier to rebuild young lemon trees.

"Young orange trees may be still easier rebuilt, but again, is it profitable? It requires lots of work and close attention, being equivalent to growing a nursery tree, which the average orchardist does not do well for he does not apply the time and energy needed, the call of the orchard being strong, its needs less and far less exacting in frequency of visits. If the injury is considerable it is probably better to pull out and replant with young trees, being sure that these young trees have not likewise been injured by frost.

"In rebuilding, the method to be followed is the same as that shown in the young tree just cut down. Cut off below injury and drive a stake or leave old trunk for support of new tree. Choose a sprout from just above the bud union and below all severe frost cracks. At this time (June 13) you can tell fairly well the extent of frost injury, so you may cut off old trunk if you wish. Good results come from such procedure, as they do from leaving old trunk in lieu of a stake, to tie to. If injury is less severe, none below 12 to 18 inches above the ground, then choose several sprouts from this height for framework of a new tree and cut away the old and injured top.

### Rejuvenating Old Trees

"A tree can be killed more quickly by severe pruning than by direct starving through lack of food. If leaves are pruned away no plant food can be manufactured, therefore do not prune off these 'factory hands' engaged in manufacturing food for the tree. Slightly injured trees should be pruned little or none at the present time. But if injury is sufficient so part or all of top must be rebuilt, prune now. But unless trees are to be protected from possible frost injury during the coming winter by smudge pots or otherwise, better leave pruning until next spring. In the event of pruning, in young trees or old, be sure to whitewash exposed trunks and main branches on south and west sides at least to protect from midday and afternoon sun."

## PREPARE AT ONCE TO COMBAT RED SPIDER ATTACKS

**By E. R. de Ong**

Preparation should be made at once for combating the summer attacks of red spiders, especially on prune, plum, peach and almond trees. Other varieties which are occasionally injured are pear, walnut, apricot and cherry.

The common red spider, or two-spotted mite, is perhaps the most injurious pest of deciduous orchards in the interior valleys. The actual crop loss through decrease in production and reduction in the grades of fruit amounted to approximately $139 per acre in one orchard and $453 in another. Besides the crop loss for the year the buds for the following season's crop are seriously injured. Damage of this kind was found to be almost equal to a lack of irrigation. A form of injury frequently seen is defoliation in mid-summer. This prevents a tree from maturing a crop, growing new wood or producing buds for the next year. Prematurely defoliated trees, when well irrigated, frequently throw out a second crop of leaves and even bloom at the expense of food stored for next season's growth, hence such trees are weakened and have a light bloom. The principal points in prevention and control are:

Abundant moisture: The trees should be kept in vigorous condition by adequate supply of moisture in order that they may be as well prepared as possible to withstand the attacks of the pests. Control methods are useless if the trees are weak from drouth.

Spraying: Spraying as a control for the common red spider should be done at the time the attack usually began in previous years, even though the mites cannot be seen. Spray very carefully, using five pounds of sulphur (made into a paste with calcium caseinate or glue water) to one hundred gallons of water. Should the spraying be delayed until the red spider is abundant, add one gallon of lime-sulphur concentrate (or its substitutes) to 100 gallons of the foregoing spray mixture and apply two or three times at three weeks' intervals. These directions are recommended also for severe attacks of the almond mite or citrus mite.

The control of any species of red spider by spraying requires timely and extremely careful applications. Careless, scanty spraying is almost worthless. Cover both sides of the leaves and every part of the tree, using from five to ten gallons per tree. An early application, usually about the first of July, is of far more value than late sprayings.

Sulphur dusting: As a control for red spider sulphur dusting is of the

greatest value in regions of light wind and moderate humidity. Use a ten per cent filler of hydrated lime in all dusting sulphurs and apply every 10 to 15 days. Three applications are usually necessary unless all conditions are very favorable.

The cost of the materials for the sulphur and calcium caseinate spray will be about $2.30 per acre for trees of five years of age or more. Including the cost of the lime-sulphur solution or the dry substitutes, the expense per acre for materials will be from $3.50 to $6.00 per acre. The range of cost of sulphur for dusting will be about $1.00 to $3.50 per acre for the materials alone. One spraying sufficiently early and thorough will frequently hold the mite in check for the season but three dustings are usually necessary to accomplish the same result.

The injury caused by red spider, together with control measures, is given in a bulletin being published by the University of California agricultural experiment station, copies of which may be secured by writing to the director of the station at Berkeley.

## WAGE SCALE IN FRUIT WORK

Schedule of wages for picking, cutting, etc., has been set by the Valley Fruit Growers Association at Fresno. Prices set by the fresh fruit packers were endorsed, and in addition the Valley Fruit Growers have set a price of 35 cents an hour for fruit picking and five cents per 40 pound box for peach cutting, or 6½ cents per 50 pound box. This is a slight decline from the prices of last year. The fig and prune schedules will be announced shortly.

### Grape Picking

Seedless.—Trays to unit: 2½ cents, 500 and over. 3 cents, 400 to 500. 3½ cents, 300 to 400. 4 cents, 200 to 300. 4½ cents, 100 to 200.

Muscats.—Trays to unit: 3 cents, 500 and over. 3½ cents, 400 to 500. 4 cents, 300 to 400. 4½ cents, 200 to 300. 5 cents, 100 to 200.

### Packing House Wages

Peach, per 100, 75 cents; 8 pc. crate, per 100, $1.00; 6 pc. crate, per 100, 90 cents; 4 pc. crate, per 100, 80 cents. L. A. lugs—Cleated 4 nails, per 100, $1.00; cleated 6 nails, per 100, $1.10.

Malaga special—Picking box, per 100, $2.50; with corner post, per 100, $3.25.

Lidding crates—Grapes, per 100, 60 cents; with conveyor, per 100, 50 cents. Peach, per 100, 50 cents; with conveyor, per 100, 40 cents.

Lidding lugs, per 100, 40 cents.

Loading, per hour, 55 cents.

Load and trucking lugs open, per 100, 45 cents.

Loading and trucking lugs, lidded, per 100, 40 cents.

Loading lugs—Open, per 100, 30 cents; lidded, per 100, 25 cents.

Tallying, trucking and loading grapes, per 100, 50 cents.

Floor help, per hour, 35, 40 cents.

Packing grapes, per crate, 3½ cents.

Packing peaches, per crate, 3 cents.

Packing plums, per crate, 5 cents; small, per crate, 7 cents.

Labeling, per 100, 20 cents.

## WALNUT FIELD DAY

The second annual Walnut Growers field day is to be held at Santa Barbara, Saturday, September 2. The morning program will be held at Tucker's grove at Goleta, 7 miles north of Santa Barbara and will consist of an address of welcome by E. W. Stow of Goleta, a discussion of the growth of walnut growers departments of the various Southern California farm bureaus by Farm Advisor Hodgson of Los Angeles, a report on the 1922 season's outlook, by W. T. Webber, sales manager of the California Walnut Growers Association, and a discussion of new developments in the cooperative movement which it is hoped may be given by President C. C. Teague of the Walnut Growers Association. A big barbecue will be served at noon. The afternoon program will consist of a field trip to points of special interest with field demonstrations to be conducted by Professors R. E. Smith and J. W. Nelson of the University of California, and by H. C. Sharp of the field department of the California Walnut Growers Association.

## LIME FOR ACID SOILS

Heavy clay soils will need fully twice as much lime as sandy soils, and especially is this the case with heavy soils containing sour humus. But no matter what the soil, thoroughly mix in the lime as soon as applied, either by harrowing or cultivating. Do not allow it to lie exposed on the surface. Other materials than lime have been used to correct soil acidity, but none of them act so quickly, are so cheap, or so lasting in their effects. Some of them also produce other and undesired results.

## STATE DEPARTMENT MOVES

After many months of life in congested quarters, the California department of agriculture on July 1 moved its new home to 10th and L streets, Sacramento. This building will accommodate the entire department and all outlying branches of the service will be centralized in Sacramento.

## LIME FOR MELONS

It is not well to attempt growing cantaloupes or muskmelons in the same plat with watermelons. While both will grow in ordinary soil the watermelon is not harmed by a little acidity, but cantaloupes will not thrive upon acid soil. Repeated experiments have shown that cantaloupe soils produced best when well limed. Pumpkins and squashes, near relatives of the melons, also thrive best where soils carry a heavy lime content.


# How to Increase Fruit Crops With Less Work

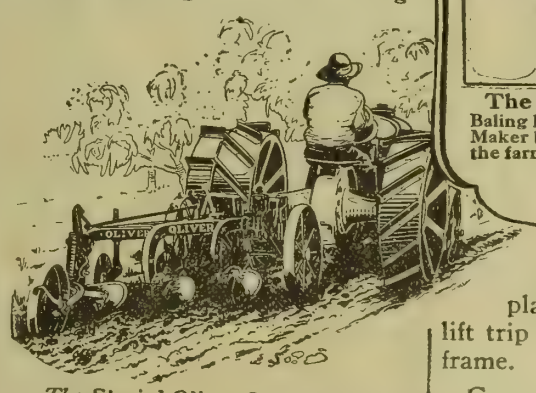
*The new era of farming-profit, the era of Fordson Farming, offers every farmer bigger crops, larger profits, and time for pleasure doubled.*

FARMERS and fruit growers now recognize the opportunity to speed up work by using the fast-running Fordson in combination with the special orchard tools made to go with it. For the more thorough tillage insures better crops, while the faster work of the Fordson enables one man to care for more acres. Thus, both reduced expense and increased returns come with the adoption of Fordson Farming.

With his work now done in less time, the Fordson farmer's entire family is benefitted. There is more inclination toward pleasure; more time for those enjoyments to which everyone is entitled.

Naturally, the development of an orchard plow to work behind the Fordson tractor had much to do with making these important advantages available to fruit growers. The result of such development is the special Oliver Orchard Plow. Not only will it run close to trees and vines, but it is so made that it does not injure even the low hanging branches. With its three bottoms, a lot of ground can be covered in one day. And with the special design, thorough work is assured. The hitch allows for the plow to run to the left or to the right of the tractor, or directly behind it. Thus the soil may be thrown toward or away from the rows.

Possibility of tearing branches or barking tree trunks is removed by eliminating levers and setting

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the wheels within the cut of the bottoms. Crank screws take the place of levers and the power lift trip is below the level of the frame.

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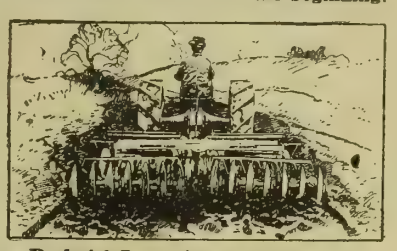

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**Good Work With Roller Pulverizer**
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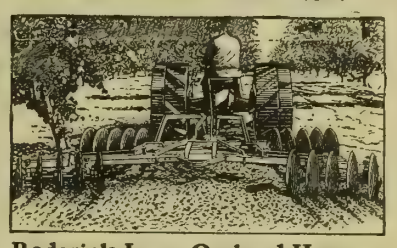

**Roderick Lean Orchard Harrow**
Orchard discing with Fordson speed with gangs set in or extended with the Roderick Lean Automatic Orchard Disc.

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Tractor speed and accuracy utilized by the Fordson owner with the Amsco special drill. Force feed makes positive planting.

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Cultivating corn is easy for the Fordson farmer with the Amsco Cultivator—special for the Fordson. Made for hard work.

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Fordson silo filling with the Money-Maker done quickly and cheaply. Strength and scientific design give perfect work.

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Baling hay with the Fordson and Money Maker baler is an important operation to the farmer with large hay acreage.

**Wood Bros. Individual Thresher**
The Wood Individual Humming Bird Thresher and Fordson make short work of threshing. All grain is saved.

## Ford Dealers Everywhere Sell Standard Fordson Equipment

### VEGETABLE GARDEN FOR JULY IN SOUTHERN CALIFORNIA

(Continued from Page 5.)

if it seems to be a little dry you should let the water run down the furrows before sowing the seed and then sow your seed as soon as you can get on the ground after this irrigation. It is imperative that ground have ample moisture when putting in the fall garden, as the long hot days will surely kill your young plants as they start from the seed unless there is enough moisture there to keep them damp.

All through the month of July the planting of sweet corn and string beans should be carried on as there is ample time for them to mature before cold weather comes.

Summer squash, cucumbers, muskmelons may be planted any time during this month; while winter squash, watermelons and field corn may be put in the early part of the month with equal safety. During July late tomatoes are planted for October and November picking. Of the hardier vegetables these should be planted the latter part of the month. Beets, carrots, radishes, lettuce and Long Standing spinach, all to be planted where you wish them to grow to maturity. Sow the seed of cabbage, cauliflower, Brussels sprouts, Swiss chard and kale in seed beds or rows, later to be transplanted to the places you wish them. The planting of the fall and winter crop of Irish potatoes is also started during the latter part of July. Of the crops that were put in a month or so ago these must be watched closely to see that they do not want for water, as the evaporation in these warm days is tremendous and your plants will suffer and your crop be materially reduced unless the water is in good supply. Also watch your plants for aphis and thrips and for other insects as well as mildew and rust. For the aphis and thrips spray with Black Leaf 40; for chewing insects use arsenate of lead and for the mildew and rust use Bordeaux or powdered sulphur. These may be applied either in the dry state with a powder gun or dust machine, or they may be applied in the liquid form with spraying machine.


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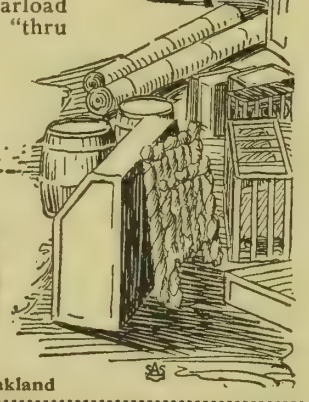

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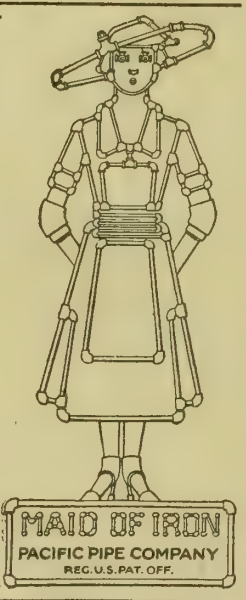


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## Southern Arizona

By M. E. Bemis

CORN and beans for July. There are few things more important for the home garden and for the truck garden. I have written about our Arizona corn so many times that it seems as though anything that I can say must be a repetition. Perhaps, though, it is new to some, and possibly others forget and need to be reminded.

Mexican June corn has been improved until it now has reached a stage of development where it is a most desirable silage crop for the farmer and as a summer grain crop for horses, cows, pigs or poultry there is nothing in its class. For roasting ears, if there is any variety of sweet corn that is any better, the memory of it has left me. Certainly we don't raise it in Arizona. Yet Mexican June corn is not yet perfect, and there are opportunities for some who are of a more or less experimental turn to continue its development until a superior strain has been produced, similar to the choice varieties of corn that have been brought out in the Middle West. The type is not yet as uniform as it should be and the ears are grown too high on the stalk. These are the chief defects.

Pima sweet corn is a variety of corn that grows very quickly—some claim to be able to produce roasting ears in about ten weks. The stalks are short, the ears small, but the quality is splendid. This variety may be planted up until the first of September. Mexican June should be planted for a main crop from the 10th to the latter part of July. For roasting ears it can, of course, be planted later.

Beans can be planted the latter part of the month. Some recommend only the Kentucky Wonder Wax this month. Of this bean John Schalolis, gardener at the state hospital, says: "It is very early and enormously productive, the long green pods hanging in clusters on the poles. They are entirely stringless and very tender. It has long been known as a favorite as it meets with a ready sale on the early market and is considered a delicacy in the home garden."

July is the time to start the cabbage and cauliflower plants to be set out later when the weather is cool. The varieties of cabbage which are recommended are Early Winningsstdadt and selected Early Jersey Wakefield, both oblong or pointed varieties. Of the round head kinds the Danish Ball Head or, as it is sometimes called, the Holland, and the early and late varieties of Flat Dutch are good. Henderson's Early Snowball cauliflower is recommended. Careful growers are finding that it is possible to produce splendid cauliflower, and as the demand is good there is no special reason why not only the home supply, but a surplus for shipping to near-by markets should not be produced here. Seed may be sown in the latter part of July in propagating beds, but the beds must be shaded with burlap or lath. Many prefer to wait until the latter part of August, as seeds of many plants including cabbage and cauliflower are hard to make germinate during the hot weather. The advantage of having plants to set out early may make it worth while to try the early seeding on a small scale.

Casabas, the late fall melons, as well as late squash and pumpkin may be planted in July.

Places in the garden that are to be vacant until after frost may be filled with any of the varieties of grain sorghum. Corn is probably better though for the garden as it produces nearly as much grain, is not so hard on the soil and can be used for roasting ears if desired. However grain sorghum is easily grown and makes good chicken feed. Sudan grass, frequently mentioned, grows quickly, does not cost much for feed, keeps the ground in good mechanical condition, and is a splendid summer green feed for chickens.

Cow peas are not relished by many people as compared with most garden vegetables but still make a change when variety is lacking. They are easily grown and will help wonderfully in getting the soil into that near perfect condition that the good gardener likes to have. If grown merely as a cover crop they can be spaded under or plowed under whenever the ground is needed for something else.

Most crops rquire lots of water during the summer months, but less water is needed if a cultivation follows each irrigation as soon as the soil has dried out sufficiently to make it possible to work it. Weeds grow just as fast and sometimes it seems faster than the crop that we want to have grow, hence the cultivation serves two purposes, conserving water and killing weeds. There are many plants that should not be irrigated by flooding as it is better that the water does not touch the stems or stalks. For this reason most garden plants are grown by being started on the side of a furrow just above the water line. Successive cultivations are made to throw the earth towards the plant so that it stands on a ridge, the water running in furrows on either side.

# This Month in the Ornamental Garden

## Southern California

By Ernest Braunton

JULY is usually "some" warm, and for that reason no general planting should be done. Plant little and of that only what must go, for it will need extra care if results are to be good. Best pay more attention to things already growing for this is trying weather on folks and flowers. There is no other factor that helps stability of soil conditions more at present than mulches.

### Mulch Valuable

An examination of a well tilled soil recently showed the necessity for water to aid small shrubs planted last spring. A two inch mulch of fine stable manure had been placed a foot away from the base on all sides of each shrub. When this was cleared away the soil beneath was very damp and a close examination showed that the shrubs needed no water. A deep soil mulch covered the remainder of the bed but the soil needed water. The irrigations are given by flooding the entire bed, so the value of mulching is well proven.

### Use Stakes Liberally

This is also a time for staking, for the more water applied the softer the soil, the heavier the tops of plants and therefore the great need at this stage of artificial support. While providing stakes for all that need them try to have them as inconspicuous as possible, in size, color and position. Nearly all garden plants front on a path and stakes may be placed on the back or rear side of plants. Thus will you avoid that appearance of a horticultural cemetery, even though all the garden inmates are alive.

### Distribute Plant Food

Now that vegetation has made its greatest or spring output of vigor it will need reenforcement to carry on. Liquid manure is used by the best gardeners and as fast as the raw material is leached out the residue is used for mulching about the plants.

Others use chemical fertilizers, but in either case it is best to supply all food in liquid form. In no other form can the plant absorb or use it and the danger of too great concentration in spots is avoided. In liquid form the distribution certainly is most uniform.

Some will say: "Can't we sow any seeds now?" Nasturtiums and portulacas are the easiest of all to grow in hot weather. But in the writer's garden four shades of red California poppies (Eschscholtzia) are just peeping through the soil in great numbers, as are three kinds of celosia, one the common cockscomb. More care, especially in frequent and heavy water supply, is needed than at other seasons of the year. So we must again turn to care of plants growing.

**Watch Growing Plants**

Vines will be making a heavy growth and must be kept somewhat orderly by tying or "tucking in" the rampant streamers. Mildew attacks many plants in many parts during hot weather and in these cases use sulphur freely, for in hottest weather it is most effective.

## Northern California

By A. R. Gould

THE most important task this month will be to keep the garden watered as any neglect in this work will soon result in a dilapidated condition and mean poor lawns and less flowers, and restoration will be more expensive and difficult.

There are of course some cases where a real shortage of water necessitates a change or reduction in the irrigation system, but where there is an ample supply it pays to keep the flower garden watered systematically and thoroughly. Often a newly established lawn is ruined by improper watering. It is absolutely necessary to water lawns evenly and to use a fine mist spray to allow this to soak in, and during the hot, dry summer the lawn will require extra care. Many shrubs will need careful irrigation, and this should be done by making a basin around the roots, covering in afterwards. Such subjects as bamboos require considerable water. All tall growing subjects must be tied up to strong stakes but large unsightly stakes should not be used to ruin the beauty of the plants.

**Dahlias**

Some of these will soon be showing flower buds and they must be kept disbudded, leaving one terminal bud and removing the two smaller on each shoot. Mulching around the roots with manure is a good plan to help hold the moisture while it will act as a liquid stimulant.

**Roses**

The dead blooms must be kept cut off and any roses showing signs of fungus disease such as red rust must have their affected leaves removed and sprayed with Bordeaux mixture, which will hold the disease in check if the bushes are sprayed several times.

**Begonias**

It is surprising what a large number of species there are of these and they are all useful for growing in a semi-shaded place. While the fibrous

(Continued on Page 19.)


*Look for*

**LOWEST COST**

*in the next tire you buy*

You do not want the kind of low cost that eventually becomes high cost. You do not want the cheap tire that proves in the long run to be an expensive as well as annoying experiment.

The real low cost tire is one that sells at a reasonable price and then rolls off mile after mile of uninterrupted service—the tire that renders easy, comfortable riding, low operating costs and greatest mileage.

The Savage Cord is built from the inside out to give long wear and faithful service, to resist hard usage and rough roads, and to save you money—even in gas, oil and repairs to your car. We realize this is a broad statement and we do not ask you to believe it without proof. Compare the construction of our tire with others, *see the seventeen constructional features we have put into it*—then you will appreciate our claims are true.

You can buy tires that cost less to begin with, but Savage Cords pay you better by costing less in the end.

Other good makes of tires may use one or more of the seventeen constructional features we have incorporated into the Savage Cord but no other tire that we know of begins to embody them all.

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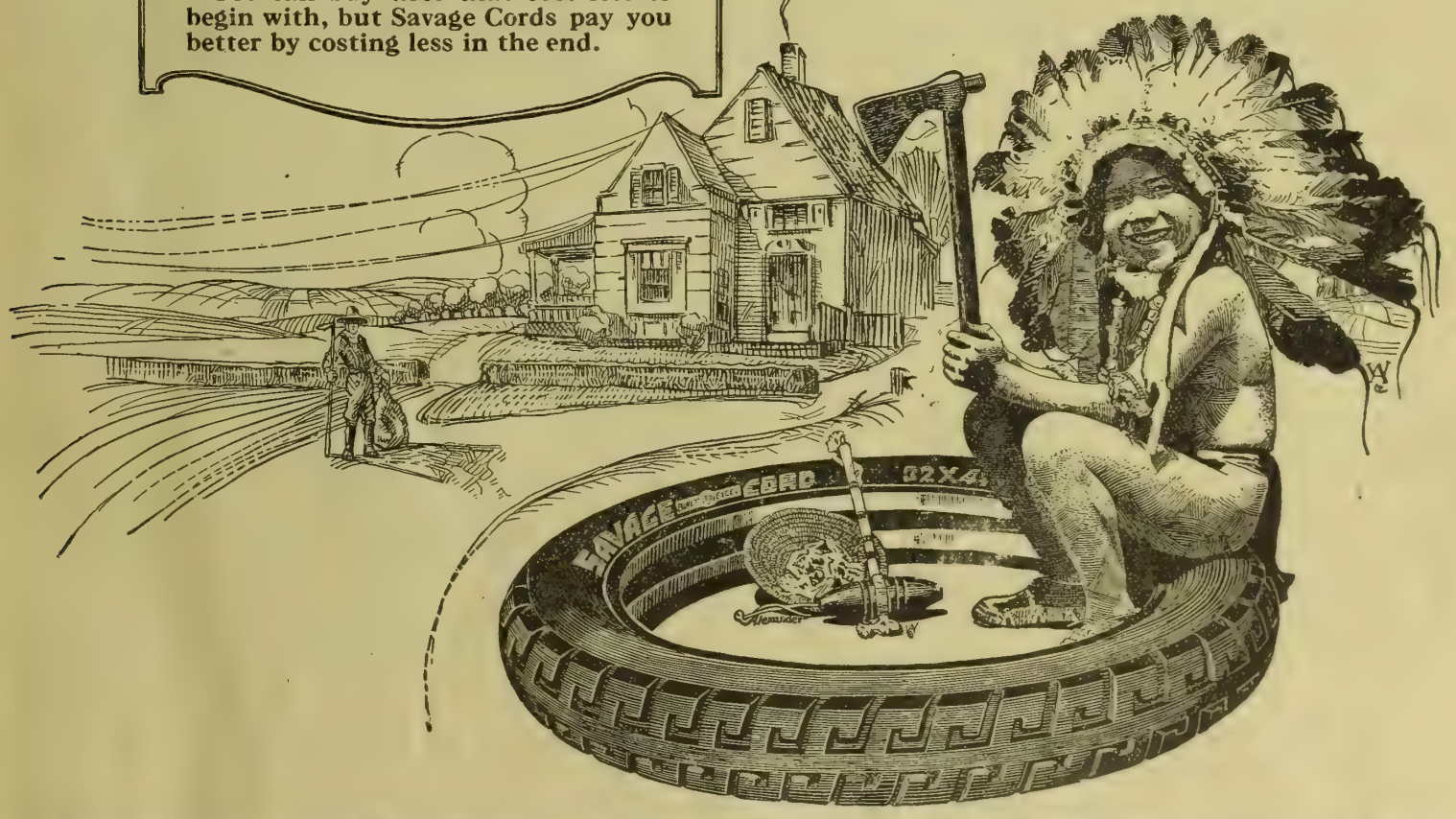


THE SPRECKELS "SAVAGE" TIRE CO. SAN DIEGO, CALIFORNIA

**OUR BEST ASSET IS THE SATISFIED CUSTOMER**

# Household Department

### DO IT NOW

He was going to be all that a mortal should be—Tomorrow.
No one should be kinder or braver than he—Tomorrow.
A friend who was troubled and weary he knew,
Who'd be glad of a lift and who needed it, too;
On him he called to see what he could do—Tomorrow.
Each morning he stacked up the letters he'd write—Tomorrow.
And thought of the folks he would fill with delight—Tomorrow.

It was too bad, indeed, he was busy today,
And he hadn't a minute to stop on his way;
More time he would have to give others, he'd say—Tomorrow.
The greatest of workers this man would have been—Tomorrow.
The world would have known him, had he ever seen—Tomorrow.
But the fact is he died and he faded from view,
And all he left when living was through
Was a mountain of things he intended to do—Tomorrow. —Grit.

### THE SCOOP THAT FAILED

(Concluded.)

The two men rose, stepped into another room, greeting the police lieutenant in charge there, then stepped outside.

"Oh, there's one little matter," broke in Parker, as the two walked briskly along. "Another News man covered the raid on Tim Marks' nest out in Inwood tonight. I didn't have to touch it, but of course I know it should be turned in at combination time just the same. I suppose the Journal has the yarn, though. If not I can give you the main points."

"We have it," replied Preston with a start. "Thank you just the same."

"I spoke about it just for the sake of dealing squarely, you know," Parker went on. "And say, I mustn't forget to tell you about the Pentnor matter—Will Pentnor, you know, the missing treasurer of the Upshaw Mills. He vanished and was supposed to be two hundred thousand dollars short in his accounts. The police out in the Mission district were looking for him. He returned about two hours ago in care of two physicians and a nurse. It seems he had wandered off in a condition of mind that made everything a blank to him. He turned up in Brenton and it was days before the physicians who were called in to treat a sick man at a hotel there managed to find out his name and that he belonged in this town. And the missing securities were found about an hour ago in a special compartment in the Upshaw safe to which he had the only key. That small compartment had been overlooked. It makes a big and interesting story, for Pentnor now has come back into his own mind. I didn't handle the story, but I know all about it. The police haven't yet been officially notified, and probably won't be until morning. Glad I didn't forget this tip, or you'd have blamed me for holding out."

Back in the city editor's room once more Preston reported to Ellis that the Journal would have no scoop on the Inwood affair.

"Parker, the man you wanted me to hold out on told me all about it voluntarily," Preston added.

"Humph!" grunted Ellis.

"And did you hear about Will Pentnor's return under circumstances that show him to have been no absconder?"

"What's that?" cried Ellis, leaping up from his seat. Then, after Jack had repeated his scant information on the subject, Ellis exclaimed:

"It would have cost me my job here if we had failed to get that! The owner of this paper is a friend of the Pentnors, and he'll want at least a big two-column story on that. I'll rush a special man right out. Where did you hear about it?"

"Parker told me," Preston replied coldly. "It hadn't been turned in to the police yet; the tip came from the Misson district. Parker didn't have to tell me, but he did it for fear we would think he wasn't dealing squarely with us. I can tell you, it made me feel cheap to think that I had had orders to hold out from him on the Inwood affair."

But Ellis, without making any response, hastened outside to find a reporter whom he could rush out to the Pentnor home. Jack Preston walked out into the city room, where he busied himself writing out the few short items he had. He turned this matter in to Ellis, then went back to his desk. He had to remain in the office at least two hours longer, but was through unless police headquarters sent in a call over the fire alarm that should summon him.

Fifteen or twenty minutes pased. Telford had just come in when the buzzer on the phone extension to Ellis' desk was heard ringing.

"Hello!" responded Ellis, audible out in the city room, in a low voice that was quiet "Who is that? Oh—Foster! Weeks since I've heard from you. How's everything?What's that? Say, that's mighty kind of you to send me such a tip. I won't forget it. Don't let a whisper of that get out to any other newspaper, will you? The Journal will want that big yarn all to itself!"

Ellis came out into the city room with leaps and bounds.

"Telford, you're tied up with the story you're writing, aren't you?" asked the acting night city editor. "Preston, I'll have to send you out on this, but I believe you can handle it all right if you keep your head. I wanted a big scoop tonight and now I believe I have it. This also comes in from the Mission district. You've heard of the rich and prominent David Penrose, whose home is at 3162 Gracewood Avenue They came home from the mountains late tonight to find that a secret safe in the house had been looted. Nearly all the Penrose jewels were in that supposedly secret safe. It was opened, probably earlier tonight, and cleaned out. The famous diamond necklace was perhaps the heaviest loss. Mr. Penrose called in the head of a detectve agency, and has made no report to the police yet. Probably the first hint that police headquarters will have will be when it appears in the Journal in the morning. Get a taxi and pay the driver to burn gas out there and back. I'll have the night editor hold two columns for you. Rush it, boy!"

'I'll start in just a minute," replied Jack, a strange look in his eyes. He crossed the hallway to the telephone room, sat down before an instrument, gave a number and waited. Ellis, after a brief, astonished pause, followed.

"Is Parker there?" Ellis heard Preston inquire. "Yes, if you please, and on the jump!"

"What are you doing?" Ellis almost roared, but Preston spoke into the telephone, detailing briefly the tip on the Penrose robbery story.

"Say, what do you mean by that—killing my big scoop for tonight?" demanded Ellis, his face white with passion.

Having rung off, Jack Preston rose and faced him calmly:

"Mr. Ellis, that is really police news, even if the police haven't it yet. It would be most unfair to hold that out from Parker, the man who told me about the Inwood story that you didn't believe the News had. Then he also tipped me on the Pentnor story, and you admitted to me that it would undoubtedly have cost you your scalp if you'd fallen down on the Pentnor yarn."

"Take what you can get from Parker, of course," propounded Ellis, "but you had no right to throw me down on the story I had planned for our big scoop this night!"

"I'll turn in my resignation right now, sir," Preston continued, his own face white, "and you may send some one else out on the Penrose story. Or I'll cover that story and hand you my resignation along with the copy for it. Which do you prefer?"

"Get out on the story as fast as you can," stormed Ellis. "I haven't another man to send. But you'll hear from the chief tomorrow, you may feel sure of that."

"I'm going now," repled Preston. "Probably I can catch Parker and he and I can go out in the same taxi."

Out on Newspaper Row, Jack was in time to see Parker about to enter a taxi. Accustomed to driving newspaper men, the chauffeur stepped hard on the gas. He had taken them a few miles when he neared the first crossing beyond the Terminal Station. The automatically controlled crossing gates were just beginning to lower as an incoming train rolled along. Frantically the crossing tender waved his lantern to stop the taxi, but the driver, finding it nearly impossible to come to a halt in time, decided to take a chance in getting across before the farther gate fell into place to bar their progress. So quickly was the thing done that the descending gate barely grazed the top of the scudding taxi. Half a second later that gate would have blocked their way and they would have been struck by the locomotive.

"This isn't an outing of a suicide club," observed Preston coolly, in response to which the driver turned and grinned.

Out at the home on Gracewood Avenue the story was obtained with a bit of difficulty but with considerable speed. The reporters turned back to Newspaper Row.

Returning to the office, Jack reported to Ellis and received his orders. As fast as he could make his typewriter move he pounded out his story. When he turned the last page in at the night city desk he handed Ellis another sheet of paper.

"My resignation," he announced simply. Ellis tore it into several bits. "When I phoned Logan about your conduct, he appeared to find some excuse for you," explained Ellis. "He told me to nform you that you couldn't resign. He wants you to call him up."

So Jack Preston called up the home of the city editor, Mr. Logan. As soon as the editor recognized Jack's voice, he replied:

'Preston, Mr. Ellis brought his charge against you as soon as you had started for the Mission. Then I called up a minute later and asked if Telford was at the office. He came to the phone and I made him tell me the whole story about Ellis' orders and the way Parker had behaved toward you earlier in the night. He was careful about the way he worded it, but knowing Ellis, it didn't take me long to grasp the situation. I want to tell you that I appreciate what you did in the face of orders that shouldn't have been given. You're of the right stuff. Thank you, Preston, and good night."

When Jack Preston reported for duty the following morning, his first discovery was that Telford, not Ellis, sat at the desk as acting night city editor.

### SAFE METHODS OF HOME CANNING

(Continued from Page 5.)

the time of sterilization 10 per cent for each 500 feet increase in altitude. Example: If time of sterilization at sea level is 90 minutes it would at 3,000 feet altitude be 40 per cent more than 90 minutes or 90+ (40%×90)—90+36=126 minutes. At 3,000 feet, 40 per cent more time is required because this altitude is 2,000 feet above the 1,000 foot level and 10 per cent is added for each 500 feet above the 1,000 foot level. Pressure sterilizers only should be used for high altitudes for vegetables and meats.

#### How To Count Time of Sterilization

Do not count time of sterilization until the water reaches the boiling point, if a hot water sterilizer is used or until the desired pressure is reached in a pressure sterilizer. All other time is not counted. This point is of utmost importance.


# The Old Carriage Maker Had an Important Truth

"To make each part as strong as the rest," was his way of "building a wonderful, one-horse chaise that wouldn't wear out till judgment day."

This illustrates a fact that is keeping many doctors busy these days—human bodies, like chaises, break down because some part isn't as strong as the others.

Very often it's because of ill-balanced food, lacking in some important element of nutrition. This is especially true of ills developed in childhood, and carried on through life.

Grape-Nuts, that world-famous, ready-to-eat cereal, brings the plan of building each part as strong as the rest—to serve human need. Grape-Nuts contains all the nutriment of those best of the field grains, wheat and barley, including the vital mineral elements, and it is a wonderful food for building and sustaining health and strength.

The delicious flavor and crispness of Grape-Nuts make it a welcome dish whenever you're hungry.

## Grape-Nuts

THE BODY BUILDER

*"There's a Reason"*

Postum Cereal Co., Inc., Battle Creek, Mich.

## The Cultivator Patterns

**3957. Girls' Dress.**—Cut in 4 Sizes: 4, 6, 8 and 10 years. A 6 year size requires 1⅝ yard of 27 inch material for the guimpe, and 1½ yard of 40 inch material for the "dress." Price 10c.

**3846-3787-3946. Ladies' Sport Suit.**—Blouse 3787 and Guimpe 3846 are cut in 7 Sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt 3946 cut in 6 Sizes: 25, 27, 29, 31, 33 and 35 inches waist measure. The skirt requires 3⅝ yards of 44 inch material. Its width at the foot is about 3⅝ yards. The guimpe requires 3½ yards of 27 inch material and the Blouse 2¼ yards of 36 inch material, for a medium size. Three separate patterns 10c for each pattern.

**3963. Junior's Dress.**—Cut in 3 Sizes: 12, 14, and 16 years. A 14 year size requires 3¾ yards of 27 inch material for the dress, and 1⅝ yard for the cape. Price 10c.

**3967. Ladies' Night Dress.**—Cut in 4 Sizes: Small, 34-36; Medium, 38-40; Large, 42-44; Extra Large, 46-48 inches bust measure. A Medium size requires 4½ yards of 32 inch material. Price 10c.

**3285. A Simple Set of Hat and Apron.**—Cut in 5 Sizes: 1, 2, 3, 4 and 5 years. A 4 year size will require 2⅜ yards of 27 inch material for the apron and 1 yard for the Hat. Price 10c.

**3949-3947. Ladies' Costume.**—Waist 3949 cut in 6 Sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. A 38 inch size requires 2¾ yards of 36 inch material. Skirt 3947 cut in 7 Sizes: 25, 27, 29, 31, 33, 35, and 37 inches waist measure. The width at the foot with plaits extended is about 2½ yards. A 29 inch size requires 2¾ yards of 54 inch material. Two separate patterns 10c for each pattern.

**3955. Boys' Suit.**—Cut in 4 Sizes: 2, 3, 4, and 6 years. A 3 year size requires 1¼ yards of 27 inch material for the entire suit. Price 10c.

**3968. Ladies' Apron Dress.**—Cut in 4 Sizes: Small, 34-36; Medium, 38-40; Large, 42-44; Extra Large, 46-48 inches bust measure. A Medium size requires 4 yards of 36 inch material. Price 10c.

**PRICE OF ANY OF THE ABOVE PATTERNS 10 CENTS EACH**

**HOW TO ORDER PATTERNS**

Write your name and address plainly in full, give correct number and size of each pattern you want, and send 10 cents in coin or (1 or 2 cents) stamps for each number. In order to furnish our readers with the very best NEW YORK styles, all patterns ordered are filled in NEW YORK. Do not expect patterns under **Two Weeks** from date of order.

**CATALOGUE NOTICE**

Send 12c in silver or stamps for our Up To Date Spring and Summer 1922 Catalogue, containing over 500 designs of Ladies', Misses' and Children's Patterns, a concise and comprehensive article on dressmaking, also some points for the needle (illustrating 30 of the various simple stitches) all valuable to the home dressmaker. Also colored plates.

**PATTERN DEPARTMENT**

**California Cultivator** **Los Angeles**

### Cooking Before Serving

All canned vegetables and meats should be heated to boiling and boiled 30 minutes after the jar is opened for use. This removes all danger of botulinus (ptomain) poisoning. Never serve salad from freshly opened home canned foods unlss boiled after opening. Discard all home canned food of "off" odor.

CANNING IN JARS AND QUART CANS

(Time in Minutes)

| Product | Par boiling or blanching. | One period lemon juice method at 212°F. | Water seal at 214°F. | Steam Pressure 5-10 pounds. | Steam Pressure 10-15 pounds. |
|---|---|---|---|---|---|
| String beans | 5-10 | 90 | 90 | 60 | 40 |
| Peas | 5-10 | 90 | 120 | 60 | 40 |
| Tomatoes | *1½ | .... | 30 | 20 | 15 |
| Corn (sweet) | † 5 | 120 | .... | 120 | 90 |
| Lima beans, green | 5-10 | 120 | 120 | 60 | 40 |
| Pumpkin and squash | 3 | 90 | 90 | 60 | 40 |
| Peppers | 5-10 | 60 | 90 | 60 | 40 |
| Cabbage and sprouts | 5-10 | 90 | 90 | 60 | 40 |
| Cauliflower | 3 | 45 | 40 | 30 | 20 |
| Carrots and parsnips | 5 | 60 | 80 | 60 | 40 |
| Turnips | 5 | 60 | 80 | 60 | 40 |
| Beets | *10 | 60 | 80 | 60 | 40 |
| Salsify | 5 | 60 | 80 | 60 | 40 |
| Sweet Potatoes | 10 | .... | 80 | 60 | 40 |
| Spinach, chard, beet leaves, etc. | 15 | 90 | 90 | 60 | 40 |
| Asparagus | 5 | 90 | 90 | 60 | 40 |
| Artichokes | 10 | 60 | 90 | 60 | 40 |

* Peeling.
† Before cutting.

Blanching: Vegetables usually require blanching or parboiling. This is done by immersing them in a cheesecloth or screen basket in boiling water.

Three day method: Sterilize one hour on each of the three successive days at 212 degrees Fahrenheit, counting time from the time the water reaches the boiling point.

TIME TABLE FOR CANNING IN PINT AND QUART JARS AND CANS

(Time in Minutes)

(Add 50% to time for 2 quart jars)

| | Parboiling or blanching. | Hot water sterilizer at 212°F. | Water seal at 214°F. | Steam Pressure 5-10 pounds. | Steam Pressure 10-15 pounds. |
|---|---|---|---|---|---|
| Apricots | .... | 20 | 15 | 10 | 5 |
| Apples | 1½ | 20 | 15 | 8 | 6 |
| Blackberries | .... | 16 | 15 | 10 | 5 |
| Cherries | .... | 16 | 15 | 10 | 5 |
| Currants | .... | 15 | 15 | 10 | 5 |
| Figs in syrup | ½ | 30 | 15 | 10 | 5 |
| Gooseberries | ½ | 15 | 12 | 10 | 5 |
| Grapes | .... | 15 | 12 | 10 | 5 |
| Peaches, free | ½ | 20 | 15 | 10 | 5 |
| Peaches, cling | 1 | 25 | 20 | 12 | 6 |
| Plums | .... | 16 | 12 | 10 | 5 |
| Raspberries and Loganberries | .... | 15 | 12 | 10 | 5 |
| Strawberries | .... | 15 | 12 | 10 | 5 |
| Quinces | 1½ | 20 | 12 | 8 | 5 |
| Pears | .... | 30 | 20 | 15 | 10 |
| Prunes | .... | 25 | 20 | 12 | 8 |
| Figs in water | ½ | 50 | 40 | 30 | 15 |
| Uncooked beef, pork, mutton | .... | 240 | 180 | 120 | 60 |
| Game and poultry | .... | 240 | 180 | 120 | 60 |
| Corn beef | .... | 180 | 180 | 120 | 60 |
| Salmon, large fish | .... | 240 | 180 | 120 | 60 |
| Shellfish | 5 | 240 | 180 | 120 | 60 |
| Cooked meats | .... | 180 | 180 | 120 | 60 |
| Smoked meats, kippered fish, lightly smoked beef, etc. | .... | 180 | 180 | 120 | 60 |
| Soups (see Farmers' Bulletin No. 839 | .... | 180 | 180 | 120 | 60 |

Country people deserve as attractive home surroundings as do those who live in the city. It is just as easy to make them so. Besides, it pays in dollars and cents.

## HINTS FROM HOUSEKEEPERS

### Cowboy Lecturer Coming to University.

Because of the general interest in cowboy songs published in the Cultivator in recent months a reader has asked us to publish notice that "John A. Lomax, widely known as author of the 'Camp Fire and Trail' ballads and instructor of English in the University of Texas, is coming this year to the University of California Summer Session at Berkeley, to give a series of lectures on Cowboy Life and Literature. Mr. Lomax was raised in Texas, the real cowboy country. He went to Harvard, and there presented his ballads, the material for which he had gathered during his boyhood days. His lectures will cover Cowboy Songs, Cowboy Verse, and Negro Spirituals."

### Hints From a Woman Who's a "Handy Man"

My Baby's Bed.—I made a bed for my baby which gives him a great deal of protection and comfort. It is 27 by 50 inches, but the size should be decided by the width of the doors and the length in proportion. I bought rough lumber and did the planing myself, not forgetting to round all corners and edges. I bought 2 by 2 for the corner posts, 1 by 2 for the spring to rest on, and 1 by 1 for the sides. The corner posts are 36 inches high. To the centers are fastened the 1 by 2, and 1 by 1 to the top with three 1 by 1 fillers in each side and one in each end. I used screws throughout for fastening it together. One side is made separate, swings on hinges and fastens with hooks. To the bottom I tacked screen for a spring. However, it would be much better to buy a spring as a foundation of your work, or to cut a suitable one from an old one if available. To the sides I tacked, on the inside to save bumps, 18-inch screen. I also made a cover of screen, hinged to the stationary side, and to hook over. Then I fastened wheels from an old wagon to the legs, and lastly gave it all a coat of paint. When he is in his own little private car he goes wherever he is most comfortable, or happy, outdoors or in. Flies or mosquitos cannot annoy him, and if the wind is too strong it is easy to put a sheet to the windward or over the top to keep out the sun. This canvas sheet has rings sewed to the edges which slip over hooks properly placed. The bed also keeps Baby off the floor from drafts and hot stoves in the winter. My baby is now 16 months old and still sleeps in it. And all that comfort and safety can be built for five dollars or less, according to how much old material is worked over.

Covering Coolers.—Anyone who covers a cooler two or three times a year knows what a task it is and also its condition after the tacks have been put in and removed several times. I no longer do this. Instead, I have put staples about half way in every three inches where I used to put tacks. I press the burlap over these, slip a stout cord through the staples from one to the other and my cooler is covered in half an hour, and the cover is removed in a few minutes. My cooler is a screen covered wooden frame, which I give a good coat of paint before starting the season. This keeps it in good condition several years.—Mrs. L. A. Ward, Valley Home.

*Kodak on the farm*

Kodak does double duty on the farm. Pictures like the one reproduced above—that's pleasure.

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*Autographic* Kodaks *$6.50 up*
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Eastman Kodak Company, Rochester, N.Y.

# EASY NOW TO RID YOUR PLACE OF FLIES

**Widely Known Scientist Discovers Wonderful Chemical That is Fatal to Flies. Not a Poison—Harmless to Stock.**

Flies are one of the most dangerous and annoying things with which the farmer has to contend. Now, through the discovery of E. R. Alexander, widely know scientist, you can rid your house and barns and livestock of these pests almost instantly, and with no trouble at all. This discovery is in the form of an organic chemical that is fatal to flies, and similar pests, such as chiggers, mosquitoes and moths.

This new discovery, which is called Alexander's Rid-O-Fly, is not a poison. Though it kills flies like magic, farm animals and human beings are not affected by it at all. In addition to killing these insects, Rid-O-Fly is a strong repellant. Flies will not come near stock or buildings where Rid-O-Fly has been used. Rid-O-Fly is particularly valuable for cows and horses, as it is a known fact that flies do untold harm to these animals.

So confident is Dr. Alexander that his discovery will rid your house, barns and live stock of these pests that he offers to send a $2.00 supply for only $1.00 on the guarantee that if Rid-O-Fly does not solve your fly problems it will cost you nothing. Two big Kansas City banks guarantee the reliability of this offer.

SEND NO MONEY—just your name and address to the Alexander Laboratories, 1577 Gateway Station, Kansas City, Mo., and this introductory offer will be mailed at once.

# BEST BY FAR

of all the common or Chilian Alfalfas for California conditions.

The Longest Lived of all the Alfalfas.

Get it from your dealer or write to us direct for booklet, etc.

**Bomberger Seed Co.**
**Modesto, Cal.**

**ABSORBINE** ***STOPS LAMENESS***

**from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone,** or similar troubles and gets horse going sound. It acts mildly but quickly and good results are lasting. **Does not blister or remove the hair** and horse can be worked. Page 17 in pamphlet with each bottle tells how. $2.50 a bottle delivered. **Horse Book 9 R free.**

**ABSORBINE, JR.,** the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. $1.25 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps.

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# DIAMOND G HEREFORDS

13 choice yearling heifers, sired by a son of an International Champion, well grown and just the sort for starting a profitable herd. Also 10 yearling bulls. Come and see them; the price is right.

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## Big Money Boring Wells

Have water on your own farm. In spare time make wells for your neighbors. It means $1000 extra in ordinary years, double that in dry years. No risk—no experience needed.

**Outfits for Getting Water Anywhere**

Earth augers, rock drills and combined machines. Engine or horse power. *Write for easy terms and free catalog.*

**LISLE MFG. COMPANY**
**Box 716 Clarinda, Iowa**

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# Feeding Dairy Cows---No. 2

By E. J. Sturgis

## GENERAL DAIRY FEEDING

CONSIDERING that the dairyman has assembled the best herd of cows that he can afford, the next problem is to make it produce the maximum of milk at a minimum of cost and still keep in good health and retain its reproductive powers unimpaired.

As a specific example of care and feeding, let's consider that the cow has finished one lactation period and is resting in preparation for calving and the beginning of another. Cows in an ordinary herd do not need the special attention accorded the ones being groomed for attempts at high records but the general treatment is very much the same.

### Drying Up

First the cow should be given a rest of at least six weeks before calving. If she is still milking heavily at drying up time and appears to want to continue to do so, take all of her feed away and give her nothing but a small bit of barley hay and some water once a day. Milk her once a day as long as she continues to give two gallons or more. As the flow of milk lessens extend the time between milkings until she is dry. Occasionally a cow refuses to dry up completely and if you get one like this continue milking her and giving her very light feed.

### Feeding Dry Cows

As soon as she is completely dry begin feeding a ration of equal parts of ground oats, bran, corn meal, dry beet pulp and linseed oil meal. Beginning with a small quantity this can be increased up to 15 pounds a day. Two weeks before calving change the ration to equal parts of oats and bran with a handful of oil meal at each feeding. If green alfalfa is to be obtained include an equal part of dry beet pulp in the ration, but if not, feed about 18 pounds of soaked beet pulp a day. The green alfalfa or the soaked beet pulp tone up the digestive system and keep the organs loose and relaxed. At the same time feed plenty of good alfalfa.

### Care at Calving

When the cow shows signs of calving take all feed away except a small amount of wet beet pulp and bran. After calving give her a good feed of hot bran mash and plenty of warm water. For the first three days give bran and beet pulp the same as before calving.

At the end of three days the swelling in the udder should be somewhat reduced and she should begin to crave her food. Beginning slowly feed the following ration: 100 pounds bran, 100 pounds ground barley, 100 pounds ground oats, 50 pounds coconut meal, 50 pounds linseed oil meal.

Feed this grain mixture 1 pound to each 4 pounds of milk she yields. At the same time begin to feed silage in small quantities and increase the amount up to 35 pounds a day.

Every dairyman should be equipped to feed silage as it is one of the best and cheapest feeds obtainable. At the present time the cost is about $7 a ton which makes it comparatively inexpensive. If silage is not to be had feed soaked beet pulp in its place.

From 10 to 15 pounds of the soaked pulp is the most that should be fed.

It is desirable to have the grains—barley and oats—ground in a feedmill and to be what is called "three-quarter" ground.

### Cow Testing

No dairyman should attempt to do business without being a member of his local cow testing association. Very few men are equipped to weigh and test their milk on their own hook and the cow testing associations are formed to provide this service at the least cost to them. Probably not one man in a million can estimate a herd's ability in production by looking at it. The milk scales and the Babcock test furnish the only means by which an accurate estimate of a cow's production can be made. Knowing the feed cost and having the production record it is easy to determine which cows are making money for the owner and which are merely boarders.

Cow testing certificates are of great value when cows are offered for sale as they provide a record of production which is accurate to within five per cent, and most of the associations furnish them.

### Lessons From Experience

Experience has proved that high producing cows make the biggest percentage of profit for the owner. A recent investigation made by the U. S. department of agriculture shows that cows having high average production of milk and butter fat averaged high in income above feed cost regardless of breed, age, weight, date of freshening, and geographical location. The cows having an average milk production of 3,250 pounds had an average income of $32.25 over cost of feed, while the cows having an average milk production of 13,250 pounds had an average income of $218.19 over cost of feed. The average production per cow in the latter group was about four times as great and the average income over cost of feed was nearly seven times as great as in the other group.

## CALIFORNIA HOLSTEINS STAND FIRST

Some interesting facts are brought out in the annual prize list for 1921-22 of cows winning cash for high production, sent out by the Advanced Registry office of the Holstein-Friesian Association of America. The California breeders as usual have carried off a large share of the honors. The four leading states from the standpoint of the number of times they appear in the prize list are Wisconsin, New York, California and Minnesota. In the short time tests (7 and 30 days) California is second. In the 305 day test California leads all other states. Not only is California a leader in the numbers of places won on the prize list but breeders of this state hold both first and second place in the number of first places won.

Bridgford Holstein Co. of Patterson, is the leading winner of prize money and for number of first places, with 11 firsts out of the 70 divisions and classes. A. W. Morris and Sons Corporation of Woodland comes next to the Bridgford Co., with five firsts out of the 70 divisions.

California for the second time carries away first place in prizes over all states, having 11 first prizes for butter and nine for milk.

## Livestock News Notes

Guy H. Miller of Modesto, the well known Jersey breeder, represented California at the fifty-fourth annual meeting of the American Jersey Cattle Club held at Hotel Astor, in New York City, June 6. Mr. Miller also took in some of the Eastern Jersey sales and comes home with an "eye full" of Eastern Jersey type.

O. H. Marvin of Pomona, is fitting a fine string of Duroc-Jersey hogs for the fall fairs. He will show a good son of the Ace of Pathfinders and several spring pigs sired by a son of the Ace and out of Model Defender sows.

L. E. Sheets of Pomona, expects to exhibit some of his Hampshire sheep this fall. Mr. Sheets has been developing a flock of high class Hampshire sheep on his Pomona orange grove for a number of years. Sheep growing with Mr. Sheets is for the double purpose of producing top breeding sheep and furnishing fertilizer for his citrus grove. Incidentally Mr. Sheets is one of the moving spirits in the forthcoming Los Angeles County Fair to be held at Pomona this fall.

Imp. Nancy II of Les Meriennes, a Guernsey cow owned by J. A. Brown of Capitola, Santa Cruz County, has finished a year's test with 670 pounds butter fat. This is the first cow in the herd to make an A. R. record since Mr. Brown has owned it, and other records equally as good or better are on their way.

The committee on judging and classification, appointed at the 1921 national convention of the Holstein-Friesian Association of America, held an all day session Tuesday of convention week. This committee is putting over one of the most constructive pieces of work ever attempted by a national breed association. It is working out methods that will in a tangible way fix a definite Holstein type for both cows and bulls. A noted sculptor and a noted painter were secured to put on canvass and model in clay animals that embody the combined opinions of the committee and composite outstanding desirable points in the noted winners in the big shows during the past few years. The model of the cow and bull have been completed


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# WESTERN CANADA & Stock Raising A

Vast stretches of undeveloped fertile agricultural land of the highest productiveness await the settler in Western Canada. The land possesses the same character of soil as that which has produced the high quality of cereals that have carried off the world's premier honors so many times. **Native grasses are Rich and Abundant.** Cattle fattens on them without any grain being fed.

The place for the man with limited capital to overcome difficulties of high priced land or the burden of heavy rents is in Western Canada—where *land is cheap,* where a home may be made at low cost, and where *dairying, mixed farming and stock raising are particularly profitable.*

**Homestead of 160 acres** in the more remote districts **FREE to settlers.**

For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan, Alberta and British Columbia, reduced railway rates, etc., write to

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**Authorized Agent, Dept. of Immigration and Colonization, Dominion of Canada.**

# GUERNSEY COWS

produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

**ROSEMOOR FARM**
**W. H. Dupee, Owner Riverside, Calif.**

**Italian Vineyard Company**
**GUERNSEY CATTLE**
Herd Headed by the King of Hollow Hill
**BERKSHIRE HOGS**
Stock of Both Breeds For Sale
**Alex. Wilson, Supt. Guasti, Cal.**

# GUERNSEY BULLS

Service Age

Have a couple crackerjack sons of the $10,000 bull, Pencoyd's Golden May Secret, ready for service.

Priced reasonably.

**G. T. DRINKWATER**
Lakeside, San Diego Co., Calif.

**TOP QUALITY, BOTTOM PRICE**
**Registered Holstein Bulls For Sale**

From Cows with Official Production Records. Sires all from Cows making Yearly Records. 1000 lbs. to 1200 lbs. Butter and 22,000 lbs. to 31,000 lbs. Milk.

Buy one and breed profit-making cows.

**Los Angeles County Farm, Hondo, California**
**3 Miles south of Downey on Downey-Long Beach Blvd.**

and if accepted by the association will be supplied to colleges and breeders.

The Burr Farm sale at Los Angeles, June 1 and 2, indicated very clearly the present situation as far as tuberculin tested registered Holsteins of substantial breeding and acceptable type are concerned. With 31 buyers absorbing the offering at an average of $420 per head, the strength of the market for this class of cattle is fully apparent.

George Wendt, Madera, is planning extensive development of Wendwood herd of registered Holsteins, which now numbers about 60 head. Many of these were famous record cows in the former herd of Toyon Farm Association. Mr. Wendt is also planning to furnish milk to the retail trade in Madera. The herd includes among its younger members several splendid danghters of Sir Aaggie Mead.

George L. Stearns, well known Holstein man, formerly in charge of the great Vina Ranch herd, owned by Stanford University, is now permanently located at the head office of The Lewis Company at San Jose.

Donnybrook Ladysmith Johanna, owned by Bridgford Holstein Company, Patterson, has just completed a record of 34.00 pounds butter from 774.2 pounds milk in seven days. She is a daughter of Sir Colantha Prilly, whose sire is by Colantha Johanna Lad and out of the famous foundation cow, Changeling, and whose dam is a daughter of Joe Gelsche De Kol Burke, son of the great foundation cow, Prilly.

Report of the cow testing association of Kern County for May shows 843 cows tested with an average of 27.1 pounds butter fat from 687.5 pounds milk. 105 cows produced more than 40 pounds butter fat for the month. The high cow was a grade owned by P. G. Grundt of Wasco, who milked 1392 pounds and made 80.7 pounds fat.

The futurity classes for spring pigs at the Southern California Fair have been filled in all breeds except the Durocs.

H. G. Stibbs of the Carnation Stock Farm at Seattle has been spending some time in Southern California in the interests of the Pacific International at Portland of which he is director of publicity. He promises the greatest livestock show in its history this year as additional units of the building now under construction will provide over ten acres under one roof.

In a recent compilation of data showing the relative standing of various dairy herds in agricultural colleges, the University of California ranked a strong third amongst the colleges of the country, with Illinois and Nebraska leading. None of the other colleges show an outstanding leadership in the case of any one breed as California does in the case of Jerseys.

## PUBLIC SALES OF HOLSTEINS

The public sale season for the first half of 1922 is now over and some interesting figures are found in the records of this year's sales conducted by the California Breeders Sales and Pedigree Company, in California.

Tuberculin tested Holsteins: 20 bulls sold for $12,670, an average of $633; 228 females sold for $73,960, an average of $324.

Holsteins sold without tuberculin test: 99 bulls sold for $7,442.50, an average of $75; 245 females sold for $29,535, an average of $120.

Grand total, 248 tuberculin tested Holsteins sold for $86,630, an average of $349; 344 Holsteins sold without tuberculin test for $36,977.50, an average of $107. 20 reactor cows and heifers sold for $2,985, an average of $149.

The bare figures showing the wide spread in prices between tuberculin tested cattle and those sold without test does not reflect the actual condition, as it so happens that of the total of 612 head sold nearly 30 per cent were in one herd and sold in one sale without tuberculin test, including a very large percentage of young heifers and an abnormal number of young bulls. It may be accepted as a fact, however, that buyers are properly showing increasing preference for tuberculin tested cattle and that from now on the spread in values between those sold tested and those sold untested will be much greater than in the past. The spring sales ran higher in percentage of cash to notes than in any previous season in the experience of the company and in practically every sale prospective buyers went home without cattle. The season closed with an exceptionally strong demand that promises to carry over until the fall to a still stronger demand that promises to carry over until the fall to a still stronger demand for good cattle.

## MAKING FUTURE PUREBRED BREEDERS

At a recent meeting of the board of directors of the Holstein-Friesian Association of America, it was voted in the interests of calf club work to extend the following privileges to calf club members:

Any boy or girl owning a purebred Holstein-Friesian calf club calf duly registered under his or her name shall after completing a season of work under the club leader be given a membership in the Holstein-Friesian Calf Club Association of America. This membership shall continue until the boy or girl is 19 years of age. The benefits of this membership are as follows: membership rates of registration and transfer of all animals connected with calf club work including offspring of such animals.

In addition all junior members will receive literature of value in the raising of their calves as well as news items of interest concerning their breed.

Boys and girls become candidates for the junior organization when they join their local Holstein calf club. On receipt of their names and addresses a black and white candidate badge is mailed to them. When the club leader and Holstein official have signed the statement of faithful work the neatly engraved certificate of membership is granted. It is expected that fully 3,000 young people will soon be enrolled as candidates.

More than ever the young people are getting into calf club work. Splendid calves can now be purchased at a reasonable rate and feed is not too high. A number of states are making plans for extensive calf club drives this fall. Among these are Illinois, Indiana, North Dakota, South Dakota, Iowa and Missouri. The New England states are also looking forward to more of this good work.

## BEST COWS ARE CHEAPEST

If there is one thing to be learned from the experience of cow testing associations it is the contrast between the comparatively low cost at which the good cows produce milk and butterfat and the high cost of everything the farmer gets from the low producing cow.

Cows producing more than 8,000 pounds of milk and 400 pounds of fat a year did so at a feed cost of 17½ cents a pound.

Cows averaging 5969 pounds of milk and 300 pounds of fat did so at a feed cost of 21 cents a pound.

Cows averaging 4428 pounds of milk and 200 pounds of fat did so at a feed cost of 23.3 cents a pound.

Cows averaging 2339 pounds of milk and 100 pounds of fat, did so at a feed cost of 37.3 cents a pound.

In labor cost, interest and overhead the difference is even more striking. The 100 pound cow returns a pound of fat for every 2.60 days of care, the 200 pound cow returns a pound for every 1.48 days, the 300 pound cow for every 1.04 days, and the 400 pound cow for every 0.74 day.

## IMITATION MILK IN THE COURTS

Test cases are being brought in Oregon and Utah by manufacturers of imitation dairy products to avoid the requirements of state laws which have been adopted compelling truthful advertising methods in advertising these products. Next to truthful labeling no statute will be more effective in protecting the dairy industry from oleomargarine, filled milk and other imitations than truthful advertising laws and their honest enforcement. The dairy industry will watch the progress of these cases through the courts with much interest.

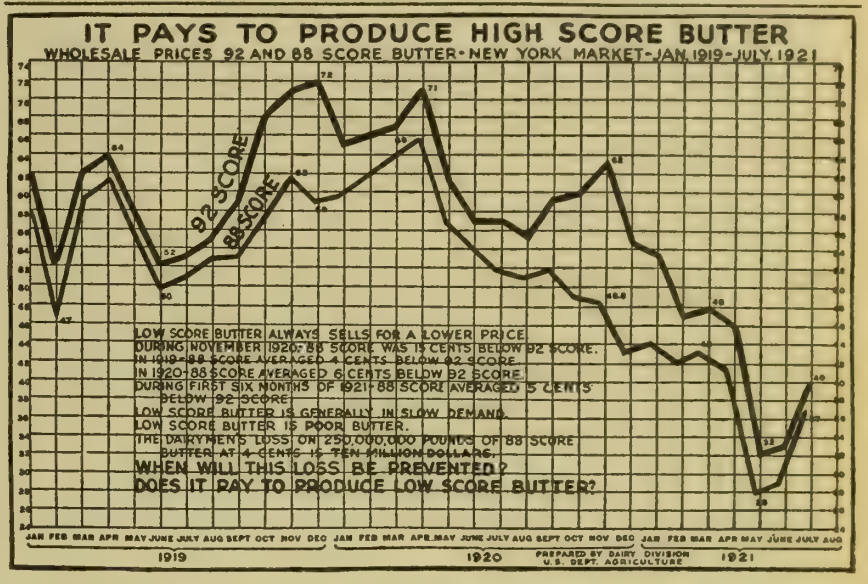
## THE HOG LOUSE

The hog louse is one of the largest of this family infesting domestic animals, adults reaching a length of one-fourth inch or more. For this reason, and because of the thinness of the hair on hogs they are conspicuous. The prevailing color is gray, and the body is broadly elliptical, while the head is decidedly pointed. These lice congregate behind the ears, along the back and inner surfaces of the thighs. As a rule when swine are seen rubbing or scratching themselves, lice are present.

Hand application of either of the following is effective: Kerosene emulsion, crude petroleum, equal parts cottonseed oil and kerosene, kerosene and lard in proportion of one-half pint kerosene to one pound lard. Any of these may be used on rubbing posts. For wallows and dips use crude petroleum, about one pint for each pig and one quart for each hog.

## HARTSOOK COW BREAKS ANOTHER WORLD'S RECORD

Rosamaines Korndyke Beauty, the remarkable heifer who made 22,750 pounds milk in 305 days as a senior yearling and who made 34.22 pounds butter in seven days at a recent freshening at three years and eight days of age, was run for a second seven day period and made 779 pounds milk, which betters the previous world's record by 22 pounds.



IT PAYS TO PRODUCE HIGH SCORE BUTTER
WHOLESALE PRICES 92 AND 88 SCORE BUTTER-NEW YORK MARKET-JAN. 1919-JULY. 1921
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LOW SCORE BUTTER ALWAYS SELLS FOR A LOWER PRICE
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DURING FIRST SIX MONTHS OF 1921-88 SCORE AVERAGED 5 CENTS BELOW 92 SCORE
LOW SCORE BUTTER IS GENERALLY IN SLOW DEMAND.
LOW SCORE BUTTER IS POOR BUTTER.
THE DAIRYMEN'S LOSS ON 250,000,000 POUNDS OF 88 SCORE BUTTER AT 4 CENTS IS TEN MILLION DOLLARS.
WHEN WILL THIS LOSS BE PREVENTED?
DOES IT PAY TO PRODUCE LOW SCORE BUTTER?
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG
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PREPARED BY DAIRY DIVISION U.S. DEPT. AGRICULTURE

# Lost! 10 Million Dollars A Year

## By American Butter-Fat Producers

It has been estimated by the Department of Agriculture that ten million dollars a year are being lost through the production of low score butter. With high quality cream your creamery can make higher score butter, which not only commands a higher price but is in greater demand; therefore they can afford to pay you more.

One of the greatest aids in producing high quality cream is a clean separator. The De Laval is exceptionally easy to keep in a clean condition, and in addition it will

—skim cleaner for many more years than any other;
—skim milk clean at lower temperature than any other;
—deliver a higher testing cream, which is more acceptable to the creamery and easier and less costly to ship;
—and deliver a cream which will make better butter.

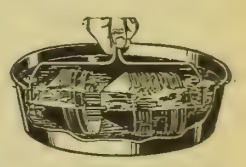
A De Laval also lasts longer and turns easier than any other. Built in a variety of sizes, with hand, power or motor drives. See your De Laval Agent now about getting a new De Laval. It will soon pay for itself. Sold on easy terms.

**De Laval Pacific Company**
**61 Beale Street San Francisco**

The De Laval bowl is as simple and easy to clean as a teacup. It is completely unassembled in cleaning, and every part is smooth, visible and easily reached. The whole bowl is thoroughly washed in a few minutes.

The bowl shell is a single piece and the combined bowl bottom and central feed shaft is a single piece. The discs are very quickly cleaned and easily handled with a simple transfer device. This device, which permits of washing and rinsing the discs as a single piece, is a very great convenience and its use is restricted to De Laval machines.

**Sooner or later you will use a**
# De Laval
**Cream Separator and Milker**



**Herd Bulls**
**Harris Standard 2d**
**Beau Blanchard 76**

**Nevada Hereford Ranch**
J. H. Cazier & Sons
Wells, Nevada

A government accredited herd. No reactor in 16 years. A herd whose record in the show and sale ring is only surpassed by the esteem accorded its productions by cattlemen. We can furnish bulls or females to fill any need—and at sound prices. Visit our herd or write for information.

## S. M. S. RANCH, STAMFORD, TEXAS

California cowmen who wish to improve their cow herds have a rare opportunity to draw from the 1,000 bred twos S. M. S. heifers and unbred yearling heifers in lots of one or more cars. Write for particulars.

S. M. S. RANCH, SWENSON BROS., OWNERS
Frank S. Hastings, Manager Stamford, Texas

## HOLSTEIN Fred Hartsook RANCH CATTLE

We have assembled an excellent foundation herd of females and will be glad to have breeders call. Fred Hartsook, Lankershim, California.

**Save at the Fountain Head**

**VIKING**

High efficiency and slow speed keep power and repair bills down. Viking pumps operate at 60% to 65% efficiency and maintain a constant high efficiency under varying heads (impossible with the ordinary centrifugal type).

Sizes: 10, 20, 35, 90, 300, 450, 1050 and 1600 gallons a minute.

Viking catalog mailed upon request.

**De Laval Pacific Co.**
San Francisco

**PUMPS**



How to Stop
**Calf Scours**

You can do it in a quick simple reliable way—costs little. One good calf saved will repay the expense of protecting your whole herd for a long time against this infectious disease.

Leading breeders and dairymen throughout the country say there is nothing like B-K. It contains no poison or acid—It is clear as water and safe to keep anywhere.

B-K acts as an anti acid and sweetner in stomach and also quickly kills the germs that cause scours or diarrhoea. It heals the inflamed membranes, relieves irritation and restores healthy action.

*SAVE EVERY CALF*

It's so simple to keep your barns sanitary and your animals in a healthy condition. B-K also prevents such germ diseases as Abortion, Retained Afterbirth, Barrenness, Calf Pneumonia, and you have this wonderful help all in one bottle—always ready.

Keep a supply of B-K handy for all the "little ills" of the barn—cuts, scratches, anything where infection can do harm.

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Factory: Madison, Wis.

We will send you on request a bulletin telling you "How to Save Every Calf."

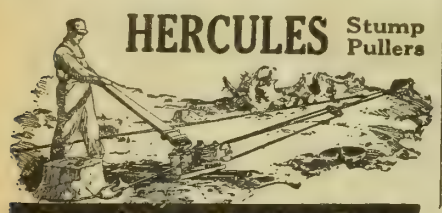
B-K is a pure sodium hypochlorite — every scientific man knows the value.

**B-K** Bacilli-Kill

*1 Gal. and 5 Gal. Pkgs.*



**HERCULES** Stump Pullers



**One Man Yanks Out Big Stumps Easy**

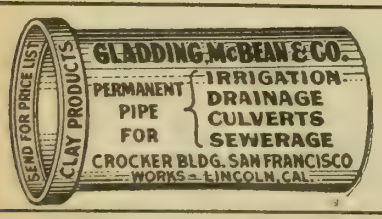
Takes the work out of stump pulling. The easiest, fastest, strongest "One-Man" Hand Power Stump Puller made. Has pulling power of strongest steel cables. Three speeds. Low and medium to start the stump—high to rip it out. No horse needed. Four machines in one—single, double, triple and quadruple power. Wheels from place to place like a wheelbarrow.

**$10.00 Down Easy Payments**

Clear your farm, make money pulling stumps for others. Pay as you use it. Write today for my new low price. Also ask for catalog No. 615

O. A. Fuller, Pres.
**HERCULES MFG. CO.**
CENTERVILLE, IOWA







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## SIDELIGHTS ON THE L. A. UNION STOCKYARDS

(Continued from Page 3.)

ment. Another is the man who in directly enabled and advised those cattle, sheep and land loans and bond issues that saved the hides of a few hundred livestock producers in the last two years. Several were heavy subscribers to the first fifty millions lent two years ago to cattlemen, and later helped secure the war finance loan plan. Some of these men indirectly helped pour money into this Southwest that through some large banks saved many country banks and thereby lessened a hardship upon many communities.

The industrial development that will be established does not interest the livestock producers beyond the better facilities afforded through them, but actual savings are possible owing to it. One thing is promised, and that is terminal rates direct to the stockyards and no switching charges. A readjustment of rates is certain upon feeders and cattle in transit through Los Angeles stockyards, that will greatly benefit our great feeding districts like Imperial Valey. All cattle will be sold on a fill. There is every assurance that the saving to producers on switching, the $2 per head cattle buying expense of packers, new rates and sale on fill instead of shrunk, will more than compensate for yardage feed and commission charges. Whether at present packer or producer pays all or part of expense now is irrelevant as granting a fair intention on the part of any killer; beef price to producer is figured upon carcass meat selling prices, offal and hide and its expense total

The yardage charges will run approximately 30 to 35 cents on cattle, 10 cents on sheep and 12 cents on calves and hogs. The feed charges will be based upon actual hay and grain cost. The commission charges are low but associations can completely abolish them through cooperative brokerage if so desired, so they are not pertinent.

That in trading there will be no effort to limit or monopolize privileges among a few is the direct assurance of McNaughton, beyond the limits of character of traders. There will be required a standard of dealing and ethical conduct as protection of producers against men of crooked intention.

Most stockyards have an exchange Cattle are sold through the commission members of the exchange. The new federal laws require filing in the proper government department list of fees, name and license for all brokers in stockyards.

McNaughton says he will protect producers to his power limit and see that no crooks infest the yards, and I believe he means it. One of the little points in this stockyards deal that I shied at was the possibility of livestock sale manipulation where dealers were required first to have a federal license, and next an exchange right, and that was the control or limit to a few or a few dozen chosen buying and selling brokers of the trading right. This monopoly might be accomplished through curtailed space through an exorbitant exchange membership fee or a dozen other methods where such an intention existed, and for the producer it would avail little if his selling came through a bunch of brokers who could not give proper protection service. I am satisfied that McNaughton plays a straight clean game and will give in due course proper guarantees and assurances relative to many of these small points when stockyards operation is imminent. We want a yards but we want it right to start with, as it will save much trouble later.

In general one of the main objects aimed at is a swine increase for California and improvement in the cattle of this Southwest. The last winter showed most of us that we had a long way to go in breeding up before we equalled the North or Middle West in cattle quality, and that we were not making the best of our California and Southwest facilities to produce the best cattle.

How the swine increase will come with the Middle West growing hogs on 50 cent corn and the West on $1.50 barley remains to be seen. Alfalfa feeding with ground milo topping may do it, or a further advance in our methods when a definite market is assured. Grape residue can be secured in parts of the country, and mast and natural range will carry the hogs part of the year in other districts.

There is always an economy in feeding cost where an immediate sale is certain when hogs are fat, and it is quite certain farmers will be able to get the money to buy hogs if they have the feed. It will promote a keen and expert interest in the source of the money, in vaccination and proper methods for good feeding. If the farmer loses money he won't repeat and if swine production is to be built up he will have to repeat and increase, which is only possible through a profit on the deal. Personally I believe we are going to see the fairest market in this U. S. A. right here and a new cooperation between packers and producers, for these packers realize shortage in cattle, sheep and swine is a menacing possibility that will make it bad business to raid the market price.

If we can raise the meat in this Southwest instead of shipping it in the entire district of our market will prosper, and it can't be raised without a living profit. Everywhere in the Middle West a great bulk production is achieved through the multitude of small men instead of a few large producers. The small man here could not afford to bother with a few cattle, sheep or swine that took cash to buy and brought a gambler's result, with the odds in favor of a loss. The ordinary man couldn't figure to use even waste feed for a bunch of steers that he might have to hold over three months for an uncertain sale. Livestock should be the mortgage lifters on the ordinary farm, but the way things have been the small man was subjected to the will of local butchers peddlers, and commission killers, and they were mortgage makers instead

## MEETING OF SOUTHERN CALIFORNIA PUREBRED LIVESTOCK ASSOCIATION

On Saturday, June 24, the members of the Southern California Purebred Livestock Association were the guests of Mr. and Mrs. Dave Maxwell at Maxwell Farms. After inspecting the stock and buildings at this great Holstein plant the members were seated under the walnut trees adjoining the dairy plant and served with a most excellent barbecue lunch. After luncheon the regular monthly meeting was held in the walnut grove. H. Michel, president of the association, presided, and after disposing of the routine business called on several speakers who discussed subjects interesting to the livestock breeders. Dr. E. M. Keef of the veterinary department of the state department of agriculture, explained the federal accredited herd system as it applies to California. Dr. Keef stated that the California department of agriculture was now prepared to receive applications under the federal accredited herd plan and asked the cooperation of the dairymen in building up this branch of the tuberculosis eradication work.

This was referred to the legislative committee of the association with instructions to report at the next regular meeting.

J. A. McNaughton gave a very interesting talk on the plans for the Union Stockyards to be built in Los Angeles this summer. All those present expressed themselves as heartily favoring the plan. H. A. Miller, livestock expert of the Los Angeles chamber of commerce, followed Mr. McNaughton with an endorsement of the stockyards and outlining a plan for advancing the livestock business in the Southwest. Mr. Miller also announced that the directors of the chamber of commerce had indorsed the Southern California Fair at Riverside and asked that breeders in Los Angeles County support this fair.

G. E. Gordon gave an instructive talk on selecting and fitting animals for exhibition.

R. A. Condee, who was the California delegate to the National Holstein-Friesian Association at Kansas City, gave a talk on the livestock conditions in the corn belt.

Secretary W. W. Van Pelt announced that the next meeting would be held at the Clark Hotel, Los Angeles, July 22.

## HOG AUCTION DATES

Hog auction sales will be held at Wasco, July 1; Modesto, 5; Chowchilla, 6; Fresno, 7; Tulare, 11; Visalia, 12; Hanford, 13; Corcoran, 14; Bakersfield, 15; Merced, 18; Turlock, 19; Madera, 20; Fresno, 21; Tulare, 25; Visalia, 26; Hanford, 27; McFarland, 28.

## NEWS ITEMS

G. T. Drinkwater of Lakeside has assembled a fine herd of pure bred Guernseys on his San Diego County farm. Mr. Drinkwater plans to sell his fine herd of grade Holsteins and specialize on Guernseys.

Johnson Brothers of San Diego who recently turned from dairying to hog raising, have gotten together a fine bunch of Polands with Liberator Boy at its head. They have a fine futurity litter sired by Fred Gatewood's Navy Boy who was grand champion everywhere last year. Johnson Brothers plan to show considerably this fall.

W. H. Rough of Arlington, a well known Poland China and Jersey breeder, was burned so severely by an exploding gasoline torch that he died on June 22.

W. H. Dupee is planning a model milking barn and creamery on his Rosemoor Farm at Riverside. Recent purchases of Guernseys at public and private sale in the Middle West bring Mr. Dupee's herd up to over 25 females of the highest type and production.

## ANIMAL GLANDS

Within the last 15 years there has grown up in this country a highly diversified industry in the manufacture of products from the various glands of domestic animals that are slaughtered in the large meat packing plants. According to the bureau of chemistry of the United States department of agriculture rennet and pepsin were the first substances of this nature produced under commercial conditions. Shortly after the introduction of these first products came the manufacture of pancreatin and later extract of the thyroid gland.

Pharmaceutical houses making these and other preparations get the raw glands from the packers, but a number of the latter are now making the finished products in their own plants.

Stable flies are the cause of much discomfort and annoyance to livestock and of financial loss to the owner. Keep the stables, poultry houses pig pens, etc. clean and avoid the accumulation of manure or filth. Provide screens for doors and windows. Spray the animals lightly each morning with a mixture of the following proportion: Five gallons kerosene, one pint either oil of mirbane, oil of tar or cresylic acid.

That "an ounce of prevention is worth a pound of cure" is exemplified in cases where common and notorious pests of domestic animals are permitted to thrive unmolested when a few cents expended for deterrents or repellents, would reduce their activities.


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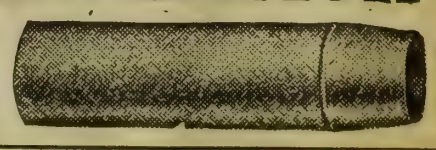

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# Calciphile and Calcifuge Vegetation

By R. R. Snowden

THESE terms have been misused in most cases of their application, for nearly all the experimental work done with lime, so far as I can learn, has had the one object in view of neutralizing soil acidity, and for this purpose simply any antacid not otherwise inhibited would do just as well. But, since all but a few low plant forms cannot develop without calcium, this element becomes in addition a true fertilizer where it happens to be deficient in the soil. On this account the true calcifuge (lime-fleeing) plants are few in number.

The following list of plants from a Rhode Island bulletin, showing their response to liming, has reference to the result of correcting the soil acidity. Those crops which were benefited most are marked by figure "3", and those benefited in lesser degree by figures "2" and "1" respectively. A large number of crops tolerate a moderate degree of acidity; these are marked by the figure "O." A few thrive much better without the addition of lime and these are marked by "(-1)."

Miscellaneous Crops: 3 Asparagus. 2 Australian Salt Bush. 3 Barley. 0 Beans. 3 Beets. 2 Broccoli. 1 Brussels Sprouts. 1 Buckwheat. 2 Cabbage. 1 Carrots. 2 Cauliflower. 3 Celery. 2 Chard. 0 Chicory. 1 Collards. 0 Corn. 0 Cotton. 0 Cowpea. 0 Cress. 1 Cucumber. 1 Dandelion. 2 Egg Plant. 1 Endive. 2 Emmer. 0 Flax. (-1) Furze. 3 Gumba. 2 Hemp. 2 Horse Radish. 1 Kale. 1 Kohl Rabi. 3 Leek. 1 Lentils. 3 Lettuce. 0 Lupines. 2 Martynia. 0 Millet. 2 Muskmelon. 2 Mustard. 1 Oats. 3 Onions. 0 Parsley. 3 Parsnip. (-1) Peanut. 1 Peas. 3 Pepper. 0 Potato. 1 Pumpkin. 0 Radish. 2 Rape. 1 Rhubarb. 3 Rowen. 0 Rye. 1 Sainfoin. 3 Salisify. (-1) Scotch Broom. (-1) Serradella. 2 Sorghum. (-1) Sorrel. 3 Spinach. 1 Spurry. 1 Squash. 1 Sunflower. 1 Tares. 3 Tobacco. 0 Tomato. 0 Turnip. 0 Vetch. (-0) Watermelon. 1 Wheat.

The lists following show my own classification as to benefit, derived from their detail report:

### Trees

Apple, Baldwin, very slight; Golden Sweet, very slight. Birch, American White, none. Cherry, Black Tartarian, very slight; Early Richmond, very slight. Elm, American White, very slight. Linden, American, very slight. Maple, Sugar, doubtful. Peach, Early Crawford, slight. Pear, Bartlett, injured. Plum, Burbank Japanese, very slight. Quince, Orange, moderate. Spruce, Norway, injured.

### Small Fruits

Blackberry, Snyder, doubtful. Cranberry, American Bell, injured. Currant, Prolific, much; White Dutch, much. Gooseberry, Smith's Improved, somewhat. Grape, Concord, somewhat. Delaware, decided. Raspberry, Blackcap, injured; Cuthbert (red), decided. Strawberry, somewhat.

### Grasses

Awnless Brome (Bromus inermis), decided. Kentucky Blue (Poa pratensis), decided. Meadow Fox-tail (Alopecurus pratensis), decided. Meadow Oat (Avena elatior), somewhat. Meadow Soft (Holcus lanatus), decided Orchard (Dactylis glomerata), decided. Redtop (Agrostis vulgaris), doubtful. Rhode Island Bent, (Agrostis canina), doubtful, Sheep's Fescue (Festuca ovina), somewhat. Sweet Vernal (Anthroxanthum od. puelli), Doubtful. Tall Fescue (Festuca elatior), decided. Timothy (Phleum pratense), decided.

### Clovers

Alfalfa (Medicago sativa), decided Alsike (Trifolium hybridum), positive. Berseem, Egyptian (Trifolium Alexandrinum), decided. Bokhara, Sweet (Melilotus alba), decided. Chinese, Milk Vetch (Astragalus sinicus), positive. Crimson (Trifolium incarnatum), decided. Hungarian (Trifolium Pannonicum), positive. Japanese (Lespedeza striata), positive. Red, Mammoth (Trifolium medium), positive; Medium (Trifolium pratense), positive; Illinois, positive; Ufa Russia grown in Oregon, decided; Orel Russia, decided. Red Berne, Switzerland, decided. White (Trifolium repens), decided. Yellow Suckling (Trifolium filiforme), decided, Yellow Trefoil, Black or Hop Medick, (Medicago lupulina), decided.

In considering lime from the standpoint of its functions in the plant, the real data necessary are the amounts of lime contained in the plant. The following list is the average lime content of the various materials shown. Without considering the soil reaction at all, these figures fairly represent the relative need of lime by various plants mentioned, the figures in each case being per cent of lime (dry basis). Following is list of plants tested, character of material analyzed, per cent lime found:

### Legumes

Alfalfa, (Medicago sativa). Plant in bloom. 3.00.

Clover, sweet, (Melilotus alba). Hay. 1.94.

Clover red, (Trifolium pratense). Plant in bloom. 2.40.

Clover, mammoth (Trifolium medium). Plant in bloom. 2.09.

Clover, alsike, (Trifolium hybridum). Plant in bloom. 1.62.

Clover, crimson, (Trifolium incarnatum. Plant in bloom. 1.92.

Clover, white, (Trifolium repens). Plant in bloom. 2.21.

Clover, Japanese, (Lespedeza striata). Plant in bloom. 1.28.

Beans, (Phaseolus vulgaris). Vines 1.32.

Cowpeas, (Vigna unguiculata). Hay, 2.70.

Lupine, blue, (Lupinus hirsitus). Hay. 1.05.

Peas, garden, (Pisum sativum). Vines. 3.12.

Peanuts, (Arachis hypogaea). Vines. 2.08.

Soy bean, (Glycerine hispida). Hay. 2.76.

Serradella, (Ornithopus sativus). Plant in bloom. 2.19.

Vetch common, (Vicia sativa, Green plant. 1.96.

### Non-Legumes

CEREALS

Barley, (Hordeum sativum). Before bloom. 0.95.

Buckwheat, (Fagopyrum esculentum). In bloom. 3.33.

Corn, (Zea mays). In bloom. 0.83.

Oats, (Avena sativa). Before bloom. 0.53.

Rice, (Oryza sativa). Entire plant. 0.23.

Rye, (Secale cereale). Before bloom. 0.51.

Wheat, winter, (Triticum vulgare). Before bloom. 0.48.

HAY AND PASTURE GRASSES

Italian rye-grass, (Lolium Italicum). Hay stage. 1.07.

Johnson-grass, (Sorghum halepense). Hay stage. 0.62.

Kentucky blue-grass, (Poa pratensis). Hay stage. 0.42.

Meadow Fescue, (Festuca pratensis). Hay stage. 0.57.

Millet, (species not stated). Hay stage. 0.46.

Orchard-grass, (Dactylis glomerata). Hay stage. 0.46.

Perennial ry-grass, (Lolium perenna). Hay stage. 0.64.

Redtop, (Agrostis vulgaris). Hay stage. 0.57.

Timothy, (Phleum pratense). Hay stage. 0.71.

FIBER CROPS

Cotton, (Gossypium hirsutum). Entire plant. 0.75.

Flax, (Linum usitatissimum). Entire plant. 0.75.

Hemp, (Cannibis sativa). Entire plant. 0.76.

MISCELLANEOUS CROPS

Hops, (Humulus lupulus). Entire plant. 2.30.

Potato, common, (Solanum tuberosum). Vines, 2.80; Tubers. 0.10.

Potato, sweet. (Ipomoea batatas). Vines. 1.70.

Rape, (Brassica napus). In bloom. 1.78.

Sugar beet, (Beta vulgaris). Leaves. 3.00; Roots. 0.23.

Sorghum, (Sorghum vulgare, saccharatum). Entire plant. 0.26.

Sugar cane, (Saccharum officinarum). Entire plant. 0.19.

Tobacco, (Nicotiana tabacum). Entire plant. 3.40.

Turnip, (Brassica rapa). Leaves. 3.83; Roots. 0.85.

GARDEN CROPS

Cabbage, (Brassica oleracea, capitata). Leaves. 5.93; Heart. 1.17.

Carrot, (Daucus carota). Leaves. 4.45; Root. 0.62.

Cauliflower, (Brassica oleracea, botrytis). Leaves and stalk. 2.04.

Cranberry, (Vaccinium macrocarpon). Leaves. 0.40; Fruit. 0.03.

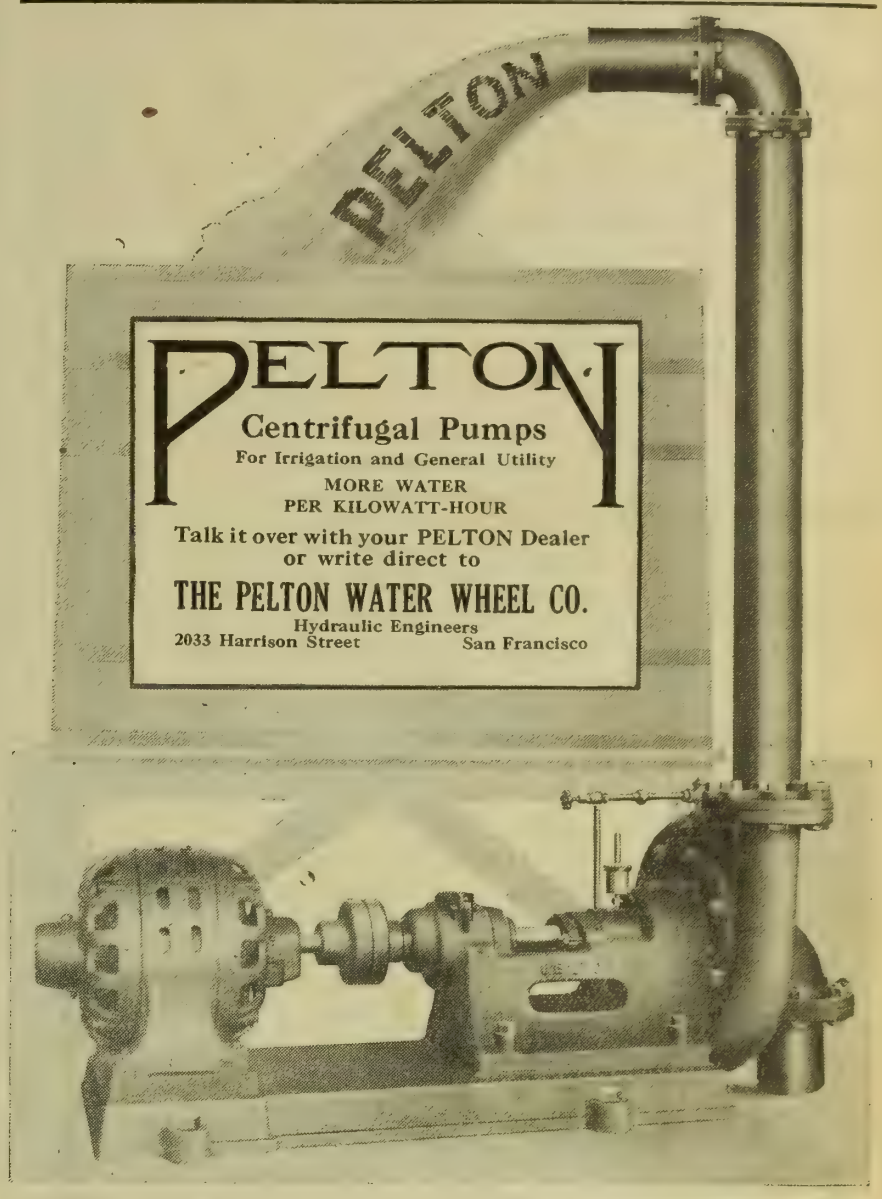
Celery (Apium graveoleus). Young shoots. 1.88.

Grape( Vitis). Leaves. 2.55.

Kohl-rabi, (Brassica oleracea, caulorapa). Leaves. 4.64.

Lettuce, (Lactuca sativa). Head lettuce. 2.65.

(Continued on Page 19.)

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# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Silage Corn

What is the best variety of Indian corn to plant for silage in the Sacramento Valley?—H. T. B., Sacramento.

Mexican June will stand the hot dry unirrigated uplands better than any yet tested. Under normal conditions throughout the state Eureka Ensilage and Orange County Prolific have both made prodigious growths with irrigation. In parts of the valley hot winds adversely affect corn, and the earlier varieties are nearly beyond the "injury" season (early July) when these winds come. Other early varieties for general purposes are: Early Tuscarora, Gehu, and Red Dent.

### June Drop

What makes lemons and oranges drop when they are the size of peas and hazel nuts? What time should they be watered? What do you do for mildew?

There are a number of causes for the dropping of oranges and lemons at this particular stage and without seeing the condition of the trees it is rather difficult to say what causes it in your particular case. In the first place there is a natural thinning of all citrus fruits when they are about this size as the tree nearly always sets more fruit than it can mature and the weaker fruits drop off. Under normal conditions there are always plenty of fruit left on the tree but if it is not in a healthy condition all or nearly all of the fruit may drop. A lack of water or extreme hot weather may cause an excessive dropping of the fruit. There are also scale and fungus conditions that have the same effect. Allowing the trees to get a little too dry before irrigating will oftentimes cause nearly all of the fruit to drop.

Local weather conditions determine the time for watering citrus trees, provided of course that the trees have received proper cultivation. Where vegetation is allowed to grow around the trees it is necessary to begin irrigation earlier in the spring and apply it more often. Do not allow the surface of the ground to become dry and bake around the trees during blooming time. After irrigating the soil should be thoroughly cultivated or hoed so as to form a fine soil mulch four to six inches in depth.

We know of nothing better than dry sulphur for mildew. Apply it early in the morning while the dew is still on the plants.—W. R. W.

### Feeding Heifer

We have a seven months' old heifer that has up to the present time been kept in a pasture and fed on milk twice a day. Now the pasture is getting poor and the milk supply is decreasing. I would like to get your advice as to how to feed her economically. Would you give her nothing but hay, or would you advise a ration of both hay and grain? What kind of hay and grain would you use? How much of each?—Subscriber, Santa Cruz.

Your letter contains a point of argument in the word "economically." Long experience in the dairy business has taught us that stinting a calf is the poorest kind of economy and that a calf well raised—grade or pure bred—will return all you spend on it many times over when she comes into milk. In this case we would prepare a mixture of 100 pounds ground oats, 100 pounds bran, 100 pounds dry beet pulp, 50 pounds linseed meal and 3½ pounds coarse salt. Feed ½ pound of the grain mixture morning and night for each 100 pounds she weighs. At the same time give as much oat hay as she will clean up. At noon a small feed of good alfalfa will not be amiss. Continue the milk and pasture as long as they hold out as a supplement to the grain ration. After she is a year old, if well grown, pasture or hay will be all she needs until near calving time.

### Blight or Tip-burn

The leaf stems on my potatoes die or are eaten off next to the main stalk. I can find nothing that indicates they are eaten as the stem remains fast to the stalk.—Subscriber, Cohasset.

Without more detailed information we can but surmise the cause of your trouble. If the weather has been cool, especially if cloudy or damp, the cause may have been blight, and the remedy, Bordeaux mixture. If there had recently been two or three very hot days, it is perhaps a case of tip-burn for which there is no remedy, the trouble being entirely due to weather conditions and not unusual in June.

### Too Much Water

I am enclosing two peach leaves from a strong growing young tree planted in 1921. All the leaves are turning yellow like the enclosed and dropping fast and I fear all will go. The tree is large for its age, was given a spray of Bordeaux and lime-sulphur when dormant and has no leaf curl. The trouble started with the leaves about first of June. Have I given tree too much water?—Subscriber, Orange.

If you have watered heavily that is no doubt the cause of trouble, especially if you have also fertilized the tree. Relief could be afforded so small a tree by digging a hole at one side, but directed under the tree, at a depth sufficient to get below roots. Spading the surface deeply and leaving soil rough will also aid in drying out.

### Thorns on Palms

I would like to know what good the thorns are on date palms?—Subscriber, Indio.

Date palms are native to desert countries where at times there is no other green succulent vegetation. If plants had no thorns few would escape being eaten. As it is young plants have the tips of leaves chewed off, for the thorns occur only at base of leaves. Young cactus are tender and palatable and even when heavily spined are eaten by hungry animals. Spines are always nature's protectors. In the American tropics one palm, the spinyest (Acanthorhiza), has no spines on plant except on base of trunk, where they are thick, very long, and all point downward. No animal could climb one, and it is evidently a natural provision to protect the seeds from monkeys and other animals.

### Drainage Needed

What will sweeten soil that water stands on until May? It is soft in spots nearly the year round although these spots are higher than and but a few feet away from the drainage ditch. The water does not seem to seep through. Would tiling help these spots?—Subscriber, Lakeport.

Certainly tiling will help, and may be necessary, but one must determine if the use of the soil will warrant the expense—the crop may not be worth tiling. As you speak of "sweetening the soil" it is presumed it is sour or acid. If this be so plow deeply and apply lime when dry on top and then plow deeply again. If soil is not acid, but alkaline, use gypsum instead of lime.

### Sow Bugs or Damp Lice

Our garden is full of sow bugs and no plants do well. Soil is adobe. Do the bugs have anything to do with condition of soil?—Subscriber, Los Angeles.

The sow bugs have nothing to do with condition of soil but prefer acid soil and damp places where decaying vegetable matter is present. Apply 100 pounds or more of air slaked or hydrated lime to the soil. Scatter lime on top and rake well to mix with soil. It will not then cake when wet as it will if not first mixed with soil. This will "liven" your soil, make it easier to work, set free locked-up or unavailable plant food and much discourage multiplication of the insects.

### Weeds in Reservoir

How can I get rid of moss in a reservoir without rendering the water unfit for irrigation?—Subscriber, Shafter.

Copper sulphate is the best agent, and Dr. Wilson, bacteriologist for the Los Angeles water department, says about one and one-fourth pounds to 100,000 gallons should be about right, though the effectiveness of the dosage varies with the kind of plants in the water (all moss and scum is plant life). He further says stock are not injured by the water in which dosage necessary to kill plants is used. In the case of the city's drinking water, in the large reservoirs, two and seven-

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tenths pounds of copper sulphate to each acre-foot is used once a month.

### Dividing Rhubarb

What is the proper method to use in dividing roots of rhubarb to get new roots for planting?—Subscriber, Paradise.

It is only necessary to divide rhubarb into strong pieces. A leading rhubarb specialist lately visited pointed out rows of strong growing plants, saying "That new and rare stock I cut up to single eyes." It was vigorous.

### Cane Borers

How may I successfully combat the cane borer which attacks young shoots of loganberry in the spring? Have tried culling them back but that causes them to put out laterals. Will they bear as well on the short canes as on the long ones?—Subscriber, Paradise.

Culling out and burning canes is good, and with hand picking is the only means of control, generally found sufficient. Better send specimens of the borers to State Insectary, Sacramento, for determination; there are many kinds of borers and some may be reached by other methods. Good crops are sometimes grown on short canes by pinching the ends of the numerous laterals when they are about a foot long.

### Feeding Bees

How and what should be fed hives of bees which did not succeed in gathering sufficient stores for winter supply?

This query was referred to Henry Perkins who answers:

"The best and safest feed for bees at all times is sugar syrup. This may be made by mixing sugar and water, equal parts by measurements. It may be mixed cool and fed at once. An inside feeder should be used when feeding for winter stores. There are several different kinds on the market. A homemade feeder may be utilized from empty fruit cans or other vessels that will go inside an empty super placed on the hive. A whiff of excelsior or similar material should be placed in the vessel to prevent the bees from drowning."

### Strawberries Dying

Strawberry growers in the Eel Rock section of Humboldt County report that ten per cent of the plants died last year and probably 30 per cent this year. They appear all right one day and wilt and die the next. Can you advise us how this can be prevented?—Subscriber, Eel Rock.

County Agent J. W. Logan at Eureka writes: "I have had no inquiries regarding this matter and have not been in the Eel Rock section this year. I am unable to advise you relative to the condition or control. If the parties concerned would send some specimens and history of the plants to your office or to this office I am sure we could give them some assistance and if conditions warrant I would be very glad to make a personal visit to this section in order to assist them in their troubles."

County Agent C. S. Myszka at Ukiah, Mendocino County, writes: "In the Ukiah district where strawberries are grown on wet, heavy bottom soils the growers experience considerable loss in their plants. The trouble here is the result of a root rot caused by fungus. Fusarium wilt and rhizoctonia take hold in water logged soils, attacking the root and bark, thus hastening decay. The roots in many cases turn black, extending to the surface of the soil. The upper portion of the root system remains healthy and of good color, the lower portion blackened, gradually decaying and breaking off. We find that plants grown on soils of a porous texture are not affected. We imagine from what you say that possibly the Humboldt growers may be experiencing the same trouble found in this territory."

### CLASSIFIES ALFALFA ACREAGE

The agronomist for the Hairy Peruvian Alfalfa Association, J. W. Longstreth, has completed classification of alfalfa fields in the Yuma and Bard Valleys. The total acreage of alfalfa in the two valleys is approximately 22,194 divided as follows: Hairy Peruvian 16,875; Smooth Peruvian 1,839; common 2,315; mixed and unclassified 1,383.

This work has been in progress for the past three months and requires considerable experience. Mr. Longstreth has been identified with classification and certification of Hairy Peruvian alfalfa from the time when he first came to the Yuma Valley as county agricultural agent some years ago. Much credit is due him for the thorough manner in which he inspected and mapped the fields. Each one, large and small, is shown in its exact location together with its classification.

### STAKING CHRYSANTHEMUMS

Not many home gardeners stake 'mums and probably none closely approach the sufficient system adopted by the professional grower. This is what he does:

Insert a stout post at each end of the row and thoroughly brace. Between these posts and along the row of plants stretch strong light wires; the first, one foot above the ground, and others to the number of four, one foot apart above the first, At every five feet between the end posts drive a one by two inch by six foot stake and staple the wires to it at the point they cross. This wire and wood framework should be five feet high; the end posts seven feet long, with two feet buried in the ground to sustain the tension of the wire. With the intermediate posts one foot in the ground is sufficient. As the plants grow during the season, carefully tie them with raffia to the wires.

### WATERING CHRYSANTHEMUMS

Water is really the key to success in growing large 'mums If the plants are allowed to dry at the root the stems become hardened and no amount of water thereafter can soften the tissue. Good care subsequently will bring good flowers but they will never attain the size that is possible with soft succulent stems with large free sap channels or continuous cells. Professional growers usually flood beds or plants by the basin system. In warm weather vigorous plants can hardly receive too much water.

### CONTROLLING APRICOT BROWN ROT

Apricots in 1921 made up approximately 13½ per cent of all fruit canned in California. Because of loss due to brown rot growers should find the results of recent experiments carried on by the University of California college of agriculture exceedingly timely and helpful in maintaining a high rank of this California fruit. To control brown rot, spray the trees in the spring when about 1-5 of the blooms are open, using Bordeaux mixture in the proportion of 7½ pounds copper sulphate (blue stone), 8 pounds lime to 50 gallons of water. If the orchard is badly diseased a second spraying should follow a little later. As far as possible remove and burn all diseased branches and mummied fruit. Keep the center of the trees open to facilitate spraying, and admit sunlight to all the twigs and spurs.

### THIN THEIR SOUP

Dr. Hopkins says in "Soil Fertility and Permanent Agriculture": "Any treatment which hastens the normal growth of the plant usually helps the plant to resist or overcome the attack of insects or disease; and it is apparently true that imperfect or abnormal plants are more likely to suffer from such attacks than normal, healthy plants. It has been suggested that sucking insects prefer the concentrated sap of weak or somewhat withered plants to that of vigorous succulent plants. Doctor Forbes has suggested that the very dilute juice of a rapidly growing plant may constitute a starvation diet for healthy insects; in other words, that the capacity of the insect for such juice is not sufficient to furnish it with the amount of nutrition necessary for maintenance and reproduction."

### BIG FLOWER SHOW

Flower lovers living in the vicinity of Los Angeles are advised to visit Exposition Park to see the latest and best in all lines of herbaceous flowering plants. The entire seven acres are given over to local nurserymen and florists for displaying their special lines of flowering plants and all in Southern California are in friendly competition. One man has been occupied for nearly a score of years in hybridizing and selecting California poppies (Eschscholtzia) and has 24 shades now in bloom, from white to deepest orange, to crimson to lavender. The display is free to all who come.

The total number of tractors in Greece is about 500, of which about half are of American make. Walking plows and disk plows, cultivators and planters were called for most. The farmers also purchased hay mowers and presses, threshers and tractors, as well as a large number of farm wagons. American goods were sold exclusively.

THE evidence still piles up to support our statements concerning the remarkable service quality of the Fisk Red-Top where the demands on the tire are greatest. Read this letter from Arizona:

COCHISE MOTOR COMPANY

Bisbee, Arizona March 14th, 1922

The Fisk Tire Co., Inc., Chicopee Falls, Mass.

Gentlemen: This morning a man of this district came in from his lease over Tombstone way, in a very rough section of the mountains, and purchased two more Red-Tops for his Ford. He remarked when he was leaving that the Red-Top tire was positively the only tire that was giving satisfaction in the mountains up over the Continental Divide.

Very truly yours, E. SIMMONS

*There's a Fisk Tire of extra value, in every size for car, truck or speed wagon.*

FISK RED-TOP CLINCHER TIRE

*Extra Ply of Fabric* *Extra Heavy Tread*

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**The direct selling method from producer to consumer, and a clearing house for California's prosperous farmers. Weekly liner rates: Each insertion 4½ cents per word. No ads accepted for less than ten words. Cash with order. Mail all classified copy to Los Angeles Office.**

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**Profitable Poultry News**—Capacity 200,000 Chicks, hence prices surprisingly low for quality. After years trials, County Farm Advisors, Ranchers, City people are buying exclusively our 180-290 egg Leghorn, Reds, Rocks, Minorcas, Anconas, Wyandottes, Ducks, Turkeys, Great winter-laying, vigor, beauty. Chicks every week of year. Buy now quick growing chicks, Turks, ducklings; pullets, breeders reduced. Write Profitable Poultry, 13 North Fair Oaks, Pasadena.

BABY CHICKS

Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.

Write for prices.

FANCIERS' EXCHANGE

640 So. Main St. Los Angeles

BABY CHICKS
**White Leghorns, Anconas, R. I. Reds. Special prices for May-June-July**

THREE MONTH OLD PULLETS
All selected—no culls

"QUALITY SUPREME"

ORANGE COUNTY HATCHERY
Santa Ana, California

**White Leghorn Trapnest Stock,** our own famous Yesterlaid Egg Ranch strain. Cockerels from hens, records 200-301 eggs, mated to males whose mothers laid 250 and up to 316 and 333. Buy your stock now. We have cockerels 8 weeks old and up. Also offer for sale several thousand pullets, yearling hens and good breeding hens and cock birds. Write for circular. Yesterlaid Egg Ranch, Kent, Washington, "Home of the 300 egg hen."

**Baby Chicks**—Reds, Rocks, Anconas, and White Leghorns. Hatches every week after August 1st. Write at once for price list. Place your order at once, as we have several thousand now sold to old customers. Est. 1915. Hargett & Son, Route 2, Box C, Compton, California.

**Baby Chicks** from my pure-bred, heavy laying strain of S. C. White Leghorns, June and July delivery $12.00 per 100; $33.00 per 300; orders taken now for August and September delivery. Write for particulars. J. R. HEINRICH POULTRY YARDS, Arroyo Grande, California.

**Finest Hatchery in the World at Pebbleside Poultry Farm.** Baby chicks and hatching eggs from our own selected heavy layers. Visit our farm and have a look. Pebbleside Poultry Farm, Sunnyvale, California.

**White Leghorn Baby Chix** for summer and fall months from stock **Accredited by Sonoma County Farm Bureau.** We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Baby Chicks Every Week**—White Leghorns, S. C. R. I. Reds, Barred Rocks. Order now for immediate or fall delivery. Safe arrival guaranteed. Write for circular. Stubbe Poultry Ranch & Hatchery, Box 67-E, Palo Alto, Calif.

**Barred Plymouth Rocks,** Wonderful layers, champion prize winners. Nothing better in poultry: Choice stock and hatching eggs. Catalog free. Charles H. Vodden, Los Gatos, California.

**Pearl Guineas**—Wonderful layers, $5.00 per pair. Eggs, $2.00 per 15. A. E. Nelson, El Monte, California.

**Silver Campines**—Wanted breeding males. Roy Ward, Lindsay, California.

**Pit Games**—Old and young trios. R. H. Crane, Santa Rosa.

## DUROC-JERSEYS

**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

**Winsor Ranch Durocs**—The best of stock at reasonable prices. BONITA, CALIFORNIA

## GEESE

**Owing to More Room Needed** for young stock will dispose of some of our yearling geese at $7.50 each, and Wyandotte hens at $5 and $10, and cocks at $10 and $25 each. Pearl Guineas $5 a pair. Paradise Valley Poultry Ranch, National City, California.

## POLAND CHINAS

POLAND-CHINAS STRALOCH FARM
Two and one-half miles west of Davis, Calif. on Highway, C. Harold Hopkins, Woodland, California.

## PATENT ATTORNEYS

WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

## SHEEP

HAMPSHIRE DOWNS
STRALOCH FARM
Two and one-half miles west of Davis, Calif. on Highway, C. Harold Hopkins, Woodland, California.

## CATTLE

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Ridgewood Ranch—Registered Herefords.** Choicely bred, big rugged registered bulls of serviceable age for sale in carload lots or singly at attractive prices. Correspondence solicited. Visitors welcome. C. S. Howard, prop.; Otis Cordell, herdsman. Willits, Mendocino County, California.

**Guernseys—Grape Wild Farms—Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

SHORTHORNS STRALOCH FARM
Two and one-half miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Herefords—"Veramont Stock Farm,"** H. M. Barngrover, Prop., Stockton, California.

**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

**For Sale**—Herd of 11 good dairy cows by owner. No dealer. H. A. Mattox, 616 South Crawford, Downey.

**24 Head of Good Grade Holstein Heifers** and cows for sale. Apply to A. J. Sanford, Box 217, Live Oak, California.

**Registered Herefords—Anxiety IV strain.** Breeding stock for sale. Chas. Rule, Duncans Mills, California.

## TREES

**Navel, Valencia and Eureka Lemon Trees**—buds furnished by Supply Company. Also few Marsh seedless grapefruit trees that were budded from trees of high fruiting quality. Pink tips of lemon were not touched by last winter's freeze. Address, O. C. Wilhite, El Cajon, California. Phone El Cajon 451-2 bells.

**For Sale—25,000 Sour Orange** Seed Bed Trees. 1,000 1 year old Valencia buds. Not touched by the freeze. In one of our nurseries near Garden Grove. Southland Nurseries, 1941 East Colorado Street, Pasadena, California. Phone Colorado 6352.

**For Sale—Grafted walnut trees, also citrus and deciduous trees.** Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**For Sale—Grafted Walnut Trees** for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**For Sale: Orange Trees**—Navels, Valencias, Lemons. Located San Fernando Valley. W. W. Burns, 630 Security Bldg., 63110, Los Angeles.

**Nursery Stock for Sale**—Navel and Valencia orange trees, also Eureka lemon. Y. Yamaguchi Co., Upland, California. phone 75-W-1.

**For Sale—Navel and Valencia Nursery stock**—not frosted. W. B. Ames, 9th floor, Merritt Bldg., 8th and Broadway, Phone Pico 1156, Los Angeles.

**Beeman Tractor Cheap**—Young man learn trade. Cash Nursery, Sebastopol.

## HORTICULTURAL PRINTING

**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St., Los Angeles.

## MISCELLANEOUS

**Opportunity for Promotion of Ideal Summer Resort.** Owner of Half Mile Ocean frontage south of Pismo Beach, Santa Barbara County, open for partnership or promotion proposition. Will also sell any part. Wonderful opportunity. Write to L. J. Dierssen, 30 Davis Street, San Francisco, California.

**Get Maximum Income** from your land by having your irrigation and drainage problems properly attended to by the Engineering Service Company, 1316 Washington Building, Los Angeles, California.

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Avoid Law Suits** by having your property lines properly surveyed and established by the Engineering Service Company, 1316 Washington Building, Los Angeles, California.

**3-Pound Box Absolutely Boneless Codfish,** fine white, new catch fish, delivered by mail, $1. Coffin Fish Co., Seattle, Wash.

## FARM LAND FOR SALE

MISSOURI FARM; 120 ACRES WITH 18 CATTLE. GROWING CROPS
Team, poultry, bull, hogs, implements included; about 100,000 ft. timber easily marketed close by; rich loam tillage with portion bottom land for wide variety money-making crops; 25 cow pasture, plenty of fruit, good house, barn. Owner called away makes low price for quick sale $1500, part cash. Details this and another Missouri farm with 200 fruit trees, good building, full equipment and crops for $3200, part cash, page 103 Illus. Catalog Bargains 30 States FREE. STROUT FARM AGENCY, 831 HK New York Life Bldg., Kansas City, Mo.

TREES, VINES AND WEALTH
Fruit trees and vines have made California the second richest farming state in the Union. You can share in this wealth by becoming a fruit grower on our "Irrigated Bottom Lands." Heavy crops show the richness of the soil. Irrigation, transportation and drainage. Very liberal terms for the right men.
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**For Sale By Owner**—Ideal California Country Home, close to thriving town—2 acres fruit trees all kinds; also walnuts. Rich soil, good water, 5 room house, gas, electricity, running water, cows, chickens, tools. $5,000 will handle. No trade. John Packham, 316 Woodruff Avenue, Bellflower, California.

**For Sale—15 Acre Improved Ranch** two and one-half miles south of Coachella on paved highway. Dates, grapes, alfalfa and a variety of other trees and plants growing on place. Price $7,500. Nels P. Rasmussen, owner. R.F.D. Box 33, Coachella, California.

**For Sale**—15 Acres, 7 cows, 4 heifers, horse, tools, house, barn, water piped. New chicken house for 500. Irrigation. Land will grow vines and trees. Close to main highway. 1 1-4 miles nice town. Owner, John Noren, Ripon, California.

**For Sale—160 Acre Relinquishment** in proven Artisian Belt. Excellent climate. Near town and railroad. $6.00 per acre. Terms. S. M. Morse, Box 9, Ashfork, Arizona.

**Buy a Home**—Fifteen years to pay. Low rate of interest. Alfalfa, Raisin, Grape, Prune, Figs. Everything grows here. Ask—Williams Chambers of Commerce, Williams, California.

**Ten Acre Income Berry and Vegetable Ranch** located in Mendocino County, a nice home. Write Owner, care Cultivator, Los Angeles.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## MACHINERY

**For Sale** SAY LISTEN
WHO SAID
ADAM WAS A BOOTLEGGER?
and
IF HE WAS
WHERE DID HE GET THE BOOTS?
and
WHERE WERE THE FEDERAL AGENTS?
anyway
ADAM'S ALE is just as free as it was then and some Ranchers are just as funny as Adam was.
DON'T WAIT TILL YOU SEE
your crops wither before making effort to save them. We can furnish you
NEW & USED SURFACE IRRIGATING PIPE
New 3" $12.90 per 100, 4" $16.75, 6" $27.50
DOZEN 25,000 REDWOOD TANKS
used for crude oil make best reservoirs for domestic, stock or storage for irrigation known on cars $150, 50,000 gal, $195
EARTHQUAKES & CLIMATIC CHANGES
crack cement reservoirs but not tanks.
NEW GALV. TANKS
300 gal. $16.25, 600 $25.25, 1000 $35.25, 2000 $45.25, also used galv. & redwoods.
PUMPS PUMPS
why pay $1500 for Turbine when we have deep well double acting plunger pump complete, pumps 25" at 100 ft. for $600, single acting 10" outfit $275, 15 H. P. engine fine shape $250, $300 Ranch Tools swap for FORD.
HOW DOES DEMMITT DO IT?
WHAT?
Rebuild Windmills, Tanks, Pumps, Towers, Cylinders, Pipe and sell at such LOW PRICES and live on such small margins?
HERE'S HOW
Work like the devil, know where to buy and sell for CASH ONLY. GET IT?
LISTEN, CUSTOMERS!
We are not entertainers, haven't much time to visit but make up the difference
BY SAVING YOU MONEY
which seems more popular nowadays.
DEMMITT CO.
120 N. Main. Yds. 816 Yale. L. A.

**For Sale**—Luitweiler Pump No. 1510, 200 ft. casing 7 inch and double rods 7 inch cylinder and valves, all new. Write for prices and description. Geo. E. Small, Terra Bella, California.

## TURKEYS

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

## DUCKS

**Mammoth White Pekin Duck Eggs** for hatching $1.00 per dozen; $8.00 per hundred. A. Surtman, Petaluma, California.

## ROOFING MATERIAL

**Roofing Paper—**
Firsts, complete with nails and cement. 1-Ply $1.25; 2-Ply $1.60; 3-Ply $2.20.
Lead and Oil Paint.....$2.20 a gal.
Roof Paint Special .....35c a gal.
Prompt Deliveries on Mail Orders.
ANGELUS ROOFING & PAPER CO.
764-766-768 So. San Pedro Street.
Phone Bdway. 5401. Los Angeles, Calif.

## SEEDS AND PLANTS

BLACK MONUKKA
The Big Grape Opportunity

ORDER YOUR CUTTINGS NOW FOR NEXT SPRING DELIVERY
Guaranteed absolutely true to name
THE HALL NURSERIES
Waterford California

**A Few Thousand New Stone Tomato Plants.** (No others.) Large sweet peppers soon. Outdoor grown. Home Nursery & Seed House, Maywood. Los Angeles. Route 1, Box 1335, Slauson and Cudahy.

**D. Lotus Seed**—Manchurian stock for Japanese persimmons. Let me include your needs in my 1923 importation from Manchuria. Fred W. Kelsey, Nurseryman & Orchardist, El Monte, California.

**California Wonder Corn**—Tested yield over twice that of common corn. 10 pounds $1.50. James McKee, Riverside, California.

## WANTED

**Wanted—Work as herdsman or assistant,** with beef cattle or hogs. Experienced in showing, fitting, conducting of sales and herd management. Single, age 27, agricultural college graduate. References furnished. State full particulars. Address, Box 23, Cultivator, Los Angeles.

**Wanted: Men With Spare Time to represent established California company** selling standard material to ranchers in ten southern counties. Good pay. Address W. S. H., care California Cultivator, Los Angeles.

**Wanted Throughout** California, men with autos to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call. J. H. Yetter, 317 Central Ave. Los Angeles.

**Wish to Buy** about 100 acres grapes, olives or other fruits, near Los Angeles. Write N. B., Box 497, Niagara Falls, N. Y.

**Wanted—Peafowls** at reasonable price. Francis H. Rudkin, Fillmore, California.

## CORN HARVESTER

**Corn Harvester** cuts and piles on harvester or winrows. Man and horse cuts and shocks equal Corn Binder. Sold in every state. Only $25 with fodder tieing attachment. Testimonials and catalog FREE showing picture of Harvester. Process Harvester Co., Salina, Kansas.

## GOATS

**800 Angora Goats** priced for quick sale. C. E. Bryant, Three Rivers, California.

## PRINTED STATIONERY

**Printed Stationery**—200 Sheets Note Paper 6x7 inches; 100 envelopes 3⅝x6½ inches, with your name and address neatly printed in blue ink. Sent postpaid for $1.25. Regal Stationery Co., Box 1342 Station C, Los Angeles.

## FARMERS NEED RADIO SERVICE

At the Radio Telephone Conference recently held at Washington W. A. Wheeler of the U. S. department of agriculture said: "There is no single use of radio, except for marine and aerial purposes, that should take precedence over its utilization for the benefit of agriculture. There are more than 32,000,000 people on farms, comprising nearly one-third the total population of the United States. The radio is the only means of getting to them quickly at small cost the economic information necessary in the proper conduct of their business."

Mr. Wheeler outlined the department's method of broadcasting weather, crop and market reports from radio telegraphy and radiophone stations of the post office department. Daily market reports on the livestock, grain, cotton, hay, feed, fruit and vegetable markets are broadcast over virtually the entire United States, and farmers located almost anywhere can receive them either direct or with the assistance of amateur operators. A number of state bureaus of markets and agricultural colleges are also broadcasting both local and national market and crop reports by radio telegraphy and radiophone.

"When thousands of tons of food products are threatened with destruction by impending storms or floods ordinary methods of communicating warnings are too slow," Mr. Wheeler said. "Market news to be of greatest value should be received the same day. The prompt receipt of reports on the condition of crops is also of great importance. The radio is the only means of quickly communicating these various kinds of information to the farmer."

A rapid movement in the formation of "Farm Rad Clubs" composed of farm boys and girls interested in radio is taking place throughout the country. Armstrong Perry of the Boy Scouts of America stated that the members of the Scouts organization were ready to lend every assistance in the dissemination of government news.

### THIS MONTH IN THE ORNAMENTAL GARDEN IN NORTHERN CALIFORNIA

(Continued from Page 9.)

rooted are very pretty the tuberous types are now to be secured in a vast number of beautiful shades in pink, orange, salmon, scarlet, yellow and white. The large singles are very attractive but the camellia shaped doubles and the frilled which have been recently developed are well worth a place in every garden. For balcony boxes and hanging baskets the pendulous types are most valuable. They must be planted in good leaf soil, and a little peat and a little well rotted manure will help them to produce their best blooms. They last in flower practically until cut down by frost. Hence they are well worth any extra attention.

#### Seeds to Sow for Winter Flowers

Primulas of late are being used considerably for winter and spring flowering, and among the best are Primula Kewensis, a fine yellow; Primula malacoides in lavender shades, very free flowering; P. obconica in pink, red and white; and, of course, the Primula veris and polyanthus types in various shades even to blue. Seeds of these should be sown at once in boxes of fine soil in a warm situation. Towards the end of the month sow viola, pansy, myosotis, wallflower, calendula, antirrhinum, English daisy, arabis, aubretia, alyssum saxatile and cineraria which may be grown in blue or pink shades, dwarf or tall mixed.

#### Chrysanthemums

These will need rich soil or frequent applications of liquid manure, and where the clumps have become too large they must be subdivided and replanted as they are really our best fall flower, especially the single and pom-pom types which make the hardy flower border attractive if grouped in the separate colors. The groups should be planted informally and the plants placed 10 to 12 inches apart. The young plants must be carefully watched for aphis and if attacked spray with black leaf 40.

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One hundred sixty varieties of iris were shown at the iris society show in St. Paul June 1 and 2.

### CALCIPHILE AND CALCIFUGE VEGETATION

(Continued from Page 15.)

Onion, (Allium capa). Leaves. 3.63; Bulb. 1.21.

Rhubarb, (Rheum rhaponticum). Leaves. 0.32; Stalks. 1.45.

Radish, (Raplanus sativus). Leaves. 4.30; Root. 1.38.

Spinach, (Spinacia oleracea). Top. 1.96.

Strawberry, (Fragaria chiloensis). Vines. 1.22; Fruit. 0.07.

WEEDS

Sheep sorrel. (Rumex acetosella). Whole plant. 1.63.

TREES

Chestnut Leaves. 2.25.
Mulberry. Leaves. 5.14.
Oak. Leaves. 0.91.
Pine. Needles. 0.52.

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### SAN DIEGO HAS NEW COMMISSIONER

R. R. McLean has been appointed horticultural commissioner of San Diego County, taking up the work of the office, July 1. Mr. McLean is well known to Cultivator readers through his articles dealing with San Diego County's agriculture. He has been for sometime in charge of the farm service department of the First National Bank of San Diego and in that position has had opportunity to thoroughly acquaint himself with farming conditions.

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### SAVE THE YUCCAS

He who filches a flowering yucca stalk takes that which not enriches him and makes the landscape poorer. If left until it matures the stalk provides an object of beauty that may gladden many hearts, and as the parent dies through this supreme sacrifice, several young plants are thrust out from the mother plant ere her vigor begins to wane, and thus is vegetative reproduction assured. Aside from this a small per cent of the seeds will germinate, yielding an additional crop of young plants. We have not yet learned of anyone who has observed the subsequent behavior of a denuded plant; does it die without reproduction? The shock is great, for the floral effort results from the accumulated vigor of years and the daily flow of sap into the flower stalk is heavy.

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### WILD FLOWERS IN SEQUOIA

A trip to Giant Forest in the Sequoia national park means an unusual opportunity to widen one's acquaintance with the wild flowers of California. Along this road wild flowers in full bloom make a riot of gorgeous coloring. Many of the flowers are unfamiliar to the average Californian. The predominating species which may be observed now are: Blue lupine, white lupine, Indian pink, bleeding heart, yucca, bladder-nut, syringa, Fremontia, dogwood, bush poppy, wall flower, monkey flower, yerba santa, mountain lilac, sulphur flower, satin bell, twining brodiaea, morning glory, yellow violet, buckeye, godetia, Mariposa lily.

Some of these are noted for their vast territorial and altitudinal range, while others are limited to a very small area not extending beyond the boundaries of California. Visitors should inquire at ranger stations about regulations governing flower picking. In general the regulations limit picking to three specimens of the more common varieties for each visitor, and these must not be taken in the immediate vicinity of Giant Forest, campsites, roads or trails. Wholesale or careless picking of flowers or damage to shrubs and trees will be prosecuted.

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### CALIFORNIA COOPERATIVE CANNERIES IN SAN FRANCISCO

Publicity Manager R. C. Spencer of the California Cooperative Canneries writes that headquarters have been moved from San Jose to 503 Market Street, San Francisco. The association has canneries at San Jose, Modesto, Visalia and Tulare.

### HOW TO FIGHT ARMYWORMS

Armyworms are reported from Tuolumne, El Dorado, Fresno, Amador and San Luis Obispo Counties. The armyworms are largely hatching on uncultivated areas or on orchards in which weeds have been allowed to grow, says T. D. Urbahns, entomologist. The armyworms travel rapidly and destroy cultivated crops and young trees in their path. Investigation of outbreaks and specimens sent to the state insectary show that several species are involved in this destructive work.

The bureau of pest control of the state department of agriculture is recommending several control methods. The particular control methods selected for any locality must be chosen to meet the requirements for local conditions. Spraying the crops with arsenate of lead solution, spreading poison bran mash prepared according to the formula recommended for grasshopper control, dragging the soil where armyworms are traveling with specially prepared brush drags, and plowing furows in which the worms may collect and in which they may be destroyed by dragging a log through the furrow at the proper intervals are methods that may be used to good advantage. Armyworms are comparatively easily destroyed when the outbreaks first occur but if the worms are allowed to spread over the fields the damage may result in the very severe destruction of crops and trees.

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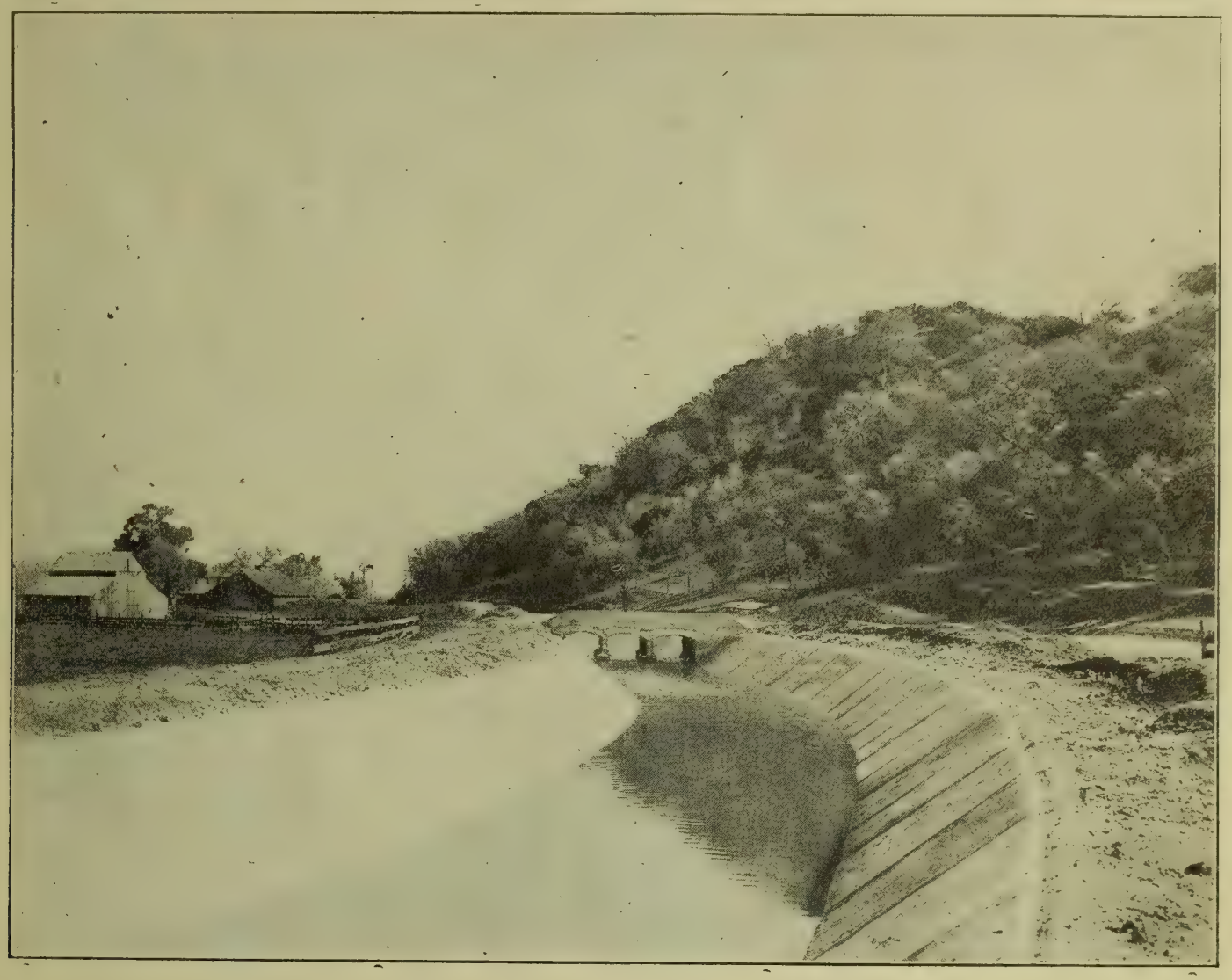
### QUITE SO

"Pa, why is a wife called the better half?"

"In order, my son, that she may not get the impression that she's the whole thing."—Boston Transcript.



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The Beeman "eats" only when it works.
TERMS IF YOU WANT THEM.
Ask about our Beeman Junior.
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52 Beale Street San Francisco

# Lice Kill Chickens in Warm Weather

**Summer Months Most Dangerous, Says Poultry Authority—To Prevent Losses Add Minerals to the Fowls' Drinking Water**

If your chickens are sickly, won't lay and are dying off in hot weather, lice and mites are probably the cause. Dr. B. F. Kaupp, famous poultry authority, says: "Lice are most common in July and August. During these months conditions are more favorable for their propagation." To easily get rid of these pests and prevent losses, add minerals to the fowls' drinking water. This does away with greasing, dusting, spraying and dipping. Soon after the fowls drink the mineralized water all lice and mites leave them.

The necessary minerals can now be obtained in convenient tablets, known as Paratabs. They are scientifically prepared, perfectly safe, and dissolve readily. The tablets also act as a tonic conditioner and are warranted to impart no odor or flavor to eggs or meat. They are equally beneficial to young chicks and grown fowls. The health of the fowls improves, they grow faster, stand hot weather better, and the egg yield frequently is doubled. Mrs. M. N., Pulaski, Ky., says: "I am giving Paratab water to my chickens and am having better luck this year than ever before."

Any reader of this paper may try Paratabs without risk. They cost only a trifle and are sold under an absolute guarantee. Furthermore, the laboratories producing Paratabs are so confident of good results that to introduce them, they offer two big $1 packages for only $1. Send no money, just your name and address to the Paratab Laboratories, Dept. 959, 1100 Coca Cola Bldg., Kansas City, Mo., and the two $1 packages, enough for 100 gallons of water, will be mailed. On delivery pay the postman only $1 and postage. If not delighted with the results in 10 days, notify the laboratories and your money will be refunded in full. Don't hesitate to accept this test offer, as it is fully guaranteed.


## Baby Chicks

We incubate 250,000 eggs every three weeks; the largest and finest equipped electric hatchery in the Southwest. All popular breeds: Rhode Island Reds, Barred Rocks, Black Minorcas, Anconas, etc. Also our famous Oregon-Corvallis White Leghorns. Order now for immediate or future delivery of Baby Chicks, Pekin, Muscovy or Indian Runner Ducklings, Mammoth Bronze baby turkeys. All kinds of pullets supplied—anytime. Incubators and brooders. Careful attention to every order, large or small. Send today for prices.

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**The Cultivator costs only one dollar yearly**


# Napa Delegates Enjoy Poultry Tour

By Melvin W. Buster, Assistant County Agent, Sonoma County

APPROXIMATELY 160 people from Napa County enjoyed poultry tour arranged by the Sonoma County farm bureau. The first stop was made at the Petaluma packing plant of the Poultry Producers of Central California, where they were addressed by Farm Adviser Weinland; D. B. Walls and H. W. Kerrigan and C. E. House gave talks.

The delegation was then divided into three groups and visited the Sales Hatchery, Pioneer Hatchery, and the plant of the Must Hatch Incubator Company, where they were told something of the problems and advantages of commercial hatching.

They next visited the Avian Pathology Laboratory at Petaluma, conducted by the University of California, where they were told something of the work the university is doing to control poultry diseases, by Dr. J. C. Corl, who is in charge of the laboratory.

They were then taken to the Sonoma County Farm Bureau Egg Laying Contest where F. P. Eckland, the contest manager, spoke on the "Establishment and Growth of the Contest and Its Value to the Poultry Industry."

The next stop was made at the poultry ranch of George E. Burlingame near Sebastopol. Here the delegates were given the results of brooding projects conducted by Mr. Burlingame to test out three different methods of feeding baby chicks. They were also given the results of pullet selection tests made by the agricultural extension service cooperating with Mr. Burlingame, and the results of the entire county projects of pullet selection were also explained, as well as the records on hen culling tests made on five poultry farms.

The next stop was made at the Analy union high school, where the delegation was given a lunch by the Sebastopol chamber of commerce and the Cunningham farm center.

The next place visited was the poultry breeding plant of Ernest Williams of Sebastopol. Here D. B. Walls gave a very interesting discussion on the projects of the poultry department of the farm bureau which are being conducted to improve the quality of the stock in Sonoma County. The projects mentioned were: The egg laying contest, the pure bred pedigreed Cockerel auction sale, the accredited hatchery plan, and the poultry registry association. Mr. Williams also spoke to the delegates on the factors involved in establishing and conducting a poultry breeding plant.

The last stop was at the commercial poultry plant of T. D. Taylor, about four miles northwest of Sebastopol. Mr. Taylor, since starting in the poultry business two years ago has had very good success as the careful records which he has kept on his flocks indicated. In 1920-21 he made a net profit of $1.52 per hen above all costs of feed, labor, depreciation on stock and buildings, interest on capital invested, etc. Also for the past eight months he has already made a net profit of $1.11 per hen. Mr. Taylor has the university type poultry laying house and feeds the ration that is being fed at the Sonoma County egg laying contest, which includes the use of dry mash only. These records were also made without the use of electric lights. The average production made from the 200 hen flock the first year was 188 eggs per hen and the eight month record on the flock which he has this year which numbers 800, already averages 124 eggs per hen. The delegates were very much interested in the figures on this plant and asked a great many questions of Mr. Taylor.

# Poultry Queries

Conducted by Jean A. Koethen

### Hoganizing

In some of my three months old pullets the space between the pelvic bones is only half a finger and between the pelvic and the breast bone, two fingers. Should these pullets be sold or will they develop into layers? I have Reds and Whites mixed in breeding; has that anything to do with their build? I have read Hogan's book and did not learn much from it. Is there any way of learning sure and reliable culling, a course of instruction or a book?—Subscriber, Los Angeles.

The value of Walter Hogan's book is in the principle it enunciates rather than in the rules it lays down. There was a time when many expert poultrymen felt they could depend on distance from pelvic bone to keel as a sure and reliable indication of the value of the pullet, but experience has proved they were mistaken. The trapnest is the only certain way of finding out whether a hen is a good layer or not. I have no confidence in these tests as applied to pullets. Vigor is the only test for them. For hens that have laid a year or more the condition of the pelvic bones and abdomen, appearance of comb, color of shanks and earlobes are a very fair guide to her value for another year's laying. The distance apart of the pelvic bones shows little more than whether she is laying or not at the time of examination. These bones are always close together in a hen that is not laying, and in the spring when every hen ought to be laying their position is a pretty sure test of her productiveness. During the molting season and before laying begins not much dependence can be placed on them. The best way to learn how to cull is to cull. Attend some of the culling demonstrations which are being given in the various centers by extension poultrymen and get the principles of culling firmly fixed in your mind. Then go home and cull your own flock, putting the culled out hens in a pen by themselves and feeding them as you do the rest. You can tell in a week or so how sucessful your work has been. Crossing breeds as unlike as R. I. Reds and White Leghorns can certainly do no good and destroys the results of years of breeding. Better stick to pure breds. (We hope this inquirer noticed announcement of poultry culling demonstrations in Los Angeles County last week. Schedule was given on page 697 of the Cultivator.)

### Weeks House

I am just starting the chicken game and am building Charles Weeks houses with dirt floors. Which is best to cover the ground with, beach sand or pit sand? I can get the beach sand cheaper.—Subscriber, Gardena

Those who use these houses use the coarsest sand obtainable, or fine gravel when it is to be had. I do not know that there is any objection to beach sand, but coarser material is better for the hens' digestion and makes a more substantial floor covering.

### Rhodes Grass

What is the best season for planting Rhodes grass, and what is its value as greens for chickens?—Subscriber, Artesia.

Rhodes grass is planted in April and May. I have not heard of its use as chicken greens. Will some one who has tried it tell us how it compares with kale and other substitutes for alfalfa?

### Intestinal Disturbance

Some of my ten weeks old R. I. Red pullets lie on the ground with outstretched legs as if dead, all very dopy and unable to stand. I give castor oil and put them in a box alone. After a little they jump up and flap around as if in convulsions, crying like a young turkey. In 24 hours one had apparently recovered; the rest have been sick only a few hours. I feed Surelay with 50 per cent bran added, greens and commercial scratch.—Subscriber, Fresno.

The symptoms are those of severe intestinal disturbance, probably from poisoning. As you say the pullets are on range, they may have gotten hold of a dead gopher or some spray or other poison used on trees or vines. I have seen chickens act that way when they had eaten meat doped with strychnine for stray cats, only they did not recover. Sometimes intestinal worms produce paralysis in young birds, but the poison theory seems more probable. Castor oil, when you do not know the cause of such sudden illness, is the best treatment. If you knew just how they had been poisoned the proper antidote should be administered. Better shut up the flock for a few days till you find out where the trouble is.

### Culling

Can you tell me what charge is generally made for culling chickens in a flock of 600? When is the best time for this, and is there any one you can recommend?—Subscriber, Tejunga.

I referred this question to your county farm adviser, and he says that while there have been men who were brave enough to cull other flocks than their own the results of their work have not been satisfactory. The best time for culling is from now on. Cull out every hen that stops laying before July 1, for whatever reason. Band the hens that go broody in July and August, and if they go broody more than once put them with the culls. Cull out also every hen that starts molting before September and every hen that is out of condition. Do not dispose of these culls immediately but try them out for a time and see what they do. The molting test is the most certain of all, for there seems no question that late molters are the best layers. What we want is "long distance" layers, that is, layers that will lay a year or more without stopping. Leghorns that go broody more than once and heavy hens that go broody frequently lose too much time to be

### POULTRYMAN'S CALENDAR—JULY, STOCK TAKING TIME

The merchant does his culling in June, gets rid of goods that are not worth carrying over and on the first of July takes account of stock to find out just where he stands. If the merchant does this, is it less important for the poultryman? Young stock is nearly grown, pullets almost ready for the laying house, cockerels marketed, or, if they are late, nearly ready for caponizing. Old hens are being culled out as fast as they begin molting, and those which were obviously unprofitable have been eliminated. Now is the time for the poultryman to sit down and think over what he is going to do next year. Has he all the pullets he needs? If not, he may wish to plan for September hatching. Has he more than he can house properly? Now is the time to find a buyer for them? Now is also a good time for a general housecleaning. Laying houses should be perfectly clean for the incoming pullets; brooders cleaned and put away; fences repaired; yards spaded; houses and fences painted. The new year's work begins in August. Now is the time to close up the old year's accounts.

profitable. If possible attend one of the culling demonstrations given by the extension poultrymen and get the principles by which he culls firmly fixed in your mind, but I believe you will find the molting test the most reliable of all. (See also answer to "Hoganizing". We have mailed both inquirers schedule of culling demonstrations in this week's Cultivator.)

### Laying-Brooder House

I would like plans of a good open front house that can be used for brooding young chicks with reliable hover.—Subscriber, Willows.

Any good laying house may be used for a brooder house. If the front is entirely open, cover it with muslin or tarred paper, preferably muslin because it lets in light and air. If the front is boarded up two-thirds of the way and open only the upper one-third a curtain over the upper one-third is all that is needed. If the house is built with nests and hoppers along the front you have only to cover the openings, wherever they are, so that the heat will not escape. Small doors may be made to let the chicks out into the sun and temporary runways built of fine wire. The best way is to build the kind of laying house you like best and then make it do for a brooder house. Heat, fresh air and exercise are the three essentials in chick raising, and these can be provided in any kind of house. An article describing such a house appeared with illustrations in the Cultivator of April 1. Copy has been mailed to this inquirer.

## CALIFORNIA FARM BUREAU EGG LAYING CONTEST

For the eighth month (May) of the California Farm Bureau Egg Laying contest at Santa Cruz the average production of the 620 contesting hens was 65.8 per cent, or an average egg production from each hen of 20.4 eggs in the 31 day period.

The feed consumption this month amounted to 3.42 pounds grain costing 6.49 cents @ $1.90 per 100 and 4.2 pounds mash, costing $10.92 cents @ $2.60 per 100 pounds. The total cost per hen for the grain and mash eaten in May was 17.41 cents. The consumption of mash increased somewhat over the 50 per cent mark due to increased production. The same was true in April.

### High Pens

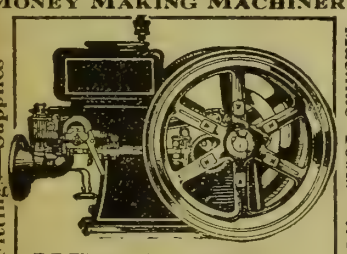
Alex Stewart, Santa Cruz, 253; Boehm & Noel, Hayward, 250 1-3; Hanson's Poultry Farm, 250; Geo. Gray, Santa Cruz, 244⅔; L. A. Thornewill, Santa Cruz, 227⅔; Geo. Ferris, Grand Rapids, Michigan, 224⅔; W. H. Marshall, Santa Cruz, 224⅓; Geo. Wood, Santa Cruz, 224⅓; C. H. Russell, Santa Cruz, 223⅔; D. B. Walls, Petaluma, 223.

### High Hens to Date

Stewart, 213; Thornewill, 204; Stewart, 199; Marshall, 198; Mrs. Kleinsmith, Hoff, Oregon, B. Rocks, 196; Walls, 193; Hanson 190; Stewart, 190; Hansen's, 187; H. H. Corbett, Santa Cruz, 186.

MONEY MAKING MACHINERY

Compressors—Transmission—Pipe—Fittings—Supplies



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Pumps—Engines—Motors

# Bulk Handling of Grain a Success

By W. W. Mackie, Agronomy Division, University of California

FOR many years preceding the war bulk handling of grain was practiced. The Sperry Flour Company has elevators at Vallejo equipped to handle 6000 bushels of wheat. At its Stockton mills wheat and other cereals are handled in bulk at a great saving in cost, time and grain. All flour mills which handle imported wheat must handle it in bulk for it is in this condition that the hard wheats of Kansas and other Eastern points are imported into California to be mixed with our softer wheats at the mill. Not only are grain elevators now established at the mills, but scattered over California are several elevators which were in successful operation even before the terminal elevators were erected. Successful experiences with elevators in Hamilton City, Glenn County; Athlone, Merced County; Corcoran, Kings County; Murrietta, Riverside County, and Wasco, Kern County, indicate how widespread is the movement for bulk handling in California.

Under the impulse given bulk handling by the renting of the large and efficient grain elevator by the California Farm Bureau the whole system of bulk handling of grain in California has been placed on a permanent basis.

### Objections to Bulk Handling

The objections to changing from the old method of sack handling to the bulk handling may be almost wholly included under the head of "cost in making the change." The farmer objects to the change because he must add a bin to his combined harvester and must prepare a bin or bed on wagon to haul away the grain as fast as it is threshed. When the loose grain is hauled from the field it must be loaded directly into cars or into a temporary small farm bin made of metal, concrete or wood. These bins may, of course, be readily equipped with grain pits and small engine elevators which fill them automatically. If the bins are situated on the railroad the grain may be loaded directly into cars as the grain is delivered from the field. The cost of this equipment is not great and those who have used these methods agree that it is usually saved by the economy of bulk handling over sack handling in one or two seasons. One of the greatest difficulties encountered is the renter who cannot afford to make costly changes or place equipment on a farm which he does not own. To meet this condition a fair solution would be for the ranch owner to furnish the permanent warehouse or bin equipment while the tenant, if he furnish the harvesting machine should provide the harvester bins and wagons for bulk hauling.

### Substantial Savings

The experiences of several practical farmers who have tried both sack and bulk handling with combined harvesters all agree that 25 to 35 per cent of the cost of the sack method is saved by the bulk method of handling grain, with greater ease in operation both to the men employed and to the manager of the ranch. The harvester with self binders does not give the saving, but here too a saving of 20 to 35 per cent is shown by bulk handling. The headed grain likewise gives a similar saving. The latter methods must prevail in certain portions of the state where fogs prevent the use of combine or where irrigated areas are cut into small fields and where weeds in harvested grain require drying before the straw is threshed. The greatest savings are made in the expense for sacks, the waste in leakage and spillage entailed by the use of sacks, and the saving in the number of men required by the old sack method.

### The Present Day Method

The present acreage of wheat, barley and oats (3,000,000 acres) will not be greatly reduced and will provide not less than 45,000,000 bushels of grain annually. All of the wheat will go to the flour mills within the state where it may be handled in bulk. Of the barley crop about 22,000,000 bushels or more will be exported annually and would therefore be handled to advantage in bulk. To this quantity of grain to be handled by elevators may be added 50 per cent of the wheat consumed in the state as flour. This quantity of grain should offer a substantial basis for establishing a permanent system of elevators for bulk handling of grain in California.

Shipping grain in box cars in bulk is common practice in other states, and most cars are provided with doors for bulk shipments. If the shipper must for any reason provide the boarding inside the door, he may be reimbursed for this expense according to a decision of the railroad commission.

Water transportation, which was once adverse to bulk handling, now offers no objections, for all modern freighters are provided with bulk heads to prevent the shifting of the cargo.

There appears no insurmountable difficulty to prevent California from joining the rest of the United States in handling grains in bulk.

## PROTECT LEATHER GOODS

Preparations to prevent the growth of mildew on leather are not usually to be recommended, says the bureau of chemistry of the United States department of agriculture, because only highly poisonous materials are effective, and they are dangerous. Leather articles such as harness, shoes, suitcases, and bookbindings, are almost certain to mildew if kept in a warm, damp and dark place. This means that particular care should be taken of leather articles during the spring and summer. Mold will not seriously damage leather unless it remains too long, but it will change the color and in that way do considerable damage to some articles.

The simplest way to keep leather from mildewing is to keep it in a well-ventilated, dry, well lighted place, preferably one exposed to sunlight, a cheap and effective disinfectant. Molds make little growth in sunshine.

When mildew has developed it should be wiped off with a damp cloth or washed off with soap and warm water, and the leather oiled lightly with castor or neat's foot oil and well dried afterwards. These simple methods for preventing and removing mold are satisfactory and safe.

## TRACTOR TIPS

If you would be safe rather than sorry, don't overload.

To run a straight furrow you must look a long way ahead.

Read, study and commit to memory the book of instructions.

Carelessness and abuse are at the bottom of most tractor troubles.

Don't play with your tractor. Be serious. Make power farming a business.

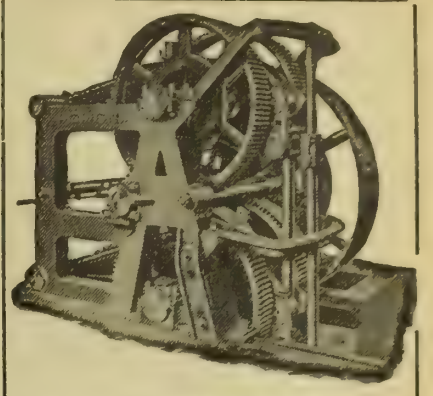
Planning your work so that it can be done with the least possible effort is not laziness but good planning.

Cantaloupe production in Southern California, Florida, and Texas has a prospect of 16,862 cars of 350 crates each in the forecast made by the department of agriculture, and this is a gain of 39 per cent over the harvest of 12,090 cars in 1921. Nearly all of these cantaloupes are produced in Southern California where the forecast crop is 16,241 cars, leaving 357 cars to Texas and 264 cars to Florida. Production, expressed in carlots, usually exceeds the carlot movement.

## "SURE THING INVESTMENTS"

Dockets of the federal courts throughout the country are swamped with fake stock swindling cases in which more than $140,000,000 has been taken from incautious investors. Most of the schemes offer fake oil stock. R. J. Bischoff, recently brought to time in Chicago courts, has stolen more than $7,000,000 from credulous "investors" in his fake schemes. All this within two years.

Says Sam: Some fellows can see more on a Sunday afternoon tramp through the woods than others can see on a tour of Europe.



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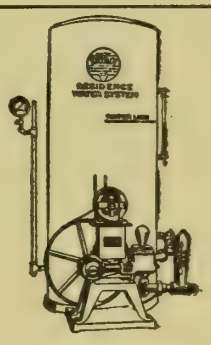

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Do not adulterate these sulphurs with any inert material such as Lime or Kaolin, etc. Coating the sulphur particles with an inert material PREVENTS the FUMING ACTION caused by the sun's rays.

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# Los Angeles Markets

Los Angeles, June 28, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 43 cents.

Prices extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| June | 21 | 22 | 23 | 24 | 26 | 27 |
| | 42 | 42 | 42 | | 43 | 43 |

### CHEESE

Brokers' prices:
California flats, 18@20.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 30; case count, 28; pullets, 27.

Prices extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| June | 21 | 22 | 23 | 24 | 26 | 27 |
| | 27 | 27 | 27 | .... | 28½ | 30 |

### POULTRY

Price to producers: Hens, 15; colored, 30; broilers, 22@26; roasters, 35; old roosters, 12; fryers, 30; ducks, old, 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 10@12; old, 8.

### LIVESTOCK

Los Angeles, June 27.—Weighed and delivered off cars without food or water.

Hogs (hard grain fed), 125 to 175 lbs., 10.75; 175 to 225 lbs., 11.00.

Cattle (on foot, gross weights): Steers, good, 5.00; bulls and stags, 9.25; calves, 125 to 150 lbs., 10.25; 150 to 225 lbs., 8.50.

Sheep: Ewes, 5.00@6.00; lambs, 11.00@12.00.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, June 27, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Movement slow, market steady. Idahos, Russets, 3.00@3.50; bakers, 4.50 cwt. Stocktons: Ordinary, 200@2.50. New Stock: Best, locals, 70@80 per lug; small, 60@65.

Sweet Potatoes: Movement light, market steady. Arkansas: Nancy Halls, per bu., mostly 1.50@1.75.

Onions: Demand moderate, market steady. Quality fair. Coachella and Imperial Valleys, crates, No. 1, Whites, 1.75; yellow, 1.50. Stocktons: Reds, 1.60@1.65; yellows, 1.75@1.85.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, June 27, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Asparagus: Per lb.: Northern, 10@12.

Beans: Market dull. San Pedro Wax, 5@6; Ky. Wonder, 4@6.

Bunched Vegetables: Per doz. bunches: Turnips, 40@45; beets, 35@40; carrots, 40; radishes, parsley and spinach, 15.

Cabbage: Market steady, quality ordinary. Field cr., best mostly 2.25@2.50.

Cucumbers: Local, 60@65 per cr. 28-36's; lug, 1.15@1.25.

Celery: Movement moderate, market steady. Wide range in quality and prices; quality, generally ordinary. Locals, best, 6.50@6.75; poorer, 6.00@6.25.

Corn: Green, Imp., best, 35@50.

Eggplant: 16@20 lb. Coachella.

Lettuce: Market steady. Locals: 1.00@1.15 per cr.

Okra: Lb., best, small, 8@9; poorer, large, 5@6.

Peas: Best Northern, lb., mostly 6@7½.

Peppers: Demand moderate, market firm. Bell, local, 22@25; chili, 14@15.

1.00; mostly, 75@85.

Rhubarb: Local, best, Crimson, 75@mer, lugs, 75; Italian, lugs, 90@1.00.

Squash: Market steady. Locals: Summer, lugs, 75@90. Italian, lugs, 90@1.00;

Tomatoes: 4-basket crates, Imperial Valley, mostly 1.60@1.75; Coachella Valley, mostly 1.85@2.00; San Pedro, lugs, 3.50@3.75; Texas, crates, 2.35.

### FRESH FRUIT

These are actual prices obtained June 27 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: New Astrachan, per lb., 10.

Apricots: Lb., Northern Tilton, best, large, 7; Royal, small, 3@5.

Blackberries: Cr., 2.50@2.75.

Cantaloupes: Imperial Valley: Standards, best, 1.75@2.00; poorer, 1.25@1.50; ponys, 1.50@1.65; flats, 65@85.

Cherries: Per lb. Black Tartarians, best, 13@15; soft, 10@12; Bings, 16@20; few 22. Black Republicans, 14@15; Royal Annes, 12@14; few, 16.

Currants: Cr., 2.50@3.00.

Figs: Northern, 27@32 lb.

Loganberries: 2.25@2.50 per cr.

Grapes: Coachella Valley. Thompson Seedless, 18@20 lb.

Peaches: Few fy., 11@12 lb.; mostly, 6@8.

Plums: Market oversupplied. Beautys mostly 3@5; overripe, no demand.

Raspberries: No. 1, 3.25@3.50.

Strawberries: No. 1, 4.50@4.75; No. 2, 3.50@4.00.

Watermelons: Imperials, Chilean, 2 per lb.; Klondike, 2½.

### CITRUS FRUITS

These are actual prices obtained between 7 and 8 o'clock June 27 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms, cash on the walk. There may be slight fluctuations during the day's trading. Higher prices are frequently obtained where credit is given or goods are delivered.

Grapefruit: Market steady. Californias: Northern, packed box, 3.50@4.00; market pack, 3.00@3.50; small, 2.25@2.50.

Lemons: Demand and movement light, market firm. Locals: Loose boxes, best, 2.50@2.75; poorer, 2.25; special brands, fancy, 6.75@7.50; choice, 5.50@5.75.

Oranges: Demand moderate, market steady. Navels, culls, 1.50 per field box; Valencias, special brands, 7.75@8.75, according to size.

### HONEY

Beekeepers report that the orange flow is over, but that bees are still gathering sage honey. The yield of orange honey is reported as fair to good, that of sage and buckwheat as good. Both orange and sage new crop are said to be of fine quality. Few sales are reported in carlots F.O.B. Usual terms from California points of extracted: White orange blossom and sage at 9½@10; fancy high as 10½ per lb. Light amber alfalfa, no sales reported, but shippers quoting 6@6½ per lb.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 20.00@26.00 |
| Barley | 18.00@22.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@22.00 |
| No. 1 Alfalfa | 15.00@17.00 |
| Standard Alfalfa | 12.00@14.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 20.00 |
| No. 1 Dairy | 15.00 |
| No. 1 Alfalfa | 12.00 |

### GRAIN

Prices L. A. Grain Exchange, June 27.
Barley: 100 ton lots July Del., 1.13¾.

—

# San Francisco Markets

San Francisco, June 27, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 42½ |

Prices Extras last week:

| | | | | | | |
|---|---|---|---|---|---|---|
| June | 21 | 22 | 23 | 24 | 26 | 27 |
| | 40½ | .... | .... | .... | 41 | 42½ |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 25 |
| California Flats, fancy | 17½@19½ |
| Oregon Trips | 21½ |
| Oregon Young America | 25 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 28½ |
| Extra Pullets | 23½ |
| Undersized Pullets | 18½ |

Prices Extras last week:

| | | | | | | |
|---|---|---|---|---|---|---|
| June | 21 | 22 | 23 | 24 | 26 | 27 |
| | 27 | 26½ | 27 | .... | 27 | 28½ |

### POULTRY

Prices furnished by state department of agriculture division of markets. Sales to retailers:

Broilers: 1 to 1¼ lbs., 22@26 per lb.; 1½ to 1¾ lbs., 24@26 per lb. Colored, 30@34 per lb.; 2 to 2¼ lbs., 30@32 per lb.

Fryers: 2½ lbs., 31@33 per lb. Colored, 38@42 per lb.

Young Roosters: Colored, 3 lb. and up, 45@50 per lb. Staggy showing spurs, 25@30 per lb.

Colored Old Roosters: 17@18 per lb.

Leghorn Old Roosters: 14@15 per lb.

Leghorn Hens: 2½ to 3 lbs., 14@16 per lb.; 3 lbs. and over, 20@23 per lb.

Large Colored Hens: 28@31. Off stock, 26@27.

Ducks: Young, 20@22. Off stock, 10@15.

Geese: Young, 24@26.

Live Turkeys: 32@35.

Dressed Turkeys: Young, 36@40. Off stock, 25@32.

Belgian Hare: Live, 13@15. Dressed 18@23.

Squabs: Live, fancy, 50@54 lb.; common, 3.00@3.50 doz.

Old Pigeons: 2.50@3.50 per doz.

Guineas: Young, 2.00@10.00 doz.

Jackrabbits: 2.00@2.50 doz.

### LIVESTOCK

Western Meat Company quotes:

Weighed off cars at our yards in South San Francisco:

Cattle: Steers, first quality, 6½@7 per lb.; second quality, 5¼@6¼; cows and heifers, No. 1, 4¼@5; second quality, 4@4½; bulls and stags, 3@4 per lb.

Calves: Light weight, 8@9 per lb.; heavy, 5@7 per lb.

Sheep: Wethers, 6½@7 per lb.; ewes and stags, 3@4 per lb.

Lambs: 10½@11½ per lb.

Hogs: Hard, fat, grain-fed, weighing 125 to 200 lbs., 12 per lb.; 200 to 250 lbs., 11 per lb.; 250 to 300 lbs., 10 per lb.; light sows, 10 per lb.; heavy, 9 per lb.

California Farm Bureau Marketing Association reports:

| No. Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Turlock, June 21** | | | |
| 34 | 182 | 202 | $10.75 |
| 2 | 225 | ..... | 9.75 |
| 3 | 303 | ..... | 9.25 |
| 3 | 380 | 40 | 7.50 |
| 42 hogs | | | |

1 car, 10 consignors, $873.82.

| | | | |
|---|---|---|---|
| **Fresno, June 23** | | | |
| 96 | 159 | .... | 10.75 |
| 35 | 192 | .... | 10.75 |
| 8 | 143 | .... | 10.25 |
| 6 | 118 | .... | 10.00 |
| 5 | 246 | .... | 9.75 |
| 2 | 385 | 20 | 8.00 |
| 152 hogs | | | |

2 cars, 12 consignors, $2770.08.

Totals for the week: 194 hogs, 3 cars, 22 consignors, $3644.90.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: River, fancy, 1.60@2.00; Idaho netted gems, 2.00@2.25; off grades, lower; Salinas, 2.25@2.75 per cwt; new, 2@3 lb.

Onions: Green, 1.25@1.50 box; Stockton Red, 1.00@1.25 cwt.

Garlic: 2@3 per lb. for medium grades; poorer quality, less.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, June 27, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per large cr., 4.00@6.00; extra large, 8.00.

Asparagus: 5@6 per lb.; white, 6@8 per lb.; graded, 8@10 per lb.

Beans: Ky. Wonder, 5@7 lb.; wax, 5@6; Italian, 12@13.

Beets: Sack, 1.00@2.00.

Bunched Vegetables: Carrots, 60@70 per dozen; turnips, 55@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Half-moon Bay, doz., 75@1.00.

Carrots: 1.50@2.50 sack.

Celery: So. Cal. 8.00.

Corn: New, doz., 25@75.

Cucumbers: Arizona and local, small, 25@50 per dozen or 1.25@1.50 per small crate; English, 1.75@2.00; Texas, box of 5 doz., 1.25@1.50.

Eggplant: Southern, 15@22 per lb.

Lettuce: Local, 75@1.00 cr.; iced, 1.25.

Parsnips: 3.00@3.25 per sack.

Peas: Bay, 1½@3 lb.; Half-moon, 3½.

Peppers: Florida and Mexico, Bells, 25@30; Chilis, 10@15.

Rhubarb: Box, 1.50@2.00.

Spinach: Lb., 3@4.

Squash: Summer, lug, 75@1.25; Italian, cr., 50@1.00.

Tomatoes: Imperial, best, 1.50@2.00 crate; Mississippi, 1.75@2.25 crate; Merced, 3.00 lug; 1.25@1.75 crate.

Turnips: 1.25@1.50 per sack.

### FRESH FRUIT

Apricots: Lb., 6@10; cr., 1.50@1.75.

Avocados: 10.00@15.00 per doz.

Apples: New crop, green, lug, 1.00@2.00; fancy, box, 1.75@2.00.

Bananas: Hawaiian and eastern, 7½@8 per lb.

Blackberries: Dr., 50@60.

Cantaloupes: Imperial Valley, best, standard crates, 2.25@2.75; Pony crates, 1.75@2.25; Flats, 85@1.00; few higher; Honey Dew, flats, 2.50.

Cherries: Black, 1.25@1.50 per box; bulk, black, 6@10 per lb.; white, 8@10; Royal Anne, 10@12½; Bings, 12@16.

Currants: Dr., 90@1.10.

Figs: Small box, 1.50@1.75.

Gooseberries: 10@15 lb.

Loganberries: Dr., 35@40.

Pineapples: 5.00@6.00 per doz.

Peaches: Basket, 1.25@1.50; cr., 1.25@1.75.

Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.

Plums: 1.25@1.75 per cr.

Raspberries: 85@1.00 dr.

Strawberries: Watsonville and Salinas, cr., 1.20@1.60; local, 50@85 dr.

Watermelons: Florida and Imp., 2½@3.

### CITRUS

Grapefruit: Southern Cal., fancy, spec. pack, 4.50@5.50; choice, 3.00@4.00.

Lemons: Spec. pack, 6.00@6.75; choice, 5.00@5.50; Lemonettes, 2.00@3.50.

Oranges: Valencias, fancy boxes, 126s, 9.50; 150s, 8.50; 176s, 8.00; 200s and smaller, 6.00@7.50; choice, 5.50@8.50; Culls, 3.50@5.00.

### DRIED FRUITS

Packers' Quotations:

Apples, 1922—In 50s:

| | |
|---|---|
| Choice | @12 |
| Extra choice | @12¼ |
| Fancy | @13¼ |

Apricots, 1922—In 25s:

| | San Joaquins |
|---|---|
| Standard | 18½@18¾ |
| Slabs | 19 @19½ |
| Choice | 23 @23¼ |
| Extra choice | 24½@24¾ |
| Fancy | 26½@26¾ |

Apricots, 1922:

California Prune and Apricot Growers' prices, in 25-lb. boxes:

| | San Joaquin "Growers" | Southern "Growers" | "Sunsweet" |
|---|---|---|---|
| Standard | 18 | 19½ | ..... |
| Slabs | 19 | 19½ | ..... |
| Choice | 22½ | 23 | 24 |
| Extra choice | 24 | 24½ | 25½ |
| Fancy | 26 | 26½ | 27½ |
| Extra fancy | 28 | 28½ | 29½ |

Prunes—1922:

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11½@11¾ | 15¼@15½ |
| 40-50s | 9¼@ 9½ | 12½@12¾ |
| 50-60s | 8¼@ 8½ | 11 @11¼ |
| 60-70s | 7¾@ 8 | 10 @10¼ |
| 70-80s | 7¼@ 7½ | 9 @ 9¼ |
| 80-90s | 6¾@ 7 | 8 @ 8¼ |
| 90-100s | 6¾@ 7 | 7½@ 7¾ |

Raisins: Sun-Maid Raisin Growers' prices, for shipment to July 1:

Seeded—Sun-Maid, 15-oz., 15⅛. Bakers (in 25s and 30s) 13⅜. 1-crown (in 25s and 30s), 13⅜.

Loose Muscatels—4-crown (in 25s), 15⅜. 3-crown (in 25s), 14⅛. 2-crown (in 25s), 13⅛. 1-crown, recleaned (in 25s), 13⅞. 1-crown, not Sun-Maid (in 25s), 13⅜.

Seedless—Thompsons, bulk (in 25s), 15¾. Thompsons, bakers (in 25s), 15⅛. Sultanas, bulk (in 25s), 14¾.

Bleached Thompsons—Choice, sulfur (in 25s), 18⅜. Fancy, sulfur (in 25s), 19⅜. Extra fancy, sulfur (in 25s), 22⅜. Soda dipped, 15-oz., 17¼. Soda dipped, 8-oz., 9⅛. Soda dipped, bulk, 15⅜.

Thompsons, 5c pkgs., six 24s, per case, f. o. b. jobbing points, 3.65. Valencias, bulk (in 25s), 12⅝. Feherzagos, loose (in 25s), 12⅝. Malagas, loose (in 25s), 12⅝. Zante Currants (in 25s), 15¾. Black grapes, 1920 crop (in 25s), 16⅞.

Layers—All grades, withdrawn.

### BEANS

California Bean Growers.

| | |
|---|---|
| Large Whites | 8.00 |
| Small Whites | 7.60 |
| Pinks | 5.25 |
| Mexican Reds | 4.25 |
| Red Kidney | 8.00 |
| Cranberries | 7.75 |
| Bayos | 5.75 |
| Blackeyes | 4.30 |
| Henderson Bush Limas | 9.00 |

### RICE

California Rice Growers Assoc. report: No. 1 Paddy, 2.77.

### HAY AND FEEDSTUFF

A. W. Scott Co. reports under date June 24.

Receipts past week 1022 tons as compared with 554 previous week. The local market has been lower during the week. Strictly first class hay is in light supply and moving readily. Export and shipping have been more active. Country trading has been very light as every one is busy harvesting and the crop is not in condition to market as a general average. Alfalfa has been more quiet than for sometime. Many of the producers are still holding for prices higher than consumers are willing to pay. Some little talk of grasshopper scare through the Sacramento Valley has been noted but of no serious consequence as yet. Crops in the river and Bay sections are reported in A-1 condition.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling epxenses must be added according to conditions).

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 16.00@18.00 |
| Wheat Hay, Fair Grade | 14.00@16.00 |
| Tame Oat Hay | 15.00@18.00 |
| Wild Oat Hay | 11.00@13.00 |
| Alfalfa Hay, 1st and 2nd Cutting | 13.00@15.00 |
| Stock Hay | 10.00@12.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 28.00@29.00 |
| Oats, Rolled Feed | 38.00@40.00 |
| Bran | 33.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 49.00@52.00 |
| Coconut Meal | 33.00@35.00 |
| Alfalfa Meal | 22.00@24.00 |
| Cottonseed Meal | 50.00@55.00 |
| Sugar Beet Pulp | 32.00@34.00 |
| Molasses, tanks | 17.00 Barr 25.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices f. o. b. S. F. warehouse and storage charges paid.

Barley: Feed, 1.12½@1.15; shipping, 1.25@1.35.

Oats: 1.40@1.50.

Wheat: Mill, 1.80@1.85; Feed, 1.80@1.85.

Corn: 1.95@2.00; Colored Milo, 1.90@1.95; Middlings, 42@44.

# Citrus Markets

### Citrus Shipments

Shipments of citrus fruits to date since November 1, 1921. Southern California: Oranges, 18,314 cars; lemons, 7,289; total, 25,603. To same date last season: Oranges, 28,963; lemons, 7,403; total, 36,366. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,617; lemons, 196; total, 6,813. From Northern California to date this season: Oranges, 372; lemons, 8; total, 380. To same date last season: Oranges, 305; lemons, 5; total, 310.

### AT THE AUCTIONS

**June 22**

New York: 23 Val., 2 mix., 2 lem. Val. 4.00@10.00, grapefruit 6.50@6.60, lem. 3.20@4.60.

Boston: 10 or., 5 lem. 3.95@6.95, grapefruit 3.45@6.15, lem. 2.60@6.85.

Philadelphia: 6 or., 3 lem. Val. 3.70@7.60, lem. 3.20@4.15.

Pittsburg: 2 or., 3 lem. Val. 4.25@7.30, lem. 2.35@5.15.

**June 23**

New York: 13 or., 1 grapefruit, 1 mix., 1 lem. Val. 3.95@10.10, grapefruit 5.00@5.95, St. Mike 4.00, lem. 2.10@5.05.

Boston: 9 or., 6 lem. Val. 3.25@7.80, St. Mike 3.80, lem. 1.30@6.60.

Cleveland: 3 or., 3 lem. 3.90@7.55, lem. 2.85@4.75.

St. Louis: 3 or., 7 lem. Val. 2.00@5.65, lem. 2.70@6.25.

Cincinnati: Val. 5.85, lem. 3.10@4.45.

Philadelphia: 2 or., 1 lem. Val. 4.30@6.75, lem. 2.95@4.50.

**June 26**

Boston: 10 or., 8 lem. Val. 4.40@9.10, grapefruit 6.10, lem. 1.45@6.80.

Cleveland: 5 or., 7 lem. Val. 3.90@8.00, lem. 2.85@5.70.

Pittsburg: 4 or., 5 lem. Val. 5.65@7.25, lem. 3.10@5.00.

Cincinnati: 2 or., 4 lem. Val. 2.75@6.80, lem. 3.15@4.50.

New York: 32 or., 1 grapefruit, 3 mix., 5 lem. Val. 3.45@10.60, grapefruit 3.45@6.35, lem. 1.00@6.15.

Philadelphia: 9 or., 4 lem. Val. 4.50@10.70, lem. 2.30@3.40.

St. Louis: 3 or., 10 lem. Val. 4.45@6.35, lem. 2.35@4.95.

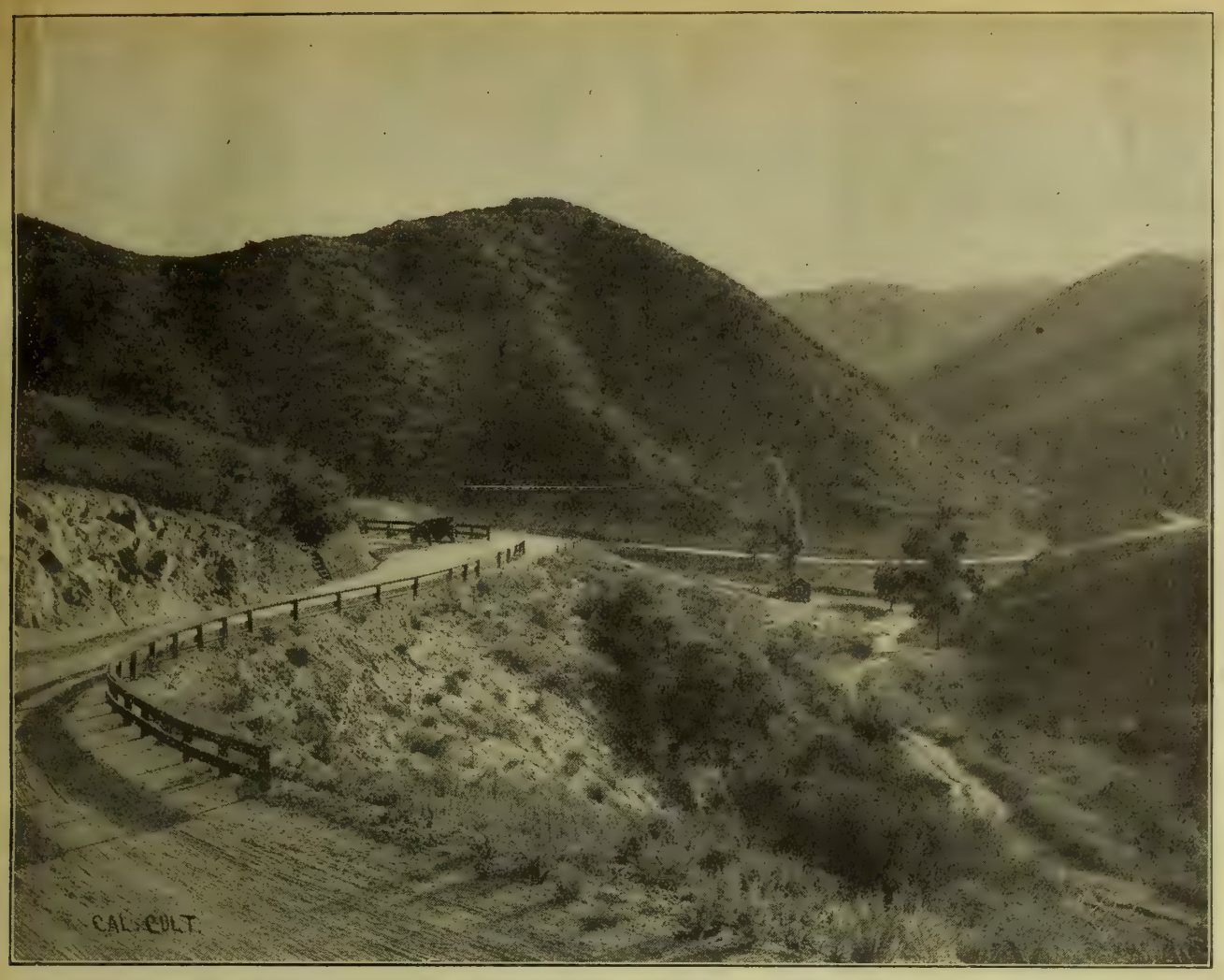
**June 27**

New York: 24 or., 1 grapefruit, 2 lem. Val. 3.15@10.50, grapefruit 2.90@6.60, lem. 2.90@3.60.

Boston: 6 or., 7 lem. Val. 3.85@10.00, lem. 1.50@6.25.

Philadelphia: 7 or., 3 lem. Val. 5.15@7.75, lem. 2.50@4.35.

Pittsburg: 3 or., 2 lem. Val. 5.45@7.40, lem. 2.50@4.85.




An Attractive Section of California's Good Roads

## CALIFORNIA CATTLEMEN'S MARKET REPORT

San Francisco, June 26, 1922.

Chicago market last week showed slight decrease in receipts and increase of approximately 15 cents per hundred.

San Francisco market rather quiet. Additional sales have been reported at 6¾c to 7c f. o. b. ranch for prime steers, with approximately ¼c to ½c less for poorer grades; cows, 5½c f. o. b. ranch. Handy weight steers are bringing considerable premium over heavy weight, 1000 to 1100 pound steers preferred.

Los Angeles market shows slight improvement. Los Angeles buyers have paid 7c for steers and 5¾c for cows bought in San Benito County during the past week. Sales in Santa Barbara County are reported for ¼c less on both steers and cows. Sales have been reported from the Imperial Valley at 6¾c f. o. b. ranch for 8 cars of Arizona steers going to El Paso. Sales have also been made in the Imperial Valley and in Madera County for cattle going to Reno, Nevada, bringing 6½c f. o. b. ranch for steers which were rough and not prime.

The past week has probably marked the peak of shipments of early grass fat cattle to market and accounts for the large supply of cattle on hand in yards of packing plants, and for the large amount of dressed beef in coolers. This is the condition which normally exists about a month earlier, but is late this year because of late grass. It should not cause alarm on the part of the cattlemen, but on the other hand sales should not be pressed for the coming two weeks, after which time it can confidently be expected that a better market will exist.

General situation much improved over year ago. Last year at this time, California markets were being flooded with cattle from Oregon, Nevada, Utah, Arizona and Texas. During this month, California has shipped cattle to all of these points. While buyers are decreasing actual purchases during the past few days, they are showing considerable activity in locating cattle for future delivery. With numerous outside buyers in California, and no surplus of really fat cattle, we should confidently expect a good market in July and early August before the fall supply of fat cattle is ready.

Only half-fat cattle will break the market. Sell only prime, fat beef. Sell only f. o. b. ranch or shipping point. Report sales to your secretary.—R. M. Hagen, 814 Santa Fe Bldg.

## CHRISTIERSON RESIGNS

S. V. Christierson, standardization inspector of the state department of agriculture has resigned, effective July 1. Mr. Christierson has been with the department since its organization and among other duties has been in complete charge of all the apple inspection work during the last two years. He expects to enter the fruit and vegetable business, operating principally in apples, with headquarters at Watsonville.

## SALT TOLERANCE OF CITRUS

The response of citrus seedlings in water cultures to various salts, especially the more alkaline, has been the subject of much study of late. A series of experiments was carried out, mainly at Riverside, in connection with other investigations relating to the causes of the malnutrition of citrus plants. Lemon, grapefruit and several varieties of orange seedlings were grown in water cultures to which were added solutions of various salts or organic matter. Seedlings of various citrus stocks showed no characteristic differences in response to water cultures or in resistance to toxic solutions.

Very dilute extracts of organic matter from upland peat (10 parts per million or more) produced a marked stimulative effect on the root growth of citrus seedlings. Corresponding concentrations of sodium nitrate or potassium chloride did not stimulate the root development. Calcium carbonate stimulated the root growth and exerted a pronounced antagonistic action to toxic solutions of nitrates and ammonium sulphate. Peat extracts in very dilute concentration (20 parts per million), and calcium carbonate both protected citrus seedlings to a marked degree against the toxins of distilled water.

The tolerance of citrus seedlings to alkaline salts is relatively high. The toxic limit for calcium hydrate was 100 to 120 parts per million, for sodium hydrate 250 to 300 parts per million, and for sodium carbonate 550 to 600 parts per million. When soluble organic matter (which is acid in reaction and stimulating to citrus seedlings) in concentrations of 1000 parts per million or more, is added to a sodium carbonate solution of 400 parts per million, which in itself is toxic, a highly toxic solution is formed which kills the root tips of citrus seedlings. This reaction appears to be of practical importance in connection with the toxicity of soils containing small amounts of sodium carbonate.

## CITRUS CANKER

Citrus canker was so called because the genus citrus yields the most important commercial crop of any group in the great order of rutaceous plants. Citrus is only one genius in 20 or more that experiments have proven susceptible to the disease. It is suspected that other plants, not closely related, may be successfully inoculated, especially in Meliacea, the family to which the umbrella or China berry tree belongs.

Inoculation tests with Pseudomonas citri, the agent of citrus canker, carried out at Lamao and at Los Banos, Philippine Islands, as well as at Washington, D. C., upon 24 species representing 20 genera of the family Rutaceae, showed that 19 of these species were susceptible to citrus canker in a greater or less degree. It thus appears that this disease is not strictly limited to the genus citrus but has a wide range of hosts among the Rutaceae.

Fortunella Hindsii, a kumquat, occurs naturally in South China, very much isolated from sources of citrus canker infection. The abundance of cankers found on such trees gives rise to the theory that this species may have been an original wild host from which citrus canker spread to cultivated species.

## THE RIGHT WAY TO MIX BORDEAUX

Bordeaux mixture for diseases and insect enemies of potatoes, as recommended by the United States department of agriculture, is made up of 5 pounds of copper sulphate (blue vitriol) and 5 pounds of freshly burned lime in 50 gallons of water. The copper sulphate is dissolved and the lime slaked separately and then the two are mixed. Putting the two materials together in concentrated form at once materially affects the physical properties of the spraying mixture. Improper mixing also causes difficulties in spraying.

Copper sulphate dissolves best if put into a bag and suspended in water. In making the lime milk a little hot water should be poured on first until the lime becomes active and then cold water is added slowly as the lime slakes until a fairly thin white liquid results. In mixing the lime milk and the copper sulphate solution at least one of them should be fairly dilute. In making up the final mixture in small amounts the solution of copper sulphate should be poured into the lime milk. If the process is reversed a thick, heavy sediment is formed which will not pass readily through the spraying machine nozzle.

## SONORA DATES

According to Consul Bartley F. Yost, at Guaymas, Sonora, Mexico, the production of dates in Lower California is about 1,540,000 pounds, practically all of which is consumed in Sonora and Sinaloa, practically none of them reaching the United States. They are not shipped to the American market owing to the fact that they are not packed attractively and are hauled for many miles in bags made from hides or goat skins.

## COMING EVENTS

(Corrections and Additions Requested.)

**Coachella Valley Grape Day,** Narbonne Ranch, July 11.
**Citrus Institute,** Pomona, July 14-15.
**California Rodeo,** Salinas, July 24-29.
**California Rodeo,** Salinas, July 26-30.
**Yuba County Fair,** Arboga, August 18-20.
**Sonoma County Fair,** Santa Rosa, August 23-27.
**San Joaquin Valley Fair,** Stockton, August 24-30.
**California's Pageant of Progress and Industrial Exposition,** Los Angeles, August 26-September 9.
**Walnut Growers Field Day,** Santa Barbara, September 1-2.
**State Fair,** Sacramento, September 2-10.
**Grape Day,** Escondido, September 9.
**Tehama County Fair,** Red Bluff, September 11-17.
**Tulare County Fair,** Visalia, September 12-19.
**Colusa County Fair,** Colusa, September 14-17.
**Glenn County Fair,** Orland, September 18-23.
**Kings County Fair,** Hanford, September 19-23.
**Fresno County Fair,** Fresno, September 25-30.
**Shasta County Fair,** Anderson, September 28-30.
**Ventura County Fair,** Ventura, October 4-8.
**Kern County Fair,** Bakersfield, October 3-7.
**Butte County Fair,** Oroville, October 2-7.
**Pork Day,** Turlock, October 4.
**Los Angeles County Fair,** Pomona, October, 4-8.
**Southern California Fair,** Riverside, October 10-15.
**San Francisco Livestock Show,** October 18-22.
**California Horsebreeders Association,** Los Angeles, October 18-22.
**International Festival of Dates,** Indio, October 18-22.
**Imperial Valley Fair,** October 23-28.
**Orange and Olive Festival,** Oroville, November 28-December 2.
**First National Walnut Exposition,** Santa Ana, December 4-9.

COAST AND GENERAL

**Southwest Washington Fair,** Chehalis-Centralia, August 28-September 2.
**Interstate Fair,** Spokane, Washington, September 4-9.
**Washington State Fair,** Yakima, September 18-23.
**Oregon State Fair,** Salem, September 25-30.
**Arizona State Fair,** Phoenix, October 30-November 3.
**Pacific International Livestock Show,** Portland, November 5-12.

## SOUTHERN GOOSEBERRIES

E. C. Hall formerly a gooseberry specialist in the northern part of state now living in Monrovia, writes that by growing the Oregon Champion in lath house and in shade of trees he gets just as good crop of gooseberries as will grow elsewhere in the state.

### Infertile Eggs (Correction)

On page 696 of the Cultivator of June 24, in answer to query as to infertile eggs keeping better than fertile, a typographical error was made, reversing sense of statement made. The second sentence in answer should read: "All market eggs should be infertile." By error the "in" was omitted.

## FOR SALE

One Phord car with a piston ring,
Two rear wheels, one front spring,
Has no fenders, seat made of plank,
Burns lots of gas; hard to crank.
Carburetor busted half way through,
Engine missing, hits on two.
Three years old, four in the spring;
Has shock absorbers 'n' everything.
Ten spokes missing, front axle bent,
All tires punctured, torn and rent.
Got lots of speed, runs like the deuce,
Burns either oil or tobacco juice.
Present owner swears like sin, but—
It's a durn good car for the shape it's in.
—Macon, Ga.

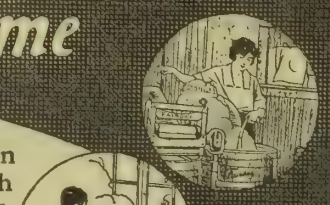
Says Sam: Nobody knows the joy of loafing like the man who works for it.

## WEATHER REPORT

San Francisco, Cal., June 24, 1922.

| Stations | Week | Rainfall Season | Norm | Temp Max. | Min. |
|---|---|---|---|---|---|
| Eureka | 0 | 41.71 | 35.38 | 61 | 48 |
| Red Bluff | 0 | 16.67 | 24.99 | 104 | 60 |
| Sacramento | 0 | 14.05 | 20.09 | 102 | 54 |
| San Francisco | 0 | 19.91 | 22.27 | 84 | 50 |
| San Jose | 0 | 14.77 | 16.79 | 94 | 46 |
| Fresno | 0 | 10.83 | 9.68 | 104 | 58 |
| San Luis Obispo | 0 | 23.29 | 20.51 | 96 | 46 |
| Los Angeles | 0 | 19.66 | 15.64 | 90 | 54 |
| San Diego | 0 | 18.65 | 10.01 | 76 | 56 |

# Here's to your Health- Running Water in your home



HERE is a private pumping station that gives you plenty of fresh running water, UNDER PRESSURE, for kitchen sink; for modern bathtub; wash bowl and toilet; for wash tubs; for stock; for washing motor cars, trucks, etc.; in the dairy house; for fire protection.

NOW $125 F.O.B. FACTORY

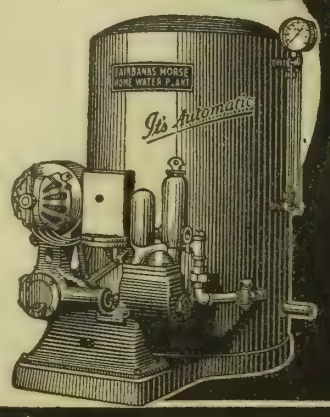
*It's Automatic*

## FAIRBANKS-MORSE HOME WATER PLANT

Operates from any electric light socket or home lighting plant circuit. Pumps water from cistern, shallow well, spring, stream or lake. Has sturdy *galvanized* tank. Noiseless, self-oiling pump.

**Capacity, 200 Gallons per Hour**

Now selling at low price. Don't accept a substitute. If you do not know the local Fairbanks-Morse representative, write us for his name. We will include special literature.

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MILWAUKEE, WISCONSIN

**Harley-Davidson**
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We have the Harley-Davidson motorcycle, both new and used; many riders trade in their machines for the new model, but the older models are as good as new—we guarantee them as the factory does the new ones—they will give you the best of service.

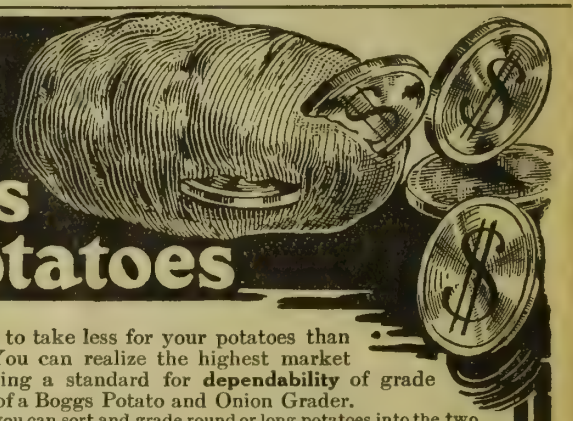
## RICH BUDELIER

*Los Angeles Harley-Davidson Dealer*

Main Street at Adams



# Get Top Prices For Potatoes



Don't be content to take less for your potatoes than they are worth. You can realize the highest market prices by establishing a standard for **dependability** of grade with the assistance of a Boggs Potato and Onion Grader.

With this machine you can sort and grade round or long potatoes into the two Government sizes and eliminate culls and dirt—all in one operation.

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quickly pays for itself by saving labor and making it possible to obtain 25c to 50c a bag more for potatoes. The Boggs Grader will equal the manual labor of from three to five men.

No experience necessary to operate. It cannot bruise or injure potatoes. Can be installed in field, warehouse, cellar or car. Occupies little space. Is operated by hand, motor or engine. Lasts a life-time.

Made in sizes to handle from 75 to 700 bushels per hour. Six models, $40.00 and up. *Booklet sent on request.*

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H. E. TRUAX, 211 Wholesale Terminal Bldg., Los Angeles
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INTERESTING PROPOSITION FOR DEALERS



# WAGNER'S Giant Winter RHUBARB

Plant now for February's high-priced market. Should return up to $1000 per acre first year. The California Rhubarb Association could have used the output of 1000 acres this season.

WAGNER'S NURSERY (J. B. Wagner & Son)
"Originators of the Giant Winter Strain"
1550 EAST VILLA STREET Dept. C PASADENA, CALIFORNIA

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — July 8, 1922 — No. 2


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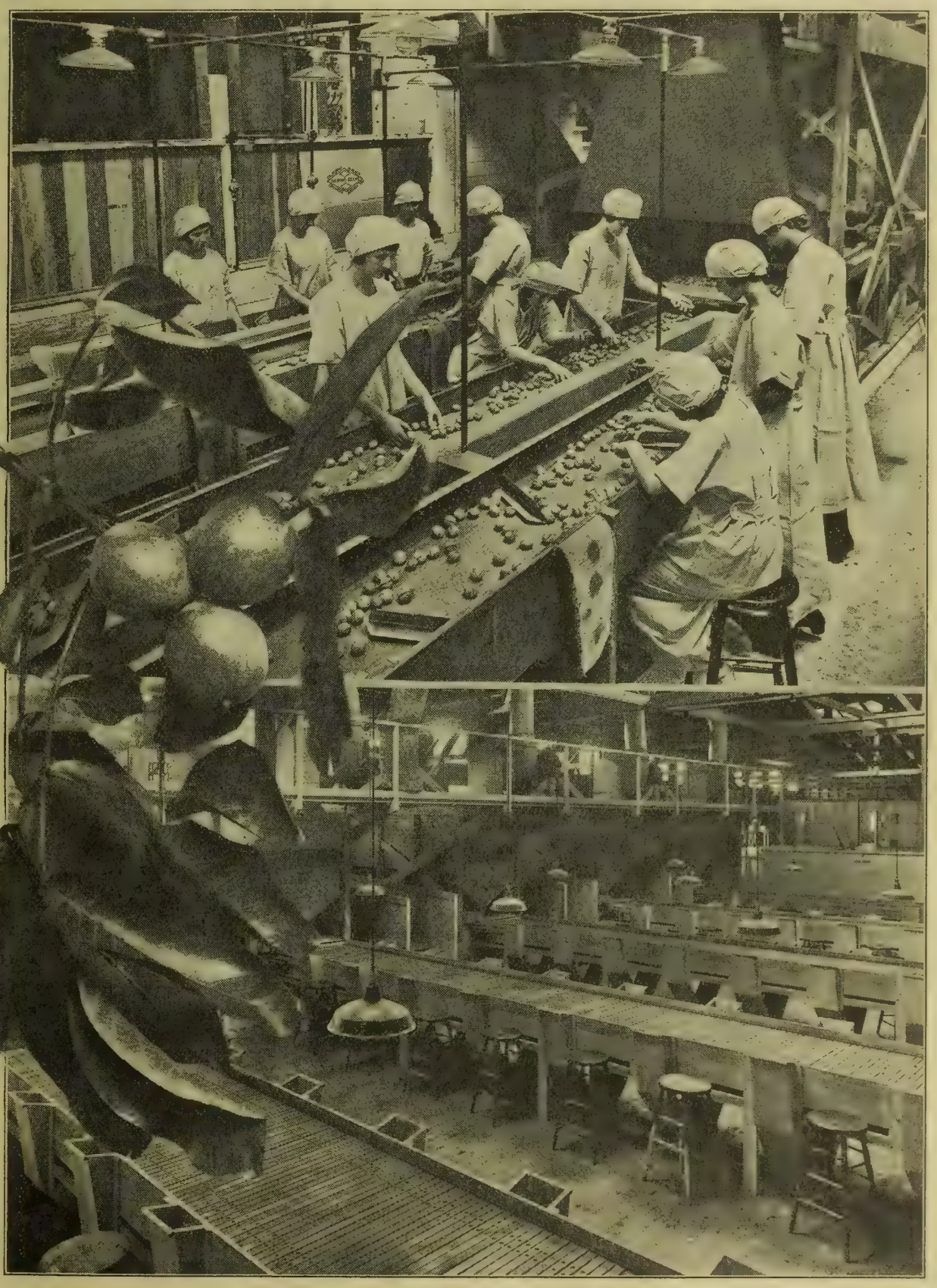

Hand Grading and Culling Deliver Perfect Pack of California Walnuts

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877, Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, July 8, 1922

OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## EDITORIALETTES

This week's cover shows interior of a modern walnut packing plant of the California Walnut Growers Association, and gives an idea of the care taken in hand culling and grading to produce a perfect pack. The lower picture is of the chain driven wooden belts over which walnuts slowly pass where they are hand culled by women after the nuts containing shrivelled or light weight kernels are removed by patented suction machines in the background. In this plant alone over 10,000 bags of walnuts were removed by the suction machine from the 1920 crop, the nuts so removed being of no commercial value. In all foreign countries these worthless nuts are included in the regular pack.

## AFIELD

President Wilbur of Stanford has said that chlorophyll is the foundation of all agriculture. Certain it is that everyone depending on the production of the farm dreads nothing more than the appearance of chlorosis. Be it peach grower, orange grower or the grower of beans or potatoes he realizes the approach of riches when he looks over orchards or fields clothed in the rich dark green of June.

And no grower of things has greater terror than the peach grower when he notes the first tinge of peach "yellows." I saw an orchard the other day which had been wonderful in its production but now, in June time, turning to the sickly yellow which indicates its productive days are over. An independence is gone, even bread and butter, for some growers.

### In Ohio

I never saw such a richness in green as is shown today in Northern Ohio. Abundant rains of last fall and this spring, together with a good growing season, have given magnificent coloring to the woods that border the streams.

The woods are not, however, entirely confined to stream banks, for many a farmer today is engaged in reforesting Northern Ohio. I was on one of this section's biggest and finest farms yesterday and found that a real woodlot is maintained. It covers a hundred acres. It is protected by stock tight fence and all pasturing is forbidden. Some of the trees are only six or eight feet high and stock would soon mean the death of such youngsters Some trees are old, but nearly all were new growth. There were soft maples, buckeyes (horse chestnuts) tulip trees (whitewood) rock elm and many of lesser value but also many of walnut, hard maple, hickory, red oak, trees of high value—to the next generation.

### Different in California

It is different in California. One plants a eucalyptus today and tomorrow—or maybe 15 years from tomorrow—the planter harvests his crop, part of it at least. The eucalyptus craze of a few years ago was not an economic movement on the part of upbuilders but—in many cases at least—a wild effort to fleece the other fellow. It worked, and the fleecing was done proper. We should understand real forestry and when right conditions obtain there should be more general planting of timber trees.

A few of California's water sheds are now being replanted, but this has been done with little consideration of timber value and large consideration of water conservation. "What tree will persist and preserve?" rather than "which will prove of greatest timber worth?" are the questions asked. For all time to come California farmers will want timber to use for lumber, posts, implement repair, steering wheels for autos, masts for radio antennae, corduroy roads, stoneboats, airplane propellors, matches and one thousand and one other things.

What trees are best? What trees will be best adapted to our uses a dozen or score of years from now? Those, with numerous other questions, might well be studied more thoroughly in California, not only studied but freely experimented with until we find our best adapted tree. Here in Ohio walnut and sugar maple are favorites.

### Speaking of Corduroy Roads

In the past 13 days I have ridden on the highways of Utah, Missouri, Illinois and Ohio. I'm going to ride on those of some other states. I'm hoping for a different experience, but as yet my ride has resulted in about the following procedure: At the end of the ride I alight, stand erect, raise my hands to high heaven, look upward and devoutly say—like unto a shout—"Oh! You California Roads!"

I wish those who would secure political advantage by trying to discredit California highways would take a real ride—not over the theoretical engineer's specifications, but over "them roads, as is."

### By Gosh!

For instance: Yesterday I wanted to see the old homestead where I was born. I was told that the old house built of walnut with whitewood siding, and expected to last forever, is in ruins. Nevertheless I wished to see. Brother said: "I don't think the light rain of this morning will prevent. I 'guess' we can make it." The inflection he put on that "guess" made my heart sink.

We started. The first leg was over a road of cinders spread on yellow clay. Pretty good! Then the brick paved street through New London—named from New London, Connecticut, whose citizens settled on 500,000 acres of fire lands which were deeded to the settlers because of losses from Indian depredations. Homes in Connecticut had been burned, livestock driven off and many people killed by Indians. So from New London, Connecticut, to the wilds of "Out West—'way beyond the Allegheny Mountains" came the "Fire Sufferers," blazing trails through the beeches, maples and oaks. And New London, Ohio, was and is.

The corduroy which served the first settlers has been succeeded by diversified other forms of roads. Going toward Buck Creek the road is of brick 4x4x8 on a base of an inch or two of sand. Some are built on a concrete base and stand up better.

Noting that the speedometer hovered close to 15 miles, I suggested to Brother that I though "Ohio laws are much more strictly enforced than those of California, because in California they so often exceed our 35 mile legal limit and people are killed daily."

No reply.

The width of pavement created a rather embarrassing situation once or twice. Fortunately we met few, and after suffcient honking it becomes easy to pass horse drawn vehicles going in same direction. Along either edge of the 12 foot pavement there is a row of cobblestones or sometimes a sort of cement curb. This curb extends upward some five or six inches. Outside the curb thin air extends downward anywhere from one to eight inches.

Why the absence of an "apron" and the use of this curb I couldn't see till I was told "winters heaving frost" was responsible and that the curbing prevented quite such serious damage.

I suggested to the driver that this form of pavement was much safer than in California for there the pavement is so wide that unthinking drivers attempt to go four abreast which makes for complications occasionally. After a space of time about as long as it takes to dodge four holes filled to unknown depth with yellow mud he said:

"Uh—huh."

Meantime we reached Fiddlers Green where the old log blacksmith shop used to be and where the Town Line Road turns west. This road was blazed through the forest about the time the California missions were established. The corduroy has all disappeared but the yellow clay remains.

The job of paving also remains for the next generation. In spite of occasional puddles of water the yellow mud of the newly repaired road proved deceiving and we turned off the pavement. We proceeded west about a hundred feet when the driver made the fatal mistake of getting slightly off the crest of the rounding road and we oozed noiselessly and painlessly into the ditch alongside the road.

My kangaroos still retained some of their California shine, but I boldly jumped into the yellow sea and saved the women and children from the back seat and carried them to a safe piece of sward in a fence corner. I secured as good footing as possible, grappled the rear fender and shouted to Brother: "Step on her." He did. A stream of yellow slimy mud shot 40 feet to the rear. Part of the stream stopped on my new Palm Beach pants.

We never reached Buck Creek nor the old homestead. We're going tomorrow, but not by auto. The rains are continuing and clay roads are getting no better fast. Two fine old drafters are to be hitched to the hay wagon and we'll all take a hay ride.

Pardon the foolishness, but, honest to goodness, folks, we Californians need something to jar us into a realization of our many blessings. Count them every day!

### Sawmills

The old time, established sawmills, with building and complete equipment, have disappeared entirely from this, a diversified farming section. In their place has come the "portable"—an old time steam tractor with belt connection with a big circular saw. These mills move from section to section and work up elm, oak and other timbers mostly for shipping out. Any operation whatever on the part of these mills is made possible by the care and conservation on the part of farmers I believe limited lumbering possibilities will remain permanently because of these "wood lots" maintained in Northern Ohio.

### Manufactures

Even the small quantity of walnut and maple hereabouts has been the cause of the installation of a sizable manufactory here. It makes only automobile steering wheels.

### More About Clay

I have held up to contempt Ohio clay as a road surface. In some later letter I'm planning to show wherein it proves one of the world's greatest wealth makers when molded and burned into drain tile.

## CALIFORNIA OLIVE GROWERS

On another page appears a short article giving the reasons for the organization of the California Olive Growers and the work they hope to accomplish. If the organization is carried on in the manner outlined it will go a long way toward getting the olive industry on its feet once more, and every olive grower should assist by signing up at once.

The most interesting feature in their plans, and to our mind a matter of vital importance in the work of all cooperative organizations, is the statement that the association hopes to reduce the price of the product to the consumer and at the same time pay the grower a price that will remunerate him for his crop. There is too much difference between what the consumer pays and what the producer gets, and when cooperative organizations succeed in reducing this difference to a reasonable amount, it will not only increase the consumption of our farm product, but will be the means of helping to hold the organizations together.

We believe in California. The greatest loss to our highways comes from overloading and then speeding the overloaded truck. There should be a new campaign for a lessening of the abuse of public highways in order that contractors may make larger profits.

# California Cultivator

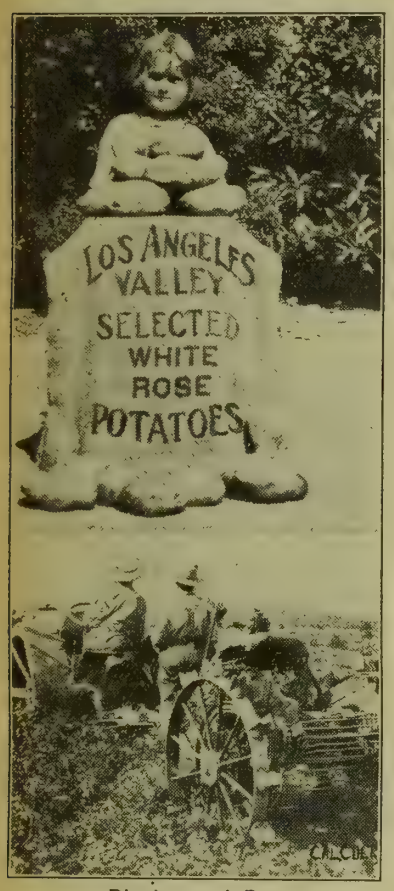
Vol. LIX No. 2 | Los Angeles, July 8, 1922 | One Dollar Yearly


# Potato Field Day

By Ernest Braunton

WEATHER conditions this spring and summer have been unusually bad for the potato growers of Los Angeles County, yet the yield in many well cared for fields will be heavy. But in seasons of bad weather the fields given little care are in a hopeless state so far as yield is concerned. The diseases and pests have also been unusually bad. Records of tuber moth damage from May 10-15 are the earliest ever known in this section.

The potato growers department of the Los Angeles County farm bureau met in the Van Nuys high school auditorium at 10 a. m., June 27, to hear committee reports and papers on progress of phases of potato culture under special observation. The meeting was presided over by E. D. McSweeney, chairman of the department, and a report of the past year's accomplishments was read by him.




Digging and Dug

Below, tractor hauling digger. Above, San Fernando Valley's standard sack and grade No. 1 potatoes from W. V. Stahl ranch.

One of the principal recommendations read as follows: "The potato industry has reached sufficient proportions in Southern California that the question of marketing is of paramount importance. Solutions to the marketing problem have been suggested by various members and by outside agencies. While we may not agree on the final one, I think we can all agree that some sort of organization is necessary, and I for one am of the feeling that the local pooling asociation, although it does fall short of accomplishing all which many growers desire, is a distinct step in the right direction. While ideally it would be desirable for the potato producers to control every stage in their marketing from the grading of the product and its delivery to its sale to the purchaser, in a practical way we cannot accomplish this for many years and the local pooling association provides an opportunity for its members to grade and standardize their product, to establish a local plant and to have some direction over the sales, and is certainly an improvement over the old system. It may be that the industry has reached the point where it can afford to set up its own sales agency, and if this is the case it will be most gratifying. I am inclined to believe, however, that the slower, safer, evolutionary process of developing the local pooling association may prove to be the best solution in the long run."

Next came L. C. Holmes of the farm advisor's staff, formerly for many years a soil specialist for the United States department of agriculture, in a talk on the educational work of the department. He was followed by Mark Grimes of Van Nuys, vice president of the county farm bureau, in a plea for greater membership for the bureau. The speaker said that out of 15,000 farmers in the county but 2,000 belonged to the bureau.

### The Nematode Menace

Farm Advisor Hodgson then took the floor to explain why Prof. E. O. Essig was not present to tell of nematodes, their work and means and methods of control. Mr. Hodgson said the nematode menace was developing rapidly in all parts of the state and presented two serious problems—the one educational, the other regulatory. The state officials are making a special study of the menace and have plots for the purpose in many counties, two in Orange County and two in Los Angeles County. He quoted Dr. N. A. Cobb of the federal service as saying that more life exists below the ground than above and that we have 400,000 kinds of nematodes, only one of which, however, is a serious menace to agriculture. In the top acre-foot some soils contain a small matter of three billion nematodes. In ten acres these insects, though microscopic, would, if placed end to end, make a girdle around the globe. But 80 per cent of them are in the upper six inches of soil and so easily reached if one can find what best to reach them with. Drying out the top six inches of soil will kill many. The nematode is a small worm with a spear in his head with which she punctures the epidermis or skin of plants and then sucks the sap, doing serious injury. The excretions of the insects produce root galls which shut off from the plant part of its water and food supply.

### Control Measures

No eradication measures are applicable to the field. In greenhouses the soil may be steamed, baked or drenched, but such practice is not practicable in acreage. Unfortunately few crops are immune. Crop rotation is the most effective control, planting resistant crops for a period of years and then back to a more profitable crop which the relatively small number of nematodes remaining cannot seriously injure for one to three years. It is a life-long fight, however, for nematodes have been known to survive inactive for 25 years and then revive. The apricot root is nearly immune while the peach root is a favorite host. Potatoes are the most common spreaders of the nematodes.

Dr. G. K. K. Link, pathologist, United States department of agriculture, told of the great losses in transit of perishable foodstuffs, due largely to diseases and insect pests. He stated that when D. G. Milbrath (now with the state department of agriculture) was sent from Washington, D. C., to Southern California several years ago, his first report read: "The most serious problem here is the nematode, but the people do not seem to realize it." Dr. Link said virus diseases were among the most serious, though this is not generally known. A disease known as leaf roll has destroyed 30 per cent of the crop the first year.

In Potato Fields

Top, Assistant Farm Advisor Holmes speaks through the megaphone. Middle, examining fertilizer test plats. Lower, the long potato row.

### Resolutions

Six resolutions were passed unanimously and with but little discussion, the one following without a word except unanimously "aye."

"Whereas, the farmers of California quite generally recognize the menace to the agriculture of the state consisting in the gradual increase in the percentage of land operated by Japanese, and at the last session of the state legislature the alien land act was passed, the purpose of which was to curb and destroy this menace, and the purpose and intent of the act is being daily violated, not only permitting the menace to continue, but setting an extremely bad example, be it resolved, that the Potato Growers of Southern California register a vigorous protest against the daily violation of the spirit and intent of the alien land act."

One thanked the Van Nuys high school for use of building and the Van Nuys chamber of commerce for arrangements for lunch. Another declared endorsement and support of the work of regulatory and educational agencies regarding the nematode menace. One deplored the use by dealers of new names for old varieties and suggested that dealers use the standard varietal classification published in Gilbert's Potato Book. One resolution commended the state agricultural college for establishing a "Division of Olericulture" for the study of vegetables and truck crops. The "meat" of the last one was: "That the potato growers department of the Los Angeles County farm bureau does respectfully request the secretary of agriculture that in the budget for the coming year special provision be made whereby a field investigator may be detailed for at least part time, working with the potato growers of Southern California in the study of problems confronting the industry, and particularly with respect to seed potato production and seed curing."

### Field Inspection

Under direction of L. C. Holmes, field crop specialist, the visitors spent the afternoon in inspection of field plats where various fertilizers had been used and various cultural care bestowed. Mr. Holmes announced that seed curing experiments now being carried out were six in number, as follows: spring crop in cold storage; fall crop in cold storage; greening and sprouting; sweating or curing under straw; whole tuber seed and cut tuber seed.

Various members present were asked to present their views. E. D. McSweeny prefaced his remarks with the statement that the fall crop often gives an unsatisfactory stand and yet this is the crop California growers should raise rather than the spring crop. He said good results were reported from cold storage of spring

(Continued on Page 43)

# Agricultural News Notes of the Pacific Coast

## Northern California

San Quentin grain bags are now selling at 9½ cents.

Humboldt County reports weather cool and corn maturing slowly.

Hot weather in the Sacramento Valley is causing excellent growth of rice and tomatoes.

Codora farm center is raising funds for its exhibit at the Glenn County fair at Orland.

Canneries in the Winters district of Yolo County are taking 80 per cent of of the apricots.

The Sutter Basin Company is cutting a 1,000 acre alfalfa field which was planted last fall.

The Lotus district of El Dorado County is becoming known as a mountain Bartlett pear section.

Thirty-five and 40 sacks of barley to the acre are reported on Sutter Basin farms, wheat running 30 sacks.

The women of Butte County are asking the supervisors for the appointment of a home demonstration agent.

The farm home department of the Alameda County farm bureau held its annual picnic at Hayward Memorial Park, June 14.

Fruit shippers are disappointed at loss of the July 4th fruit trade in eastern markets because of the late maturing this season.

Glenn County farm bureau meetings: Codora, July 10; Orland, 11; Jacinto, 14; Capay, 19; Plaza, 21; Grapevine, 26; Glenn, 28.

The Eden Township Farm Products Show Association has been organized, electing L. R. Rosenberg, president; M. A. W. Lee, secretary-treasurer.

The rest room at the farm bureau office at Oroville, Butte County, is well patronized by women who come in from their farm homes for the day's shopping.

A movement has been started at Yuba City to erect a marble shaft over the unmarked grave of J. D. Phillips of Sutter County who originated the Phillips Cling peach.

Prof. Ralph E. Smith, plant pathologist of the state university, has been inspecting orchards in Placer County to determine cause of the disease affecting pears, plums and peaches.

Placer County farm bureau has adopted the following wage schedule: Unskilled labor, 35 cents; packing cherries 20 cents per box, plums 7, peaches 3, pears 8, grapes 5 cents cleaned.

The Colusa section of Colusa County reports busy days in the harvest field. There was some disappointment because of the north winds and lack of rain while filling which somewhat cut down the yield.

Lassen County has been declared by the state department of agriculture free from tuberculosis in cattle. Under the department's ruling no tuberculous cattle may now be permitted to enter the county.

The Glenn County unit of the Federation of American Farmers has asked the supervisors to redistrict judicial townships, reducing from eight to three. The smaller number the farmers say is amply sufficient to handle business and the reduction will save several thousand to tax payers.

## Central California

Fresno County's Pork Day will be held October 20.

Clavicle, Tulare County, reports fruit prospects much above the average.

Turlock will celebrate Pork Day October 11. 496 entries have already been made.

Canneries at Yakima, Washington, started on Royal Ann cherries June 20. The crop is light.

W. T. Kirkman, Jr., of Fresno, has been reelected president of the Nurserymen's Bud Selection Association.

The estimates of the grain yield on the west side will be far exceeded as indicated by present harvesting operations.

President Giffen of the Sun-Maid Raisin Growers announces that no change in prices will be made until about August 1.

Headquarters of the California Olive Growers Association has been established at 1321 J Street, Fresno. Contracts are now being received.

Harrison Hopkins of Fresno has been appointed superintendent of the cattle and horse department of the Fresno district fair to be held September 25-30.

The daily press announces that a chemist at the University of California has isolated the botulinus germ that has made so much trouble for the ripe olive packers.

Kern County orchardists are bringing fruit to the chamber of commerce at Bakersfield to be processed and kept for display at the county fair to be held September 12-19.

Study of vine diseases will be taken up at a laboratory established by the United States department of agriculture at Fresno. W. S. Ballard is in charge and began his work July 1.

Nurserymen at Springville, Tulare County, report great benefit from the rain and cloudy weather. Young tomato and sweet potato plants have also been kept in splendid condition.

A preliminary survey for flood control has been authorized by the state highway commission, the Merced irrigation district, Merced County and City. $10,000 has been set aside for the work.

Farm home department meetings will be held in Kern County at Shafter, July 11; McFarland, 12; Arvin, 13; Weed Patch, 18; Inyo-Kern, 21; Edison-Fairfax, 25; Kern-Delta, 26; Wasco, 27.

The Sun-Maid Raisin Growers has just made sale of two and one-half million pounds of raisins to an English firm at Liverpool. This practically cleans up the association on soda and sulphur bleached Thompsons.

President Harry Crowe of the Oakdale irrigation district says that more sand is being washed down by the Salinas River than ever before in the history of the district. This has made necessary frequent cleaning of the ditches.

Pouring of cement on the Woodlake-Naranjo-Lemon Cove section of the Tulare County highway is progressing rapidly, an average of 500 feet a day being completed. It is expected the cement work will be completed in about a month.

## Southern California

The first annual Coachella Valley Grape Day at Oasis July 11.

The old Rowan ranch northeast of Perris has been sold to E. W. Pasco of Los Angeles.

The first carload shipment of grapes from the Imperial Valley was sent June 28 direct to New York.

The Alfalfa Growers Exchange has built a warehouse at Brawley with storage capacity of 2,000 tons.

A number of cotton growers from Palo Verde Valley attended the cotton quarantine hearing at Riverside, June 27.

Riverside, San Bernardino and Orange Counties are planning to combine their exhibits at the state fair this fall.

B. H. Stanley, bee inspector of San Bernardino County, says that the crop of wild sage honey this season will be the largest in 20 years.

Four fines of $50 each were last week imposed on Japanese cantaloupe shippers at Brawley for violation of the standardization laws.

Estimates of citrus shipments from the Riverside district for the season are 3100 carloads. Returns will be larger than last season in spite of the frost.

Work on the state highway from Oxnard to Santa Monica is being pushed with a crew of over 80 men blasting and clearing near Point Magu.

Ventura County farm bureau held a well attended picnic at Foster Park last Saturday. Vice-president Peters of the state federation was the principal speaker.

The Beaumont Fruit Growers Association has just shipped consignment of Bing cherries to London by the steamer Cardingshire sailing from San Pedro.

Apricot growers in the Ventura and Ojai districts met at Mill school house Monday of last week to talk over the new contracts of the Prune and Apricot Growers.

Manager O'Neill of the Brawley branch of the Imperial Valley Vegetable Association says they are having an exceptionally fine watermelon year, prices holding up well.

Foresters have been busy in the Santa Barbara national forest controlling brush fires which started near Gibraltar Lake from which the city of Santa Barbara draws its water.

Cantaloupe growers met at Brawley June 28 to discuss regulation of cantaloupe shipments until the market recovers from the heavy daily shipments which have run up to over 560 cars.

Blythe is to have a state plant quarantine inspector. It is estimated that over 4,000 automobiles from cotton boll weevil or alfalfa weevil infested sections have crossed on the Blythe ferry since its opening in January.

The Riverside Press says that a Japanese melon grower at Calexico sentenced to pay $75 or serve 25 days in jail for trying to ship unripe cantaloupes asked the court to put his five year old boy in jail as he didn't wish to pay the fine and was too busy picking cantaloupes to go to jail himself.

## The Coast and General

Arizona alfalfa growers report third crop commencing to bloom.

Lovelock Valley, Nevada, will have an exceptionally heavy crop of alfalfa.

Apple growers of the Wenatchee district of Washington are busy thinning fruit.

The Nevada state fair will be held at Fallon during the first week in September.

Tennessee and Mississippi are making heavy shipments of tomatoes to Eastern markets.

Churchill County, Nevada, Cantaloupe Growers Association has 430 acres in cantaloupes.

The Washington Growers Asociation has withdrawn 1922 prunes from the market as they are practically all sold.

The Arizona state fair management is offering $500 in special premiums for exhibits from boys' and girls' clubs.

County farm bureaus of Greenlee, Cochise and Pima Counties of Arizona have purchased moving picture machines.

The Washington Berry Growers Association is building a new refrigerating plant at its shipping station at Sumner.

The mid-year meeting of the Arizona Cattle Growers' and Wool Growers' Associations will be held at Prescott, July 6-8.

The Northern Pacific Railway has put on two special daily berry trains to carry Yakima and Puyallup fruit to Eastern markets.

Manager Robinson of the Washington-Idaho Wheat Growers Association says that practically all of the 1921 crop of wheat has been shipped.

The section about Flagstaff, Arizona, received two inches of rain last week. The summer rains have begun about two weeks earlier than usual.

The tent caterpillar is doing considerable damage to fruit trees in western Washington. They are also said to be attacking gooseberries and currants.

Nelson B. Rue, secretary of the Virginia Farm Bureau Federation, reports that Virginia farmers are joining the farm bureau at the rate of 1,000 a month.

Hot weather in the watermelon and cantaloupe fields of Arizona has ripened the melons faster than growers would like as they fear the flavor will be injured.

More than 36,000 pocket gophers were killed by boys of Maricopa County, Arizona, in a contest conducted by the United States biological survey and the state university.

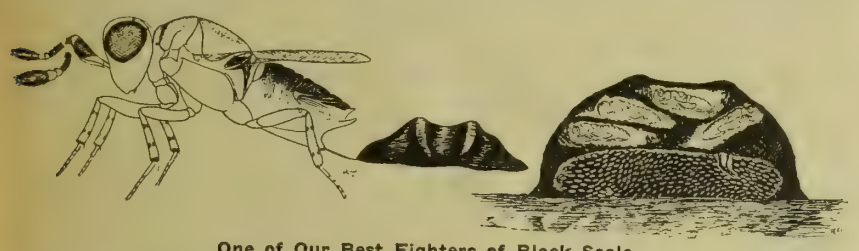
Since June 19 Station WEAO at the Ohio state university, Columbus, has been broadcasting at 1:30 every afternoon complete weather, crop and market reports for all who want to tune in at 485 meters and listen.

Skagit County, Washington, Berry Growers Association has agreed upon price for picking uniform with that paid by Puyallup and Fidelgo Island growers: Strawberries, 30 cents per crate; raspberries, 40 cents per crate with ten cent bonus on two years old or over; 50 cents per crate with ten cent bonus for one year old vines; bonus paid to pickers who stay until end of the season.

# The Black Scale Problem

By Harold Compere, Assistant Entomologist, State Department of Agriculture

THE first step in bringing about the biological control of an insect pest is to establish in the local fauna its most effective natural enemies. This statement presupposes that the pest against which the work is directed is an introduced species which in some locality is held in check by the activities of various other insects which prey upon it. The black scale (Saissetia oleae Bern) is a pest which meets this fundamental requirement. It was accidentally introduced into California, and it is a pest which is held in check by the influence of parasites in the Cape Town districts of South Africa. After successfully establishing in the local fauna the complement of natural enemies which controls the black scale in South Africa the second step will be to make these parasites control the pest in California just as effectively as they do in their native home. At first glance it appears that when these effective South African parasites are established in this state a complete control will follow. In the uneven hatch areas of California where the environment is comparable to that of the Cape Town district such a control will undoubtedly follow, in fact, such control is now well under way in these areas, being brought about by the activities of Aphycus lounsburyi. Whether or not this will be interrupted by the activities of the pernicious secondary parasites, Quaylea whittieri and Eusemion sp. remains to be determined.



One of Our Best Fighters of Black Scale

Photo at left shows the Aphycus lounsburyi female in the act of laying an egg. The parasite is really smaller than the scale which it attacks. This drawing does not show the relative size of the parasite and host. Photo at right gives sectional view of black scale showing pupae of Aphycus lounsburyi with cast meconia embedded in the pupal cells. All drawings of insects greatly enlarged.

### Source of Black Scale Parasites

The most important black scale parasites which we have imported came from the Cape Peninsula of South Africa and from Sydney, New South Wales. The fauna of the Cape Peninsula is rich in parasites of the black scale which are thought to have originated there. There are quite a number of black scale parasites present in Sydney and the adjacent territory. In this latter district the black scale is under natural control, but this control is primarily due to parasites which originated in South Africa and were both intentionally and accidentally introduced into Sydney or its environs. Besides the effective introduced forms there are a few parasites supposedly indigenous in the Australian fauna. It has generally been assumed that a pest is a native to the locality where nature maintains it in balance. Basing our judgment on this supposition we point to the Cape Peninsula as being the native home of the black scale. The ancestral home of Aphycus lounsburyi is undoubtedly South Africa, but the parent stock which gave issue to the California parasites was collected at Epping, near Sydney, by E. J. Vosler in 1918.

### Climate of Cape Peninsula and Sydney

A glance at the map will show the proximity of the Cape Peninsula and Sydney to large bodies of water. This has a tendency to insure uniform temperatures subject to little daily and seasonal change. E. W. Rust reports that the climate of the Cape Peninsula is quite similar to that of the coastal area of southern California and that the climate of Sydney is more humid and tropical. Representative mean annual temperatures for these districts are: Cape Town, 63 degrees; Sydney, 63.1 degrees; Los Angeles, 60.3 degrees. Such climates as these favor the growth of the black scales. The pests complete at least several generations each year so that at any time of the season one hatch is succeeding another.

### Significance of Climate

The manner in which the seasonal development of the scales is influenced by the climate has a direct practical bearing on natural control. It is difficult to say whether the behavior of the scales is influenced so much directly by the climate, or indirectly through effect on the host plant. We find that on certain types of host plants the uneven hatch is the rule regardless of whether the plantings are in the coastal area or in the interior valleys where the climatic conditions are more harsh. On the citrus, namely, oranges and lemons, and excepting the very young trees and sucker growth, the scales develop as even hatch or uneven hatch depending on locality. In the coastal area the scales on the great majority of plants have at least two annual generations and develop very unevenly so that the pest is in all of its various stages of development at any time of the year. On the other hand, the scales which inhabit the citrus located in the interior valleys and mesas develop only one annual generation, and their growth is more or less uniform. This varied type of seasonal development is attributed to the influence of climate. Bordering the coast of southern California a more uniform temperature prevails and the weather is always cool. Toward the interior valleys where the west winds lose their tempering effect the temperatures have a much greater range, and often the summer days become quite hot. The black scale infestations in the interior districts are just as severe as those along the coast, so that in general it may be stated that the climate of practically the entire citrus area of southern California favors the development of the black scales. However, if judgment may be based upon the records of pioneer entomologists, this was not always the case. An examination of the old records and reports indicates that in the days of the pioneers the black scale was only considered a pest in the coastal area which is now characterized by the uneven hatch. This despite the fact that citrus plantings occurred in the interior and that the pest was established there. From this we assume that the black scale in the interior has become acclimatized or has gradually adapted itself so as to flourish under conditions which differ from those found in its native home and that the even hatch with the one annual brood is the result. The black scale parasites we find suited to prey upon and accomplish effective work against the scales of uneven hatch type.

### Aphycus Lounsburyi

The establishment of Aphycus lounsburyi in California was but one important step in the effort to bring about a complete and satisfactory natural control of the black scale in California. It is extremely doubtful if there is any other parasite which can give such a good account of itself in the uneven hatch areas as this species has done. In South Africa there are several unnamed parasites which give promise of being more effective in the even hatch areas. At the present time the state department of agriculture is endeavoring to establish these new parasites in California, as well as to develop a means of increasing the efficiency of Aphycus lounsburyi.

Biological studies corroborated by field experiments resulted in the conclusion that it is very improbable that Aphycus lounsburyi could of its own accord bring about a natural control in the even hatch areas comparable to that gained in the uneven hatch areas where satisfactory work has been accomplished. The work with Aphycus should only proceed with a due regard for this limitation, otherwise insects which might profitably be liberated in favored localities where it is likely they will gain a control will be sacrificed by being placed in orchards where the chances for them to bring about a commercial control are almost nil.

The bulk of the parasites liberated by the state department of agriculture have been placed in the uneven hatch areas where it is very likely they will do excellent work and in time bring about a satisfactory natural control. Roughly defined these areas include the southern section of Santa Barbara County, the southwestern half of Ventura County, limited sections in the southwestern portion of Los Angeles County, the north central sections and western edge of Orange County, and the western border of San Diego County, notably the Chula Vista district. There are a few other districts not included in these defined areas where scale conditions have proven favorable for a natural control and where heavy liberations have been made.

Uneven Hatch

Map showing the "uneven hatch" areas in the southern coastal counties of California. There are a few other rather limited areas that are not shown where a temporary "uneven hatch" prevails at the present time. The shaded areas, with the possible exception of the Potrero and Montebello districts, are supposed to indicate sections where the "uneven hatch" is the rule, in this respect proving an environment for the parasites similar to that found in their native home.

Aphycus lounsburyi passes through four stages during its development, egg, larva, pupa, and adult. In the first three the parasite inhabits the body of the black scale. The immature larva possesses an air line which serves it with a direct supply of air from the outer world. It is likely that larvae which are deriving their air direct from outside will succumb to fumigation as readily as do the scales. The mature larvae are not served by such an air line and are probably not as susceptible to the poisonous fumigation gases. The pupae which are not actively breathing and are enclosed in the body cavity of the scales are thought to be practically immune from fumigations which are directed against the scales. Upon completion of the larval growth the liquid contents of the scale have been consumed leaving only a dry shell in which the transformation or pupation occurs. When the transformation has been completed the insect is ready to issue into the outer world and take up the duties of reproduction. Prior to emergence the adult discards the enclosing pupal skin, cuts out a small circular hole in the scale with its sharp mandibles, and forces itself into the open. Thus it is seen that the destruction of the scale is brought about by the feeding larva. The adult confines its activities to mating, egg laying, and feeding on the honey dew secreted by the scales. The adult life is not known to be in excess of six weeks under artificial conditions when oviposition is prevented. It is well known that in most if not all insects the prevention of oviposition has a tendency to prolong the adult life.

So far as can be determined the adults have no hibernating periods enabling them to survive the seasons of famine when their hosts are not of a size suitable to serve as food. During

the colder seasons of the year the life cycle of the parasite is greatly prolonged. At such seasons the development of the pupa is greatly retarded. The retarded pupal development and the prolonged life cycle does not increase the efficiency of the species in any apparent way whatever. Under favorable conditions when the temperature is high, as in the insectaries, the parasites complete the cycle from the laying of the egg to the emergence of the adult in about 25 days. The other extreme is reached when the insect develops out of doors during the winter months when this same cycle requires about three months. During the season of 1921, adults issued on April 26, from eggs deposited February 3.

### Parasite of the Third Stage Scales

The Aphycus is essentially a parasite of the third stage black scales, the usual run of the more immature forms not containing enough nourishment to enable the larva of Aphycus lounsburyi to complete its development. The selection of certain sized hosts in which to oviposit is a fixed habit with a great many parasites. Female Aphycus show a marked predilection for third stage scales containing an abundance of ovarian eggs. They also readily parasitize smaller individuals of the third stage, commencing soon after the scale has moulted for the second time. Experiments conducted with females isolated in vials showed that the minimum sized scales which were parasitized measured 1.16 millimeter in length, or roughly, one-half inch. A linear measurement such as this cannot accurately define the exact size of the hosts. It is more the content of a scale depending upon the plumpness and convexity which must be considered in defining the size. It must be remembered that scales of the third stage show a very wide variation in size, depending on their age, while the scales of the first and second stage are uniformly small.

In the interior or areas of even hatch, where there is only one annual brood of the black scales and the hatch is comparatively even, the first and second stage scales which are not favored by the Aphycus are found in greatest abundance during the fall and winter or from August to February. Some individuals may be more advanced or retarded than their companions, which will serve to carry a few parasites over the lean periods. However, the great majority of Aphycus which were present in the interior districts during the past year maintained themselves on the limited amount of uneven hatch material which is to be found scattered about throughout the entire district of southern California. The great majority of the scales comprising the annual brood become vulnerable to the attack of Aphycus during the latter part of February or by the middle of March. At this time some of the parasites which overwinter on the uneven hatch or out of season scales shift their activities to the scales of the annual brood. As the temperature rises in the spring and summer insect activity is accelerated. In the late summer of 1921, in the Alhambra district, it was found that 95 per cent of the annual brood in some localities bore evidence of parasitism by Aphycus lounsburyi. Yet a degree of control which would permit a grower to forego a fumigation was not attained. Here the peak of parasitism occurred during June and July after the scales had deposited the greatest part of their quota of eggs, thus providing for a new infestation the following year. It must be considered that this partial control took place only a short time before these scales were doomed to death by old age. All during their growing period throughout the fall and winter they are copiously sprinkling the foliage and fruit with honey dew, providing the medium for the growth of the soot fungus. In a case like this, it is the same as Professor Quayle states in regard to Scutellista cyanea. "The real test of what the parasite is accomplishing must be measured by the ability of the parasite to prevent the emergence of the young scales."

When passing on the condition of the scales it must be remembered that those of the even hatch show a variation of two months in their ages. This is primarily due to the fact that a parent scale lays eggs for a period extending over two months. At certain times of the year there is liable to be a disparity in the sizes of the even hatch scales owing to the difference in their ages. This is particularly true at the season when some of the scales have been in the third stages for two months and those that hatched last are just completing their last moult and passing into the adult stage. If there is a period of warm weather the third stage scales will increase in size very rajidly, while the younger forms will only be completing the stage where the increase in size is very slight. At the time when the scales of the annual brood show a great discrepancy in their relative sizes the orchardist may at times conclude that they are of the uneven hatch type when in reality they are not.

### Aphycus Not Prolific

As parasites go this species is not very prolific, if judgment may be passed on the basis of laboratory experiments. It possesses a very large egg, eighteen of them when fully developed almost filling the ovaries. Life history studies indicate that after the females commence to oviposit the new eggs develop at the rate of six a day. This was found to be the average number deposited for each day of the parasite's life. All of the eggs are not deposited so as to accomplish the most good, nearly always more than one egg is laid in each victim which is selected. The average number deposited in a scale by each female was found to be three. In the very small scales sometimes only one egg is found, while the larger gravid forms will contain as many as 15. In the experimental work the parasites lived an average span of 18 days, depositing a total of about 108 eggs. On the basis of these figures it is found that the progeny of one female will destroy an average of 36 scales. Thus it is seen that a single female cannot accomplish the destruction of any great number. Then consider the fact that the scales of the even brood are only suitable to be effectively destroyed during the months of spring, and this at a time when the life cycle of the parasites is prolonged as a result of the lower temperatures.

There can be a lean period of from four to six weeks duration when none of the scales are of a size suitable to serve as food and the adult parasites will survive this period. They cannot, however, persist in the dearth of third stage scales which lasts over a period of many months duration. In the even hatch areas the adults do not survive the famine seasons in any great numbers but are regularly reduced to the comparatively few which locate the limited amount of uneven hatch or out of season scales. In the uneven hatch areas the parasites are found not faced by the seasons of famine, but are permitted to propagate without being continually starved to insignificant numbers during the greater part of each year.

### Conclusion

It may be stated that much good will at least result, and very likely a commercial control will follow the colonization of Aphycus lounsburyi in the uneven hatch areas, while in the even hatch areas it is very improbable that the colonization of these parasites will result in a commercial control such as would enable a grower to discontinue his fumigation practice. The state department of agriculture is endeavoring to devise a practical method of artifically manipulating these and various other parasites in a manner which will bring about a satisfactory natural control in the even hatch areas.

# Regulations Governing Fumigation of Citrus Orchards

HORTICULTURAL commissioners of Los Angeles, Orange, Riverside and San Bernardino Counties met at Pomona June 20 to draw up uniform rules and regulations governing the work of fumigators operating in citrus orchards for the control of scale pests during the 1922-23 season. H. J. Ryan of Los Angeles, A. A. Brock of Orange, J. P. Coy, of San Bernardino and A. E. Bottel of Riverside were the commissioners who met with R. S. Woglum, entomologist of the California Fruit Growers Exchange, and Inspector K. L. Wolff of Los Angeles.

Some $2,000,000 is annually expended by citrus growers in Southern California in the poison gas warfare against scale pests of orchard trees. During the height of the season, which begins in the fall after the young scale have hatched out, an army of nearly a thousand men is employed by commercial fumigating contractors and growers' associations throughout the southland, covering orchard trees with canvas and applying the charges of deadly hydrocyanic acid gas.

During the winter season of 1921-22 over 28,000 acres of citrus trees were fumigated in Los Angeles County alone, and over $800,000 was paid out by growers for this work. Orange County estimates her expense at $500,000 per year.

Practically all of the work is done at night when the city dwellers are usually far away, but during the winter months on dry nights the automobilist driving through the citrus districts is sure to see the long rows of tented trees in the orchards, and wonder at them.

It is possible that less fumigation will be carried on this coming season than last year because of the frost injury to orchards in some districts. Fumigation is expensive and the grower who failed to realize on a crop last year will be inclined to take a chance this year.

In spite of the fact that in many defoliated groves the scale is less abundant than last year because of the consequent exposure of the insects to the elements, it behooves the grower to beware of future troubles, and, if possible, do his fumigating just the same, for he may be sure that the new tender growth coming out so brightly on the injured trees will furnish such ideal and abundant food for the coming generation of scale, that a very low natural mortality will occur, and an unusually heavy infestation of scale will probably result.

The black scale, which is the variety of most common occurrence here, has the guinea pig, the Belgian hare and the pedigreed White Leghorn hen all standing at the foot of the class when it comes to multiplication. One adult scale will lay from 1000 to 2000 eggs and usually hatch them all. Fortunately for Mr. Citrus Grower, all but 10 per cent or so of these young bugs die before they reach maturity, but when conditions are right for them, a much larger percentage may live and then comes more trouble.

Several inspectors are kept busy all year checking up for the growers on orchard conditions and fumigation results, and others during the fumigating season make nightly trips through the orchard districts keeping watch on the fumigating crews to see that trees are properly covered and measured, and that a high standard of workmanship is maintained.

Requirements and recommendations adopted for the coming season are as follows:

### Requirements

1. All fumigating tents shall be marked in accordance with the Morrill system.
2. The foreman of each fumigating

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crew shall be equipped with a thermometer properly tested within the range of 28 degrees to 100 degrees Fahrenheit.

3. All equipment used by fumigators shall be kept in good repair when in use.

4. No pump for liquid gas applications shall be operated having more than three per cent variation from correct measurement.

5. Each tent shall be placed so that one line of numerals runs over center of top of tree.

6. Tents shall be kicked in to hang perpendicularly from outer limbs of tree to ground, and shall touch the ground on all sides.

7. Work must not be carried on when wind is strong enough to cause any appreciable movement of tent walls.

8. Each tree requiring more than a four unit charge shall be taped and correct dosage as called for upon chart given.

9. Trees shall be given not less than 45 minutes exposure regardless of dosage, and work of tent pullers shall be regulated accordingly.

10. Trees shall not be fumigated with pots or cyanofumer when temperature is below 37 degrees Fahrenheit.

11. Trees shall not be fumigated with liquid gas when temperature is below 50 degrees Fahrenheit.

12. Work shall be discontinued when tents begin to become damp.

13. Deviation except by the grower's consent from any of the foregoing requirements will be considered sufficient ground for the revocation of crew foreman's license or contractor's license and certificate to operate.

14. Each fumigator shall submit on the first of each month a report to the county horticultural commissioner showing for each piece of work performed during the previous month: Date, grower's name, location of orchard, number of orange or lemon trees, kind of material used and strength.

15. Fumigator shall keep on file and furnish upon request of horticultural commissioner statement of material used on any piece of work.

16. A chart of each orchard shall be made and kept on file for one year, showing the dosage given each tree and the temperature and time at the bginning of each set. A copy of this chart shall be furnished the grower or county horticultural commissioner upon request.

17. Carelessness in application of materials or other evidence of abuse of privilege to do business under license or certificate shall at all times constitute grounds for revocation of same.

**Recommendations**

1. A written contract between grower and fumigator is recommended. Any deviation from the above requirements authorized by the grower should be mentioned therein.

2. There is considerable danger of tree injury at high temperatures. The danger point is reached in coastal districts, near 75 degrees to 80 degrees, and in interior districts, near 80 degrees to 85 degrees.

3. Daylight fumigation is not recommended at any time except as generally practiced, beginning late in afternoon under most favorable cloudy conditions.

4. Care should be taken not to allow containers of liquid gas to become heated. Keep them in a shady place and keep covered with wet sacks.

5. Leakage from liquid gas containers is extremely harmful to tree roots and care should be taken to keep containers far enough from trees to insure safety.

6. Residue from pots or cyanofumer should be dumped far enough from trees to prevent damage.

7. Operators must bear in mind that many people are not aware of the dangerous properties of the materials used in fumigation and every possible precaution should be taken to guard against accidents. Containers of cyanide or acid in any form should be locked or covered in such a way that the contents cannot be released by children or irresponsible persons.

8. The U. S. bureau of standards, Washington, D. C., and the department of meteorology of the Los Angeles chamber of commerce, 800 Central Bldg., are properly equipped to test thermometers. The seal and certificate of either of these offices will be accepted. A nominal fee is charged for this service.

9. All tents should be numbered serially on at least two sides with black numerals not less than four inches in height.

## NURSERYMEN MAKE PROGRESS IN BUD SELECTION

In his annual report of the activities of the Nurserymen's Bud Selection Association Manager Weeks states that much help is being given by orcharists and others interested in the fruit industry of the state, and that he is well organized to follow up the third season's record taking on California's leading orchards. A membership consisting of more than a dozen of California's leading nurserymen, used three and one-half million buds last summer, which were taken from bearing parent trees which had been selected after two seasons' observation.

F. W. Anderson, promologist for the association, has artificially pollenized some 10 fruits of the leading commercial varieties, the seed of which will be planted by the association and carried on and brought into bearing in an endeavor to find varieties more satisfactory than some of those being used at present.

Frank Dixon appointed by the Canners' League of California to locate desirable strains of canning fruits, reports that much may be expected of consistent and diligent effort to improve the quality of fruits used by the canneries.

William T. Kirkman, Jr., of Fresno, has been reelected president of the Nurserymen's Bud Selection Association; J. E. Bergtholdt, vice president; Max J. Crow, secretary-treasurer; Charles B. Weeks, field manager. The board of directors for the coming year will consist of J. S. Armstrong, Ontario; J. E. Bergtholdt, Newcastle; Max J. Crow, Gilroy; J. H. Elmer, San Jose; H. A. Hyde, Watsonville; W. T. Kirkman, Jr., Fresno; Ruehl Wheeler, San Jose.

California's vegetable crop in 1921 exceeded in value any of her fruit crops with the exception of oranges and grapes. California ranks foremost among the states in acreage, production and value of vegetables other than potatoes or sweet potatoes.

## OLIVE GROWERS SHOULD HAVE AN ORGANIZATION

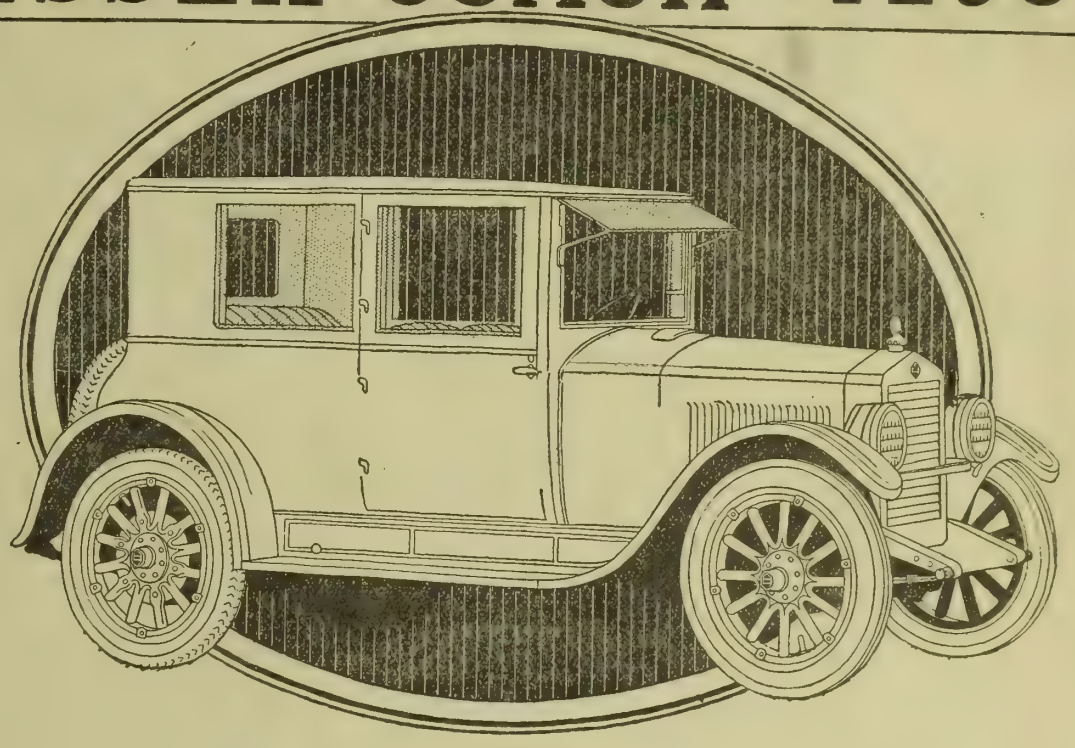
The Kern County Farmers Weekly says: "Prosperity for the olive growers is as certain as the prosperity that is now being enjoyed by the peach and raisin growers, but dependent entirely on organization. Unless the olive growers organize they can never hope to secure even a fair price for their crops. The peach and raisin growers did not gain a living price for their product until they banded together. Follow in the path of progress and prosperity which has been so clearly defined by the peach and raisin growers."

Offices of the California Olive Growers are opened at 1321 J Street, Fresno.

Oil globules are the best ball bearings. Lubrication lengthens the life of farm machinery more than any other single thing.

"The sluggard will not plow by reason of the cold; therefore shall he beg in harvest, and have nothing."—Prov. XX-4.


# ESSEX COACH $1295



## All Year Comfort and Dependable Service

With all the noted qualities of the Essex chassis, the Coach combines closed car utility, comfort and distinction, at an unrivalled price.

Note how little more it costs than the open car. That is made possible by great production. More Essex Coaches are now built than any other fine closed car.

You must see, examine and drive it to realize what is offered at this price.

### Built to Endure Hard Service

The type of body construction is the newest. It gives a durable, comfortable type, of appealing distinction. But, perhaps more important, is the far quieter car that results. The Essex Coach construction absorbs and annulls practically all "drumming" noises of the closed compartment.

And the Coach is a product that will endure in good, useful service for years. Come see, and drive it before you buy any car.

### What Owners Say The Real Proof

There is a simple way to get the real truth about any car. Why buy blindly?

You have the all-important advantage of being able to ask owners. Make use of it. Find out how any car you think of buying has served others. What mileage does it give on gasoline and tires? What are upkeep costs? Is the second or third 10,000 miles just as satisfactory as the first? What is the future expectancy of good service after twenty or thirty thousand miles?

Just ask owners of the Coach how solid and quiet and free from rattles the body stays. How comfortable and easy it rides and handles. The satisfaction of owners is the best proof of all. We want you to know what Coach owners think because we believe their enthusiasm will win you, too.

Touring, $1095 Cabriolet, $1195 Coach, $1295 Freight and Tax Extra

ESSEX MOTORS, DETROIT, MICHIGAN

# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Gum, Mildew and Gophers

What is the best remedy for gum that is discharging from limbs and trunks of young prune trees? What spray would you advise for mildew on roses? What is the best poison for gophers?—Subscriber, Cupertino.

Prunes and plums "gum" more than any other deciduous fruit trees, sometimes with but slight provocation. Of course it indicates trouble. When discharge is general, as in this case, it is probably from rot. It may be bacteriosis. The former is fungous, the latter bacterial, but effective treatment is largely the same. The best time for treatment is just at time blossoms are opening and a second dose when blossoms are well opened. But sprays are good at all times. Cut out worst affected limbs, if possible, and spray with a strong Bordeaux, seven and a half pounds copper sulphate and eight pounds lime to 50 gallons water. As stated, the best time to apply is in spring. Sulphur is still the best remedy for mildew, either dry or in a liquid form, the latter a commercial mixture. The best gopher poison is made as follows: Sweet potatoes, parsnips, or carrots, eight quarts; flour paste, half pint; strychnine alkaloid, powdered, one-fourth ounce; saccharine, one-sixteenth ounce. Chop vegetables into one-half inch cubes; make thin flour paste by boiling few minutes; stir strychnine and saccharine into paste and pour all over vegetables, stirring latter until all are coated.

THE WORLD'S BEST KNOWN TREAD

The average motorist today, in almost any country, can identify the Goodyear All-Weather Tread at a glance.

But not every man who recognizes this famous tread realizes how scientifically it is designed to its work.

Examine the All-Weather Tread and you will see that it is made up of large blocks which overlap circumferentially, presenting a continuous ground contact, which lessens vibration and strain.

Being sharp-edged and keen, these blocks have no tendency to slide over slippery surfaces; on the contrary they cut deep and grip tight.

In snow and mud, in climbing out of car tracks, in starting and stopping, the All-Weather Tread digs in and clings, giving positive traction on almost every surface.

The diamond-shaped blocks always present a right angle to the direction of side-slip; against skidding they hold firm and true.

If you have the All-Weather Tread under you, you can motor in confidence, and with pronounced economy as well.

It is one of the important reasons why more people ride on Goodyear Tires than on any other kind.

GOODYEAR

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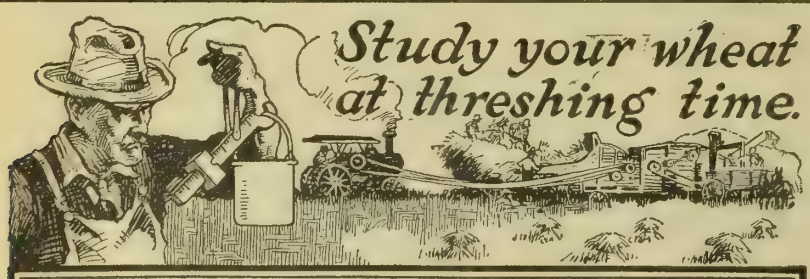

*Study your wheat at threshing time.*

OF course, you are very busy then but it will pay you to take time to find out not only the yield but the real quality.

Is the weight per struck bushel up to the standard ?

Does it grade high enough to bring the top price in your market ?

Is the weed seed box free from light chaffy wheat grains ?

Has the clover and grass made a good set in the stubble ?

If not, why not ?

Six years of Potash starvation has had its effect on wheat lands. Enough German Potash has now come forward, so that those who wish can buy wheat fertilizer with 4 to 6 per cent. of Potash. Potash prices are now much lower.

Tell your dealer now what you want and insist on having it.

*Potash Pays*

SOIL AND CROP SERVICE, POTASH SYNDICATE, H. A. HUSTON, Mgr.
42 Broadway New York


### Many Garden Troubles

What can one do now for wooly aphis? I sprayed with lime-sulphur when dormant and twice later with "black-leaf 40" but some aphis remains. Some apples have pink spots on them. How can I get rid of wire worms? What shall I do for nematodes in blackberries? What ails my asparagus? The plants bush out and go to seed, stand is very thin, should it be replanted?—Subscriber, Bellflower.

The only thing one can do now is to keep wooly aphis from coming out of the soil. Make a basin close about the tree and fill with the old fashioned kerosene emulsion. When trees are dormant spray carefully, especially at ends of twigs, with any miscible oil spray; that will penetrate cracks and crevices where lime-sulphur will not. Pink spots on apples are due to San Jose scale. Lime-sulphur—one to ten—will eradicate them, but treatment for all these sprays may be found in the "Pest Number" of the Cultivator, September 24, 1921. If you have not kept one, we will send it on request. Nothing can be done for control of nematodes except to plant crops they do not feed upon. You do not state age of asparagus bed; if old, it would be better replanted, but asparagus is a gross feeder and soil should be rich with stable manure. Thin asparagus usually indicates starvation.

### Strawberries for Imperial

What varieties of strawberries are best for Imperial Valley? Would plants propagated there be as good as those from outside? It is my idea that it would be best to secure plants from a higher altitude and cooler climate?—Subscriber, Nuevo.

The varieties most grown in the south end of state are Banner, Brandywine, Carolina and Klondike. One large grower in the hottest section about Los Angeles grows Klondike and Banner. We would do just the contrary to your proposal as regards plant supply. Procure plants from the hottest, driest locality possible. If none are available in Imperial Valley we would suggest that stock grown in Salt River Valley, Arizona, shoud be better than stock from coastal districts.

### Drying Pears

Can Bartlett pears be successfully dried in sun? Should they first be sulphured same as apricots?—Subscriber, Simi.

Answer to both questions—Yes. While sulphuring is not necessary, the color, flavor, and keeping qualities of fruits are better when sulphured.

### Coleus

My coleus plants do not leaf out on one side on some plants, on others the leaf seems to unjoint from the stem. Do coleus need water every day or should they be kept dry?—Subscriber, Selma.

We cannot think of any cause for the coleus trouble unless the plants are infested with mealy bugs, as nearly all coleus are. The insects could cause the trouble. Coleus require shade and moist soil, never dry, but should not need water every day. A light, free soil is best, whether plants are in pot or garden.

### Slugs on Trees

Can you give me a remedy for slugs on cherry trees? Will they finally destroy the trees?—Subscriber, Lodi.

Slugs cannot destroy trees except by eating all the leaves, then the trees would starve. A spray of Bordeaux mixture is effective, either in dust or liquid form, especially if the blue vitriol content is strong. Some place poisoned lettuce at foot of trees, and this has been found very effective in gardens. It is used in the proportion of one pound calcium arsenate to 16 pounds chopped lettuce. Cabbage, kale, alfalfa or clover may be used if lettuce is not available.

### Moles?

Moles are very bad in my garden. I have tried to poison them, but they will take no poison. Have tried trapping, with no success. They have eaten jujube seed and all my beans and peas.—Subscriber, Burbank.

Moles do not eat vegetation, but live on insects. They may occasionally eat off a plant that lies in their way, but will avoid it if possible. Neither are moles ever numerous. It may be that field mice or other small animals use the mole runs and eat the seeds and plants; the moles do not. If you are sure moles are present, trapping is the only way to get rid of them, and the "scissors" type of trap is better than the "harpoon" type. The plants eaten would indicate presence of mice or else you have gophers instead of moles.

### Wire Worms

I planted melilotus in fall and plowed under in June, then planted Lima beans, but had to replant later and got a good crop. Since then wire worms are so bad I can raise no crop of any kind. Would plowing cover crop earlier or at any other season tend to prevent wire worms? Does melilotus encourage wire worms?—Subscriber, Huntington Beach.

Plowing in January or February will kill many of the wire worms, the earlier in the year the better the effect. Nothing about melilotus has a peculiar attraction for wire worms. Ventura County Lima bean sections have succeeded in raising beans on lands so seriously infested with wire worms that seed has been destroyed before plant became established. Their procedure has been to use pieces of potatoes buried in the soil near to the seed just planted. The field is inspected daily, a man going rapidly from bait to bait, which has been marked with stake and bright colored marker. The bait is carefully lifted from its hiding place in the soil and is often found to be covered with many of the wire worms. Shake the worms from the bait into a bucket containing small quality of oil. The bait is replaced in the soil, the inspector passes to the next, and so on. One grower says two sacks to the acre of agricultural lime will clear soil of wire worms.

### Red Spider

Enclosed find leaves of Kelsey Japan plum tree three years old. Can you tell me why leaves have fallen and the remedy? A week before leaves began to fall the tree was freely dusted with dry sulphur.—Subscriber, Fresno.

Under the microscope leaves show heavy deposit of red spider eggs along edges; no insects found. The leaves also show excoriations by insects, and doubtless they have also worked

aobut stem of leaves, on twigs. The sulphur dust applied a week before leaves fell would not remedy injury done weeks before. Now that eggs are laid the insects are doubtless dead and gone and no present remedy is necessary. An article on spider appeared in issue of July 1.

### Bermuda Grass

Enclosed is a specimen of grass growing in alfalfa field. Please give name and let me know if it wouldn't be advisable to use it for a lawn on a ranch where one has no time to run a lawn mower. Where can I get the seed?—Subscriber, Oakland.

This is Bermuda grass, a serious pest in many sections and with many crops. It is extensively used as a lawn grass in the Southern states but is not welcomed in California. We do not know of a seedsman who carries the seeds and if you have it and desire to make a lawn, you may save your own seeds or sow the chopped up roots and keep well watered for ten days; you will get all the stock of it you wish very quickly. It is injured but not killed by hard frosts and makes the toughest and most serviceable of lawns but is by all considered a serious pest.

### Sweet Potatoes

Where can I get the Porto Rico sweet potato and who grows them in California? How does it compare with the Nancy Hall?—Subscriber, Baldwin Park.

We find the Porto Rico listed in the catalogs of firms advertising in the Cultivator. It is not such a favorite in your section as Nancy Hall or Yellow Jersey. The first is the earlier but the Jersey is the better keeper.

### Cucumber and Cabbage Pests

A yellowish green bug with black spots is eating on the cucumbers, melons, beans and tomatoes, eating holes in the leaves. What is it and what shall I do to kill it? Green worms are eating the cabbages just as they are heading; please prescribe.—Subscriber, Chowchilla.

The bugs are diabrotica, or cucumber beetle, having 12 black spots. Relief must be prompt and thorough, so we have answered at once by mail. Two sprays have been found effective, use either. Mix six to ten pounds of arsenate of lead to 100 galons of water, or add six pounds of arsenate of lead to 100 gallons of Bordeaux mixture. The same sprays will do for cabbage worms when plants are young but not after heads are half grown. Spraying with white hellebore is safest and kills the worms without endangering the consumer. It may be used dry, as purchased, or mixed with two or three times its weight or bulk with lime, flour, or any fine powdery material. If used as spray soak one ounce in a quart of boiling water and when ready to use add a quart of cold water.

### Vine Disease

I have a disease in my vineyard. Last year the leaves all turned red and fell off before the grapes were ripe. The grapes ripened but were sour. Can you tell me what to do for them? So far this year I have found one or two vines with it, starting to turn red in the little veins of the leaves.—Subscriber, Hopland.

From the specimens of leaves and symptoms described it appears that your vines are suffering from Spanish measles, red leaf, or California vine disease, all names for a trouble which is quite prevalent in all grape districts and regarding which there is little if any information available. The United States department of agriculture is establishing a laboratory in Fresno for the study of this and other plant diseases. It is probable that it will take several years to determine the cause and remedy. In the meantime use the best methods of cultivation and care in your vineyard.—F. K. H.

### Walnut Tree Diseased

We have a grove of Placentia walnuts, all looking healthy but one. Its leaves, instead of maturing like the others, seem to be at a standstill and the nuts are less than half the size on the other trees. We thought perhaps you might be able to suggest something to do.—A Subscriber.

The symptoms you have described are similar to those in a number of walnut troubles. One of the most common is the walnut foot rot. This is characterized by a decay in the roots. It is first apparent in the top with the leaves coming out small in the spring or, if it shows up later in the season, with sudden wilting of the leaves. It used to be called "heart failure" of walnuts because it produced a sudden death of the tree. The reason why the tops respond in this way is because the circulation is cut off between the roots and the top by the decaying of the bark in the roots. Usually the disease is beyond treatment when it becomes so severe that the top is affected, but if it is found before it has progressed far into the roots it can be stopped and the tree saved by cutting out the bark back to healthy tissues. It usually occurs where the soil has been kept damp around the trunk and where the soil is above the graft union. This disease occurs most commonly on Southern California black walnut stock. It is not found on the Northern California stock nor on the English walnut stock. There are other diseases, however, which can cause a similar effect on the top. If the tree is entirely girdled by crown gall the circulation also becomes cut off and the top starved. Crown gall should be cut out before it has progressed sufficiently to effect girdling. Too much water and also drouth will cause a similar condition.—V. F. B.

### Tokays and Emperors in Imperial

Answering query as to Tokay and Emperor grapes in Imperial Valley:

We believe it has been the experience of grape growers in the Imperial Valley that the Emperor grape does not color as well as it does in other districts. This would probably hold true with the Tokay grape, although the writer does not know of this variety having been planted experimentally in the valley. It is possible that other methods of culture may be de-


# A Tough Battery for Rough Trips

Long, hard runs—rough roads—extremes of hot and cold. That's the everyday life of the battery, and the reason why the lowest cost battery to have is the *toughest*, most *powerful* and *durable* battery you can buy.

Hundreds of thousands of owners have found this to be the Willard Threaded Rubber Battery. They find the best possible assurance of long battery life and low battery cost in the *tough* Threaded Rubber Insulation between the *tough* Willard plates.

**All the dealers listed below give the Willard Standard of Service on all makes of batteries:**

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**Livermore**...Auto Elect. Serv. Co.
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C. D. Wilson
**Long Beach**.....A. C. Walker
**Los Banos**.....Los Banos Tire & Batt. Co.
**Los Gatos**.....Gem City Serv. Sta.
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**Monrovia**.....Emil Lindstand
**Monterey**.....Monterey Batt. & Vulc. Co.
**Mountain View**...Small's Garage & Machine Shop
**Napa**.....Fred J. Hildebrand
**Newman**, West Side Batt. & Ign Co.
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**Oakland**.....Auto Elect. Serv. Co. (2 stations)
Brask Bros. & Bowers, Inc.
Downtown Battery & Elec. Co.
**Ontario**.....R. J. Tobey
**Orange**, Orange Co. Ign. Wks., Inc.
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**San Jose**.....Electric Batt. Sta.
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**San Pedro**.....Lefler & Clark
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**Santa Barbara**.....Lukeman Bros.
**Santa Cruz**...Santa Cruz Batt. Co.
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**Whittier**, Whittier Auto Elect. Wks.
**Willows**...Dean's Batt. & Elect. Co.
**Woodland**.....Woodland Batt. & Ign. Co.
**Yreka**.....The Elect. Supp. Co.

NEVADA

**Carson City**....Carson Elect. Shop
**Elko**.....Harris Elect. Serv. Co.
**Reno**.....Brown & Milberry
**Tonopah**, Tonopah Elect. & Tire Co.
**Winnemucca**...Winnemucca Batt. & Tire Co.

**WILLARD STORAGE BATTERY COMPANY, Cleveland, Ohio**

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Willard THREADED RUBBER BATTERY

vised which would promote better coloring of grapes, but at the present time we do not know of any such methods.—F. K. H.

### Suckering Corn

How often should sweet corn be suckered and how high up the stalk should suckers be broken off without danger of breaking out coming ears?

One suckering is enough if done at the proper time. The proper time is just as the tassels begin to show. The suckers to remove are the ones that come from the ground or those coming from the first joints above the roots. The corn should be hilled enough to cover any roots that show. —D. F. R.

### Orange Budwood

I would like to get from 200 to 300 orange budwood. Can you direct me to some party where I can obtain them? They must come from good bearing trees.—Subscriber, Newman.

The Fruit Growers Supply Co., Consolidated Realty Building, Los Angeles, has a bud selection department furnishing citrus budwood from record bearing trees of all the commercial varieties. This company is a subsidiary of the California Fruit Growers Exchange and the purpose of the bud selection department is to assist citrus growers in obtaining more uniform types of fruit and larger yields.

### Budding Back to Peach

I have some 200 eight year old apricot trees that are budded on peach root. They are not producing as they ought to. Would like to know if it would be good policy to bud them to peach again? Could I bud them this coming August, or should I wait until spring and graft them?—Subscriber,

The question of whether or not it would be advisable for you to bud 200 apricot trees that are now growing on peach roots to peaches is a difficult one to answer. Under some conditions such budding might be entirely successful, for instance, if you could in some manner encourage the growth of suckers from the peach roots and bud those suckers while they are yet young, gradually removing apricot tops, it is probable that some time in crop production could be saved, however, there is an element of risk and it is doubtful whether you would be able to get a uniform orchard by this method. We would suggest that before you attempt this or before you decide to remove the apricots it would be a good plan to try different methods of cultivation or pruning which would tend to promote fruitfulness. It may be that you have pruned too severely or perhaps the variety of cots you are growing are not good self-pollinators, and that the grafting or budding of an occasional limb to another variety would solve your problem. If this will not remedy your condition then we believe it would be more profitable for you to remove the trees and start again with new trees. Be sure, of course, that the new trees are free from disease and have a record back of them which would eliminate the possibility of poor bearing qualities.—F. K. H.

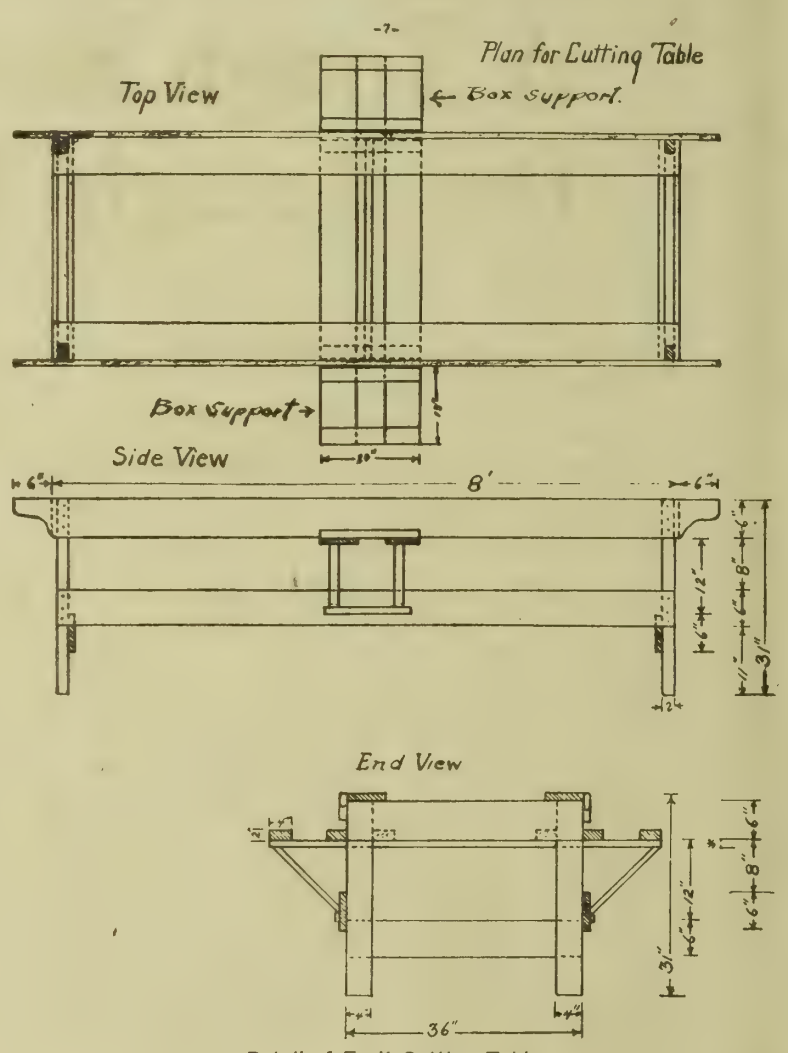
### Rabbits Have Sore Feet

One of my rabbits developed sores on each of its front toes, small abscesses. Also had milky discharge from eyes at same time. It died. Another is now affected in the same way, young of the one that died. The old one was 2 years old, the young one 1 year.

The sores on feet are from bruises on feet affected by dampness and dirt. These should be treated as boils. Can paint them with glycerine and iodine half and half, putting animal in dry hutch on straw. After sores have begun to dry up and heal use any good salve, wiping off any excess so animal will not lick too much of it. You will notice that it is hereditary, so would suggest getting rid of that stock. Many unbred and those bred from infected stock are often thus afflicted. Keep none but strong healthy stock.—W. D. W.

# Plans for Practical Cutting Table

By L. C. Barnard, Division of Pomology University of California




Detail of Fruit Cutting Table

This cutting table was designed and built by the writer in the University's experimental dry yard at Davis and has proven to be very practical. The first table was made from scrap 1x6 inch material, which had been used as forms for a concrte sulphur house, and took only the short space of an hour to build.

The cutting table shown on the drawing will handle one 3x8 ft. tray, one 3x7 ft. tray, one 3x6 ft. tray, two 3x6 ft. trays, two 3x4 ft. trays, three 3x3 ft. trays, or four 2x3 ft. trays, and can therefore be adapted to any size of tray the grower may have on hand. As can be seen in the photograph, four cutters can be conveniently placed around the cutting table, or it makes an ideal table for family groups of six if necessary.

The table can be made of any scrap material on hand, however 1x6 inch material makes a very substantial cutting table. As indicated in the photograph and drawings, the top is not solid, thereby eliminating unnecessary use of lumber and excess weight. In fact, the table is merely a frame built to accommodate any and all sizes of trays.

Following are the dimensions and a photograph of the table.

### FIG PROSPECTS

By I. J. Condit, Horticulturist, California Peach and Fig Growers

The crop prospects for figs are good in some sections while in others the trees have been somewhat injured by last year's frost. There are four varieties of figs grown commercially in California, namely: the Adriatic, the Calimyrna, the Mission, and the Kadota. The White Adriatic is the leader as far as tonnage is concerned. The Adriatic border trees and orchards have been more seriously affected by extreme conditions last season than orchards of other varieties. In most cases, however, the new growth is appearing more vigorously than was at first expected and the crop will probably not be reduced greatly. This frost damage has been noted throughout the Sacramento and San Joaquin Valleys and undoubtedly is the result of conditions which have been coming on for several seasons.

The Calimyrna trees are in most cases in excellent condition and the large crop of caprifigs has made it possible for growers to meet the caprification in most districts. The Mission fig trees have suffered somewhat from frost in certain sections, and the first crop in many cases is very much reduced or almost negligible. The main crop, however, will probably be as large as ever.

Kadota figs have been planted during the past two or three years in widely separated sections such as Fresno, Planada, Empire-Waterford section of Stanislaus County, Stockton and Orland. Most of these developments are too new to show what success can be obtained with the Kadota figs as a commercial crop. The prospects are, however, that the Kadota will stand unusual weather conditions better than the other varieties.

The crop of caprifigs in the Fresno section has been exceptionally good, although the supply has been none too great. The season is about 10 days later than last year but this will delay the ripening of the crop in August only a few days. The association has planted 50 acres of caprifigs in East Orosi, which is expected to assist growers to get a bountiful supply of figs at a reasonable price.

First crop Mission and Kadota figs are ripening rapidly on account of the warm weather in the San Joaquin Valley and these figs are appearing in increasing quantities on local markets. The picking gangs organized by the association will be put in the Kadota orchards to pick the first crop for canning. The second crop Kadota figs will ripen beginning the last of July and continue during August and September.

The dried figs in bulk will be put in standard boxes and cartons for distribution at all grocery stores. The new product known as Fig Meat, is made from the best quality of dried figs. The fruit is carefully selected, washed and sterilized and then put through the grinding machine. The same product pressed into sweetmeats and wrapped in paper is being put out in wholesale lots for distribution in grocery and confectionery stores.

Cutting Apricots

Busy students at the branch of the College of Agriculture at Davis

No. 4 of a Series of Letters from Satisfied Users of

**Victory Tree Spray**

April 25th, 1922.

Victory Tree Spray Co.
Pomona, California.

Attention, Mr. Pinckney.

Gentlemen:—

In reply to your inquiry regarding the spraying you did for us last season, will say that Mr. J. Bolser, the Deputy Horticultural Commissioner for this district, has just finished inspecting my grove, and reported to me that the grove is very clean, and says that I got at least a 95% kill, without doing any noticeable damage to the tree.

Yours Truly,
ALBERT H. MORGAN,
(Copy) Secretary.

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PACKERS OF AIR LINE HONEY

# National Fruit Selling Agency

THE American Farm Bureau Federation announces that the Federated Fruit Growers, Inc., established at the recommendation of its Fruit Growers Marketing Committee of 21, has now completed arrangements for the establishment of a nation-wide sales and distribution service for its members. A contract has been signed with the North American Fruit Exchange whereby the force and effectiveness of the two organizations are brought together under the name of the Federated Fruit Growers, Inc., effective January 1, 1923.

The North American Fruit Exchange has been operating as a nation-wide, non-speculative sales agency for fruit and vegetable products since 1911 and is now being used by a large number of cooperative associations and is said to be the largest of all sales organizations serving the general fruit and vegetable industry. The arrangement is effected in order to give the Federated Fruit Growers' members the advantage of an experienced sales service immediately. Arthur R. Rule, vice-president and general manager of the North American Fruit Exchange, will become general manager of the Federated Fruit Growers, Inc., beginning January 1, 1923. Sufficient tonnage is already assured to make the new cooperative sales service a pronounced and continued success from a business point of view.

Commenting on the uniting of the North American Fruit Exchange and the Federated Fruit Growers, Inc., recently organized under the auspices of the American Farm Bureau Federation, J. R. Howard, president of the latter, made the following statement today: "I believe this to be one of the greatest accomplishments yet made in the development of cooperative marketing and in the elimination of waste between the producer and the consumer.

### Eager for Relief

"For a number of years past the sentiment of the farmers of the United States has been developing for relief from the ruinous competitive conditions between individual farmers, which subjected them to the manipulations of speculators, causing a reduction in the price to the growers of fruits and vegetables, without a relative reduction in the cost to the consumer.

"This has come to be so clearly recognized that acts of congress and of nearly all the states have been passed permitting the farmers to unite in cooperative marketing associations and President Harding in his address to the Agricultural Conference held in Washington last January emphatically urged the farmers to unite in such cooperative associations on the ground that the prosperity of the entire country depended upon their doing so.

### Farm Bureau Committee

"The American Farm Bureau Federation a year ago appointed a national fruit committee to make an exhaustive study of the marketing of fruits and vegetables. That committee about six weeks ago brought in its recommendations, as a result of which an organization was formed known as the Federated Fruit Growers, Inc. The latter at once set about the task of establishing an organization able successfully to serve the growers in all the complex problems of marketing, including the actual salesmanship in the markets, the work of sales managers at central distribution points, the economical routing of traffic, obtaining car supply, the organization of local, district or state cooperative associations, accounting, financing, etc.

### Cooperators Cooperate

"After a thorough examination of the field, the Federated Fruit Growers, Inc., decided rather than go through the dangerous and expensive early process of getting together from various sources men with thorough knowledge of and experience in the various departments of marketing, and moulding them into a cohesive capable functioning organization, it would be far better if they could acquire as a nucleus some one of the few national distributing companies now successfully operating. By a process of elimination they soon concluded that the North American Fruit Exchange was the only organization which met all the requirements.

"Negotiations were opened up by the Federated Fruit Growers, through its head, J. S. Edwards, and its attorney, Aaron Sapiro, specialist on cooperative marketing law, with Arthur R. Rule, vice-president and general manager of the North American Fruit Exchange, resulting in the plan to unite these two great cooperative forces."

Mr. Rule, who is a "dirt farmer" by birth and early training came originally from Kentucky. He has long been engaged in the marketing of perishables.

# Why the California Olive Growers

By A. M. Drew

POSSIBLY some olive grower may ask why another organization, and at first glance it may seem unnecessary as there are two organizations in existence at this time, viz: the California Olive Association, and Associated Olive Growers.

The California Olive Association is an organization of packers in the interest of packers, and so far as the history of the olive industry of California is concerned, the packer has usually looked out for himself. When the business was prosperous he paid a fair price for the product, but if it was a little slack he allowed the crop to rot on the trees.

The Associated Olive Growers, if we understood its purpose, was never intended to control the marketing of the product.

The California Olive Growers is an attempt to form an organization, the chief purpose of which is to engage in marketing the olive crop, and incidentally, to do everything necessary to carry the marketing to a successful result. If standardization of a product is necessary to successfully market the crop, then to standardize; if advertising is necessary to marketing, then to advertise; to process the fruit according to the very best methods and to see that every other packing house does the same; in fact, to do anything and everything necessary to make a success of the olive industry. Hitherto, every packer has been trying to produce a more desirable product than any other packer, with the result that the best product has been selling in competition with the poorer product from every other house. Each was cutting the other's financial throat at the expense of the grower.

Hitherto the grower has been led to believe that only the packer could cure and pack olives and that his business was simply to keep at work growing olives and turning them in to the packer, taking what he, the packer, might see fit to give him.

There is no more nutritive and palatable food product than the California ripe olive, the oldest known to man, the most desirable from infant childhood to old age where known, a combination of bread and meat upon which mankind will live, labor and thrive longer and better than on any other product known.

Under the present methods of marketing established by the packers, the olive is made a luxury. None but the rich can afford them. The processed queen olive retails at $2.50 to $3 per gallon. There are on an average 200 of these olives in a gallon. They are sold at 25 cents for six olives on the tables of our high priced hotels, restaurants and dining cars, or $16.50 per gallon, with the result that few eat olives, and few olives are eaten. The cheaper grade are from $1 to $2 per gallon, and these prices are prohibitive to many.

Under the present improved methods of conservation, processing and canning, an excellent grade of olives should retail at not to exceed 25 cents per quart. At that price they will compete with meat, butter and eggs, and will much reduce the cost of living. This is the object and purpose of California Olive Growers, viz: to increase the grade and quantity and to lower the price to the consumer and to maintain a fair remuneration to the grower for his investment and labor.

The plan of operation, no doubt, will be to do as the raisin and peach growers have done—that is to build packing houses where needed, to provide money to the grower to harvest his crop and to see that he gets a fair living price for what he produces. To this end, every olive grower in the state is invited to join with us to help make this great industry a success. We have nearly 40,000 acres of producing olive trees in the state. We have a market beyond compare and capable of doubling, trebling and quadrupling. Shall we throw it away, or shall we make it what it deserves to be?

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Two years investigations of methods of holding avocados in storage have been completed by members of the staff of the state college of agriculture. It is determined that the fruits are kept in best condition at a temperature of 40 degrees Fahrenheit. Lower temperature tends to brown and wilt.

### IRRIGATION INCREASES WALNUT CROP

In 1919 one out of every eight California farms grew walnuts and the trees which were irrigated produced over 11½ per cent more per acre than the unirrigated trees, according to the University of California college of agriculture. The great value of supplying irrigation water, especially in years when the rainy season is late, has been thoroughly demonstrated in tests carried on by the state college of agriculture in cooperation with the Walnut Growers' Association.

A new correspondence course on walnut culture given by the college of agriculture includes a lesson on irrigation of walnuts. A detailed description of the course may be found in Circular 113 which can be obtained on request from University of California College of Agriculture, Berkeley, California.

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### TELEGRAPH AND RADIO SERVE THE FARMER

Greater use of the telegraph in collecting and disseminating international crop reports has been decided upon by the International Institute of Agriculture at Rome. The reports will be broadcast by radio by the United States department of agriculture as rapidly as received, thus making the information quickly available to American farmers.

---

Half of the standing merchantable timber remaining in the United States today is to be found in the three states of California, Oregon and Washington.


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We will ship you, immediately on receipt of order, any standard Remco tank of the dimensions or capacities shown below at the prices here listed:

**WATER AND OIL TANKS**
**Made from 2-inch Clear Air-Dried Redwood**

| Capacity | | Outside Dimensions | | | | Shipping Wt. Lbs. | Price |
|---|---|---|---|---|---|---|---|
| Gals. | Bbls. 42 Gals. | Diameter ft. | Diameter in. | Height ft. | Height in. | | |
| 500 | 12 | 5 | 5 | 3 | 11 | 440 | $24.00 |
| 750 | 18 | 5 | 9 | 4 | 11 | 580 | 30.75 |
| 1,000 | 24 | 6 | 6 | 4 | 11 | 655 | 35.25 |
| 1,500 | 36 | 7 | 1 | 5 | 11 | 830 | 45.00 |
| 2,000 | 48 | 8 | 1½ | 5 | 11 | 975 | 52.50 |
| 2,500 | 60 | 8 | 4 | 6 | 11 | 1,145 | 60.75 |
| 3,000 | 71 | 9 | 1½ | 6 | 11 | 1,270 | 69.00 |
| 3,000 | 71 | 8 | 5 | 7 | 11 | 1,290 | 69.00 |
| 4,000 | 95 | 9 | 10½ | 7 | 11 | 1,555 | 87.00 |
| 4,000 | 95 | 9 | 2½ | 8 | 11 | 1,580 | 87.00 |
| 5,000 | 119 | 10 | 11 | 7 | 11 | 1,745 | 98.25 |
| 5,000 | 119 | 10 | 3½ | 8 | 11 | 1,790 | 98.25 |
| 6.000 | 143 | 11 | 4 | 8 | 11 | 2,010 | 111.00 |
| 7,000 | 166 | 12 | 1½ | 8 | 11 | 2,160 | 118.50 |
| 8,000 | 190 | 12 | 3 | 9 | 11 | 2,375 | 130.50 |
| 10,000 | 238 | 13 | 7½ | 9 | 11 | 2,770 | 150.00 |

We will allow 5 per cent discount for cash with order or 2 per cent discount for cash in 10 days from invoice date.

All prices are for tanks complete, ready to erect, K. D., F. O. B. Pittsburg, Cal. The above tanks are standard sizes. We design and manufacture tanks of all sizes up to 650,000 gallons capacity and tanks of special shapes to meet all requirements.

Complete instructions for erection accompany each tank. If erected according to these instructions, we will guarantee a water-tight tank. Made from clear, air-dried redwood, banded with round steel hoops fitted with upset threads.

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We supply tank towers ready to erect at low prices, or will give you tower plans with your tank.

We will make quick deliveries of Remco Pipe for your water supply or irrigation work.

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# Household Department

### IN CALIFORNIA

There's a state that's called out West—
California,
It is different from the rest, California;
Where they greet you with a smile
Make you feel that life's worth while
And there's beauty in each mile, in California

Where all nature seems in tune, in California,
In December as in June, in California;
While the peaks are white with snow
Rarest plants and flowers grow
In the valleys down below, in California

Where the sun shines every day, in California,
Though some mornings may be gray, in California;
But by noon it's warm and bright
And it's always cool at night
Where one sleeps and rests just right, in California.

Where it never rains at all, in California,
From the Spring until the Fall, in California;
Even then they sometimes pray
Before they get a rainy day
But "that's unusual" they say, in California

Where the crops are mighty fine, in California,
Fresh fruits bearing all the time, in California
Oranges, lemons, tangerines
Figs and dates and nectarines
And they always have fresh greens, in California.

They are coming out in droves, to California,
Building homes amongst the groves, in California;
And from census tabulation
There's no state in all the nation
Which increased in population, like California.

You may ask them why they came, to California,
They will all tell you the same, in California;
It's so much like Paradise
Heaven won't be a surprise
To one who finally dies, in California.

And they say that those who died, in California,
Were so thoroughly satisfied, in California;
Though on Golden harps they play
If they only had their say
They would come back right away, to California.

—J. A. Birmingham, Traveling Passenger Agent Pacific Electric Railway.

### STAREYES AND THE SKY BLUE KEY

**By Clara Peterson**

ONE morning the fairy Stareyes got up so early that breakfast wasn't ready so she put on her yellow feather cape and went for a fly through the sweet summer air.

Not far away was a little grey cottage with two windows that had been carefully mended and long long grass in the small front yard. Once the house had been painted white and the green blinds had glistened in the sunlight, but Stareyes didn't know that the house had ever been different. She liked it because there was a cherry tree close beside the back door and if she danced hard enough on one of the topmost tiny limbs all the red cherries on the branch would dance with her, swinging gaily back and forth.

This morning she made the cherries dance for half a minute or so, until she was very tired. Then below in the grass she saw a four leaved clover with a beautiful drop of dew resting in its heart. It made Stareyes so very thirsty that she floated down and began to sip daintily.

Suddenly Stareyes heard little voices whispering behind her. She drew the yellow cape hood over her curls and got ready to fly but ten warm chubby fingers had closed tightly around her body and the small girl who owned the fingers was calling,

"Bobbins, I caught a canary! I caught it! I caught it!"

Bobbins was there beside his sister in a second. The children looked alike in their faded overalls. They were four and five years old and both had short brown hair and black eyes. Those eyes were very wide just now for Bab had really caught something and it couldn't help but be a canary for yellow feathers were sticking out every way between her gentle fingers.

When Stareyes dared to open her eyes she found herself inside the little grey cottage. Bab had very carefully slipped the tiny yellow thing into the old willow birdcage which hung before the kitchen window. The cage was swinging on its spring and when the children had gone scrambling out to look for birdseed, Stareyes opened the cape hood a bit wider and looked around rather dizzily.

Oh, such a soap-sudsy place! There was a table with a red cloth, and an old old couch. There were three scrubbed chairs, a big one and a middle sized one and a little one. On the white wall was an old black clock with a picture of a windmill painted on it, and in the corner under the clock was a bench holding two washtubs. A small grey haired old lady bent over one of the tubs, swishing something through the suds, and Stareyes could see that she was smiling.

"She must be glad because the children caught me," pouted the fairy, and that was just why the grandmother did smile.

"We can't buy milk to feed a kitten but the children can find enough outdoors to feed this birdie," grandmother was thinking happily.

Bab came running with a leaking handful of hemp and millet seeds, and Bobbins tagged behind with a precious bit of apple, but the yellow bird had flown to the very top of the cage and sat there quietly on the tiny perch, pretending to have her head tucked under her wing.

"The birdie is afraid," said grandmother kindly. "Come, I will give you your porridge now and perhaps this afternoon the bird will be more acquainted. No doubt sometime she will even peck at your fingers for that is the way birds kiss."

All that long morning Stareyes watched the children who were very thoughtful and didn't bother her at all. Sometimes they turned the wringer and Bab did the dishes, but almost all the time they looked across the room and admired the pretty yellow feathers high in the cage.

At noon Bobbins began to yawn.

"I wish I could hold our bird just a teenty weenty minute," he said softly. "I think it has blue eyes—I'm sure I saw them—just as blue as your box, grandmother."

Grandmother sighed and wiped her hands on the towel.

"It is time for your bread and butter, children, and then napping time. I must carry my clothes back to the merchant's wife. Come, Bobbins, come, Bab. While you eat you shall hear again the story of my box which was as blue as skies in May."

Stareyes loved stories. She lifted her head and listened. The children smacked their lips over the bread and butter but grandmother sitting in the largest chair, talked on and on sorrowfully and forgot to eat her slice.

The sky blue wooden box had been given to grandmother when she was young, by her father. It was filled with golden coins but they were not to be touched until she really needed them. Grandmother had been frugal all her days and gotten along nicely but then four years ago Bab and Bobbins had been left alone and grandmother had been glad to take them to her house

The children had been very tiny then and Bobbins needed medicine. Milk had cost a great deal and grandmother had had to spend so much time with the babies that no hours were left in which she could tend her garden and prepare for winter. So grandmother had a great many times thought gratefully of the sky blue box locked securely in the attic cupboard and at last one night when her final penny was gone she had brought down the box. When the babies had gone to sleep she opened it and in the lamp light peeped in at the coins which meant clothes for the children and school and a home for them all. Then she locked the sky blue box with its sky blue key and put it on the shelf beside the clock and went smiling to bed.

In the morning the box was gone. The robber had left great footprints outside the window and grandmother rushed here and there frantically searching.

Now it chanced that the robber hadn't gone far when he was stopped by the king's men because he was slinking along as though he had done something wrong. He at once threw the sky blue box upon the ground and ran. The sky blue key fell out but no one noticed it. The king's men took the box to their ruler who shook it and smiled and then sent his messengers around the city to tell the people that his men had found a sky blue box which had gold clinking inside of it. The messengers shouted this down every street and called loudly that whoever owned the box should go to the palace and get it.

Then how badly the ruler felt, for tall men and short ones, fat and lean came trooping to the palace and each and every one said that he was quite sure that the sky blue box belonged to him. The king was so very angry at this that he said only one person should have the box, and that was the one who brought him the key to open it.

(Continued next week)

### NEW SALADS AND DESSERTS

**Quick, Easy, and the Best Ever**

Here is a bunch of brand new recipes for salads and desserts that will start you to the kitchen forthwith. See if they don't! Your Cultivator comes on Saturday? Well, here is your Sunday dinner dessert and salad. Both may be prepared today and set aside in your cooler or ice chest all ready to be brought on the table, dainty, cool and appetizing. All may be made without ice; none need a hot oven; a taste of one is sure to make you try another.

**Variety Salad**

Dissolve one package of cherry or strawberry Jell-O in a pint of boiling water. Cut off the end of three sweet green peppers and slip into each pepper one hard boiled egg. Fill in around the egg with the Jell-O (cooled) and place on ice to harden. Cut in slices with a sharp knife. Serve on a lettuce leaf with a red cross cut from pimento placed on center, which will be the yolk of the egg.

**Delicious Salad**

Drain juice from one medium sized can of white cherries, add two tablespoons of vinegar, and enough water to make one pint. Heat to boiling point and add one package of Lemon Jell-O. Alternate layers of Jell-O with layers of cherries, cold chicken (chopped fine) and chopped celery. Mould in individual moulds, or one large mould and slice.

**Spring Salad**

Dissolve a package of lemon Jell-O in a pint of boiling water and one tablespoon vinegar. Let cool until it begins to thicken and add to it one cup nutmeats, two cups chopped cucumbers which have been salted and drained, or one cup chopped celery. Mould and serve on crisp lettuce leaves with salad dressing.

**Cucumber Salad**

Grate enough cucumber to fill one cup. Add two tablespoons vinegar and pinch of salt. Dissolve a package of lemon Jell-O in one-half pint boiling water. When cool and it begins to thicken, add cucumber mixture, press through a sieve, add a few drops of green coloring and turn into a pan. When firm cut in squares. Serve on sliced cucumbers or lettuce. Fine with fish.

**Imperial Salad**

Drain juice from half a can of pineapple, add one tablespoon of vinegar and enough water to make a pint. Heat to boiling point and add one package of lemon Jell-O. Just as Jell-O

*Through for the day*

Your day's work is shortened and made easier when you have a good oil cookstove. Burn Pearl Oil for fuel and you no longer have coal and wood to carry or ashes to shovel out.

You work with a clean *controlled* heat that is concentrated directly under the utensil where it is needed—and your kitchen is kept cool and free from dirt.

Pearl Oil is the clean-burning, uniform, economical kerosene—refined and re-refined by a special process.

Dealers everywhere. Order by name—Pearl Oil.

STANDARD OIL COMPANY
(California)

PEARL OIL
(KEROSENE)
HEAT AND LIGHT

STANDARD OIL COMPANY (California)

## The Cultivator Patterns

**3973. Ladies Dress.**—Cut in 6 sizes: 34, 36, 38, 40, 42, and 44 inches bust measure. To make as illustrated requires 3⅜ yards of figured material 38 inches wide and 2⅝ yards of plain material 40 inches wide. The width at the foot is about 2 yards. Price 10c.

**3436. Boys' Blouse and Knickerbocker Trousers.**—Cut in 5 sizes: 6, 8, 10, 12 and 14 years. A 10 year size will require 1⅞ yards of 36 inch material for the Blouse and 1⅝ yards for the Knickerbockers. Price 10 cents.

**3971. Ladies' Apron Dress.**—Cut in 4 sizes: Small, 34-36, Medium, 38-40; Large, 42-44; Extra Large, 46-48 inches bust measure. A Medium size requires 4 yards of 36 inch material. The width at the foot is about 2 yards. Price 10c.

**3646. Girl's Dress.**—Cut in 4 sizes: 4, 6, 8 and 10 years. An 8 year size requires 3¼ yards of 27 inch material. Price 10c.

**3965. Misses' Dresses.**—Cut in 3 sizes: 16, 18 and 20 years. An 18 year size requires 7⅞ yards of 36 inch material. The width at the foot is about 2 yards. Price 10c.

**3959. Girls' Dress.**—Cut in 4 sizes: 6, 8, 10 and 12 years. A 10 year size requires 2¾ yards of 40 inch material. Price 10c.

**3975. Ladies' House Dress.**—Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38 inch size requires 4½ yards of 40 inch material. The width at the foot is 2⅛ yards. Price 10c.

**3945. A Smart Top Garment.**—Cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. A 38 inch size requires 3⅛ yards of 44 inch material for the jacket, and ⅞ yard for the cape. Price 10c.

**PRICE OF ANY OF THE ABOVE PATTERNS 10 CENTS EACH**

**HOW TO ORDER PATTERNS**

Write your name and address plainly in full, give correct number and size of each pattern you want, and send 10 cents in coin or (1 or 2 cents) stamps for each number. In order to furnish our readers with the very best **NEW YORK** styles, all patterns ordered are filled in **NEW YORK.** Do not expect patterns under **Two Weeks** from date of order.

**CATALOGUE NOTICE**

Send 12c in silver or stamps for our Up To Date Spring and Summer 1922 Catalogue, containing over 500 designs of Ladies', Misses' and Children's Patterns, a concise and comprehensive article on dressmaking, also some points for the needle (illustrating 30 of the various simple stitches) all valuable to the home dressmaker. Also colored plates.

**PATTERN DEPARTMENT**

**California Cultivator** **Los Angeles**

begins to set, add three slices of canned pineapple, cubed, one-half can Spanish pimentos, shredded, and one medium size cucumber, salted and cut fine. Mould in individual moulds or in one large mould and slice. Serve with cream salad dressing.

### Cherry Salad

Dissolve one package cherry Jell-O in one pint boiling water. As it begins to jely add four tablespoons candied ginger (cut fine) and two cups white cherries. Set to harden and serve with fruit salad dressing.

### Mocha Charlotte

Dissolve one package chocolate Jell-O in one and three-quarters cups of coffee (moderate strength) which has been strained through a fine cloth and heated to boiling point. Add the Jell-O slowly, stirring meanwhile, and add one-eighth teaspoon salt. When cold and beginning to thicken add one teaspoon vanilla and one-half cup heavy whipped cream. Mould in individual moulds. Serve with whipped or plain cream slightly sweetened, or custard dressing. Nutmeats and diced marshmallows may be added to it or used as a garnish.

### Snow Pudding

Dissolve a package of lemon Jell-O in a pint of boiling water. When cold and still liquid, before it begins to congeal, whip till it is of the consistency of whipped cream. Use a Dover or Ladd egg beater and keep the Jell-O cold while whipping by setting the dish in cracked ice, ice water or very cold water. A tin or aluminum quart measure is an ideal utensil for the purpose. Its depth prevents spattering, and tin and aluminum admit quickly the chill of the ice or cold water. Let stand till firm and then pile by spoons into sherbet glasses and serve with the following custard.

Place one pint of milk, one-half cup of sugar and grated rind of one lemon in top of double boiler, heat to scalding point and pour it over the well beaten yolks of two eggs. Return to double boiler and cook until the custard coats a spoon, being careful not to cook too long or it may curdle. Should it curdle, whip for a minute or so with an egg beater.

### Glorified Rice

Dissolve a package of lemon Jell-O in half a pint of boiling water. Add one-half pint of canned pineapple juice or any fruit juice. When a cold liquid, whip to the consistency of heavy whipped cream. Have two cups of cold boiled rice cooked dry. Fold the rice into the whipped Jell-O. Add one cup whipped cream, four tablespoons sugar, and salt to taste. Set in a cold place to harden.

### Nut Frappe

Dissolve a package of Jell-O, any flavor, in a pint of boiling water. Set aside to harden. Stir four tablespoons of sugar into one-half pint of whipped cream. When Jell-O is just on the point of setting, mix Jell-O and whipped cream by beating with a fork, and add one cup chopped nuts. Serve in sherbet glasses with fresh or preserved fruit, saving some of the nuts to use as a garnish.

### Pineapple Bavarian Cream

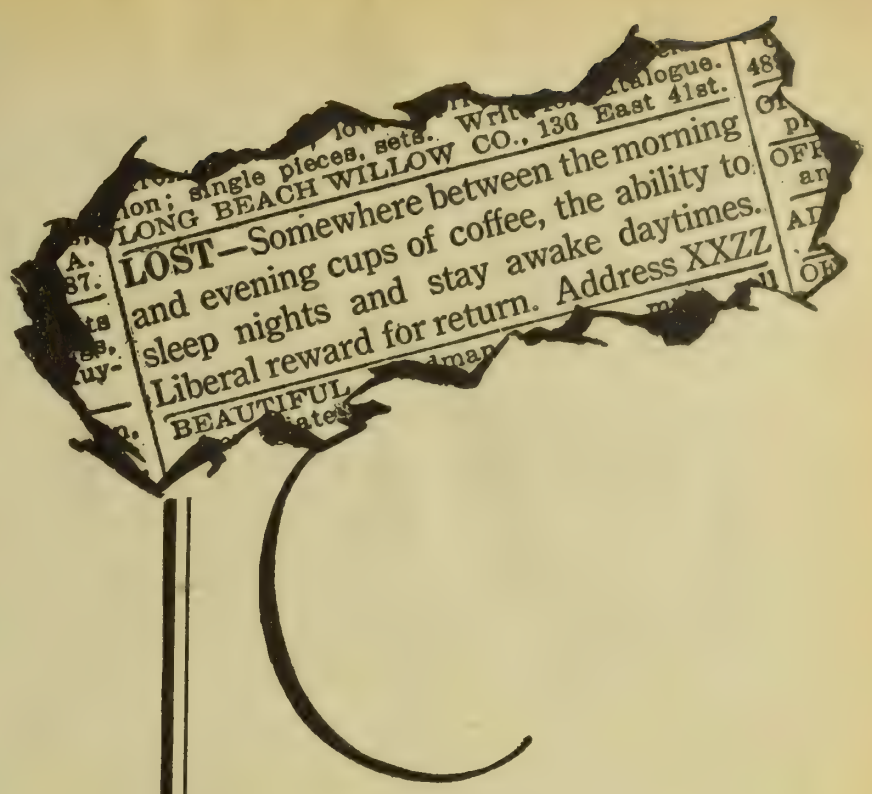
Dissolve a package of lemon Jell-O in half a pint of boiling water and add half a pint of juice from a can of pineapple. When cold and still liquid whip to consistency of whipped cream. Add a cup of the shredded pineapple. Pour into mold and set in a cold place to harden. Turn from mould and garnish with sliced pineapple, cherries or grapes.

### Raspberry Bavarian Cream

Wash one box of raspberries and sprinkle with four tablespoons of sugar. Dissolve a package of Raspberry Jell-O in three-fourths pint of boiling water and when cold and still liquid whip to consistency of whipped cream. Then fold in the raspberries and juice. Set in a cold place to harden. Serve with whipped cream and garnish with fresh berries. Use canned berries when fresh are out of season.

### TO PREVENT RUNNING

A little flour dusted over the top of cake before it is iced will prevent the icing from running off.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LOST—Somewhere between the morning and evening cups of coffee, the ability to sleep nights and stay awake daytimes. Liberal reward for return. Address XXZZ
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a delightful and satisfying mealtime beverage, with no element which can harm nerves and digestion—or cause wakeful nights and dull days.

Your grocer has Postum in two forms: Instant Postum (in tins) made instantly in the cup by the addition of boiling water. Postum Cereal (in packages of larger bulk, for those who prefer to make the drink while the meal is being prepared) made by boiling for fully 20 minutes.

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Postum Cereal Co., Inc., Battle Creek, Mich.

## OUR BABY COLUMN

### By Mrs. M. S. Sirdevan

Mother, do you take the time to enjoy your babies?

So few mothers seem to realize how short babyhood is until it is too late, and then you will hear them say, "I wish I had taken the time to enjoy my baby."

By enjoying, I do not mean entertaining. Develop imagination and a sense of humor when they are very young and they will play for hours by themselves, but they do want you to come to their tea parties and partake of the refreshments. Take a few minutes off and go and watch those little faces, and surely it is a memory that they will carry through life with them as well as you yourself. One hears many parents say that children are not worth all the trouble and pain they cause one in later years, but I cannot but feel that they didn't enjoy that babyhood to its fullest, for what could come to overshadow those wonderful and happy days when that little life depends upon you, its mother? If that memory isn't worth while, what is?

"I haven't the time," is another slogan used, but we can always find time to do the things we wish. Some parents expect their children to amuse themselves with nothing, but this is a 50-50 game, just as in every walk of life.

Girls are little mothers, and their dollies are babies to them, therefore they must be clothed and cared for, so sit down some afternoon and make a little outfit, even if there is other sewing that should be done, for there are not many years that they care for their dolls, but what happiness it brings at the time!

The baby loves to have you play "hide and seek," sing a song, recite some Mother Goose rhyme, or "ride a cock horse," and all this can be worked in while you are doing your housework, and it will keep you young and happy.

After reading this, many mothers will say that no doubt I have nothing else to do, but this is not so. I have two children, ages two and five, do all my housework, sewing and gardening, as well as outside interests, and yet I make the time to enjoy my babies, for I realize that it will not be long before the school and teacher will take my place, except in the daily routine of life.

## TO RENEW SUMMER HATS

### By Mary Ann Gray

To freshen up old summer hats so that they will do for another season's wear, the following methods are recommended: To bleach leghorns, milans or any white straw hats, mix the juice of 2 lemons with 4 teaspoons sulphur. Cover the hat thoroughly with this paste, let it dry in the sun, and after it is thoroughly dried, brush the dry powder off with a stiff brush and the hat will be as good as new.

Straw hats of all kinds may be freshened up and reshaped. Leghorns may be cleaned by rubbing with a cloth dampened in wood alcohol or by rubbing in white cornmeal which has been soaked in benzine. Allow this to dry and then brush it off. A leghorn hat that is very sunburnt or soiled can be changed to a soft yellow by immersing it in a strong solution of soda water for a few minutes. Remove from water and wipe, then press under a clean white cloth until dry.—College of South Dakota.

Her clothes hung all wrong,
Her form was too long;
When she came to a dress demonstration.
She heard what was said,
Then went home and read;
Now her clothes are the town's admiration.

## HOUSEHOLD QUERIES

### Lemon Juice for Canning Vegetables

Please tell me about using lemon juice in canning beans. I have been told that when you use a little you don't have to cook the beans so long to have them keep.—Subscriber, Lemoore.

The use of lemon juice in canning vegetables is fully explained in Mr. Cruess' article in July 1 issue. We feel particularly fortunate to have this very complete article by Mr. Cruess just at the beginning of the busy canning season when it will be most valuable.

### Pectin for Strawberry Jelly

We would like to know name of Los Angeles firm that makes pectin as we have a lot of small strawberries we want to make up into jellies and jams and they don't jelly by themselves.—Subscriber, Burbank.

Name of dealer has been sent by mail. We would suggest that housewives ask their grocers for this pectin. Probably they have it in stock, and if not, will be glad to get it for their customers. It seems to fill a long felt want.

### Poems by Guest

Is there a collection of poems by Edgar A. Guest? If so, who is the publisher and what is the price?—Subscriber, Valley Home.

There are several collections of Guest's poems published under titles; "Heap O'Living," "Over Here," "Path to Home," "When Day is Done," published by Reilly & Lee, Chicago. We cannot tell you the price.

### Home Made Candies

Please print a few recipes for home made candies.—Subscriber, Ripon.

Butter Scotch—To one cup brown sugar add one cup water, two level tablespoons butter. Put the sugar and water together and boil until it hardens when tried in cold water. Then add melted butter and pour into a greased pan and when cooled a little mark into squares with a knife. Do not stir when cooking.

Peppermints—Put a pound of white sugar and one and one-half teaspoons cream of tartar in a teacup of cold water. Stir until dissolved, then boil until a little of it, cooled in water, can be rolled into a ball with the fingers. Remove from the fire, allow it to cool a little, and beat with a spoon until it turns white. Add three drops of oil of peppermint, and mix well. If it hardens too quickly while beaten, set the bowl in a tin of boiling water. Make it into balls with the hands.

Divinity—(Part 1.) One cup sugar one-half cup water; boil until it threads. (Part 2.) Three cups sugar, one cup syrup (white), one-half cup water (cold). Boil until it forms a firm ball when put in cold water. (Part 3.) Beat whites of three eggs until very stiff, add Part 2, then add Part 1, and one full cup of chopped nuts (Brazil nuts and English walnuts mixed are very fine for this), and one teaspoon of vanilla and a pinch of salt. Beat until stiff. Put in buttered tins and cut into squares.

Plain Fudge—To a cup of milk allow quarter of a pound of chocolate cut in small pieces, a lump of butter the size of a walnut, and three cups of granulated sugar. Stir together constantly in a saucepan until they commence to boil. When a little dropped into cold water hardens it is ready to remove from the fire, add half a teaspoon of vanilla or lemon juice as flavoring. Beat the fudge until it is creamy, turn out on a buttered dish and score into squares before it hardens. Half brown sugar in place of all white makes a pleasing variety.

### How Long Are Skirts?

Please don't laugh—it's a very serious question. I am making up a new Conton crepe dress and I don't want to cut the skirt off too short if skirts are to be long this winter. Who knows?—Housekeeper.

Who does? The fashion writers have it straight from Paris that skirts are longer and still coming down, even ankle length being shown. Meanwhile eight inches from the ground is the popular thing over here. However, to be on the safe side, why not run a two inch tuck (by hand with long stitches) on the inside of your hem as your mother no doubt did in your little girl days? This can be easily let down and the stitches will not show.

## HINTS FROM HOUSEKEEPERS

### Candied Figs

You have not published as good a recipe for candied figs as the following. I have used this three years and send the figs for Christmas, if kept out of sight until December.

Five pounds figs (not over-ripe, with stems and skin on) one pound sugar, one-half cup water. Put two tablespoons baking soda over figs and pour on boiling water to cover. Let stand five minutes, then drain and rinse in cold water. Boil sugar and water, put figs in and boil one hour, covered. Remove cover and let stand over night. Boil uncovered one hour each day until juice is evaporated. Dry on plates in sun. Store in tin boxes without tight covers.—Subscriber, Bell.

## THERE YET

Clarence: "It's easy to see your people came from Ireland."

Terence: "An' that's where ye're wrong. They did nothin' of the kind."

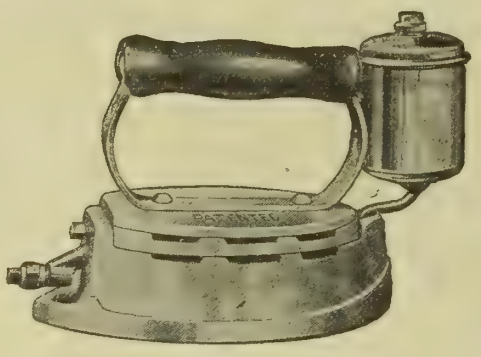
Clarence: "What? Didn't they come from Ireland? With that brogue?"

Terence: "They did not. They're there yet."—American Legion Weekly.


# Ironing Made Easy

BY THE

# "CRESCENT" Iron



Ironing with the old-fashioned stove-heated flat iron is hot, tiresome, time-wasting work.

Every home should have a "Crescent" Iron because it does better work—in less time—with less expense and less effort.

One "Crescent" Iron will do all the work of an entire set of the old-fashioned flat irons, including that of the laundry stove with its roaring fire and attendant discomfort and expense.

The "Crescent" saves all those weary steps to and fro between ironing board and stove—does more and better work, while the room remains cool and comfortable for the operator.

**If your dealer does not have, send $5.50 and your iron will come back parcel post prepaid. Fully guaranteed**

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**HEALING *and* ANTISEPTIC**



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The Sievert Oil Burner burns either distillate or kerosene oil in cook stoves, heaters, furnaces, pasteurizers, boilers, prune dippers, dairy sterilizers, etc. Absolutely safe, odorless, very convenient and low priced. MAKES HEAT AT HALF WHAT WOOD AND COAL COSTS. Install it yourself. Write for circular and prices on different sizes. Address Sievert Oil Burner Co., 710 North Main St., Los Angeles.

# Planting a Walnut Grove

"THE California Walnut" is the title of a magnificent publication issued by the California Walnut Growers Association. This was intended to inform the trade as to the behavior of the California walnut at home. In order to give more complete appreciation of real walnut quality the difficulties confronting the walnut grower are referred to and cultural practices quite fully outlined. This book has a limited California circulation so we believe a few paragraphs will have interest for our readers. In describing the planting of a grove it says:

Importance is attached to the tree obtained for planting purposes. A stocky tree of from six to ten feet in height, of good diameter and a vigorous, healthy root system, should prove satisfactory. Such trees can be obtained from nurserymen at a cost of from $1.00 to $1.50 apiece. Good trees, even at a higher cost, prove the cheapest in the end. Trees are usually headed back to five or six feet at planting.

Trees of the present plantings range from 40 to 60 feet apart, but experience has proved that a distance of 60 feet between trees gives the best results. The walnut makes a vigorous growth, and if planted closer than 60 feet the trees will crowd when mature, the sunlight is excluded from a large portion of each tree, and the bearing surface materially reduced. This results in a reduction of crop. This contention is borne out by the fact that in closer plantings the outside trees bear appreciably more than those inside the grove where the sunlight is excluded. Actual comparisons by the field department of the California Walnut Growers Association between crops from close and distant plantings prove that though more distant plantings (60 by 60 feet for permanent trees) are more profitable in the long run, the returns from 60 foot permanent plantings are increased by planting the rows 60 feet apart and the trees 30 feet apart in the rows, with the intention of removing every other tree in the row when they begin to crowd. In localities where such varieties as the Eureka and Franquette do well, it is advisable to plant these less precocious varieties 60 by 60 feet with varieties such as the Placentia and Ehrhardt, which come into profitable bearing five or six years after planting, as fillers in the rows. When the proper time arrives the early bearing varieties can be removed, leaving a good 60 foot planting of the desired type. This practice is followed with very satisfactory results. Some growers even plant 30 by 30 feet with the intention of removing first every other row and later every other tree. This practice can only be recommended if the grower will have the moral courage to remove the trees at the proper time, or if the soil is strong enough to support the added trees profitably. In the majority of cases, the grower hasn't the moral courage to remove the trees when the time comes.

Interplanting with deciduous fruits is practiced in some sections, but usually to the disadvantage of the walnut but with possible profit to the grower.

# Keep Out Mediterranean Fruit Fly

Realizing the menace to California's fruit industry of the nearness of the Mediterranean fruit fly, the Southern California Canners Bureau writes:

"We do not know of anything worse that could happen to the growers of citrus fruits, deciduous fruits and grapes in California than that the Mediterraean Fruit Fly should gain access to the state. This fly exists in the Hawaiian Islands in very large numbers and does tremendous damage there every year. One fly's progeny amounts to around five million within a year, and each one of these has the ability to ruin a considerable quantity of fruit by laying eggs under the skin of the fruit, which later hatch into maggots and eventually become flies. Passengers from Honolulu continually attempt to smuggle in contraband fruits. Over 500 flies have been intercepted by inspectors at San Francisco in the past year and with the inauguration of passenger service between Honolulu and Los Angeles, it is essential that proper inspection service be established and maintained.

"We feel that this is a matter which concerns the whole state."

Accompanying this letter is a copy of the resolution adopted by its executive committee:

### The Resolution

"Whereas, it has come to our attention that unless adequate inspection service is quickly provided by the state of California at Los Angeles harbor, there is grave and serious danger that the Mediterranean fruit fly will gain access to California via the passenger steamers which we understand will very shortly begin service between Honolulu and Los Angeles, and

"Whereas, the Mediterranean fruit fly is the most dangerous and destructive pest known to citrus and deciduous fruits, and

"Whereas, the fruit growing industry is one of the largest, if not the largest, industry in California, the protection of which is vitally necessary to the continued prosperity of California, and

"Whereas, it is our understanding that there is at present no financial provision for adequate quarantine inspection service at Los Angeles harbor from this date until June 30, 1923, therefore, be it

"Resolved: that this organization, representing the fruit and vegetable canning industry of Southern California, being vitally interested in the continued well-being of the deciduous fruit growing industry, urgently requests officers of the state of California to make every effort possible to provide adequate inspection service at Los Angeles harbor in this emergency, and be it further

"Resolved: that a copy of this resolution be spread upon the minutes of this meeting and a copy sent to Honorable William D. Stephens, governor of the state of California, the state board of control, and G. H. Hecke, director of the state department of agriculture, with the request that these officers use every effort possible to make immediate provision for the protection of the great fruit growing industry of California as set out above."

## PROBLEMS OF THE CALIFORNIA WALNUT GROWER

The California walnut is becoming one of our most important orchard products. The one organization responsible for the prosperity which is coming to walnut growers is the California Walnut Growers Association. This is not only a packing and marketing organization but through its specialists it has made a study of walnut conditions and, further, looks after political and economic matters such as the tariff and other legislation. However, on the tariff fight it was deemed necessary to have an even more powerful organization, and the Walnut Protective League was formed. This is a cooperative organization of all American walnut growers and packers representing practically the entire American walnut industry. It handles only industrial problems which are not connected with marketing.

In its "Brief of Facts Relating to the American Walnut Industry" is much interesting information regarding the magnitude of the industry, investment in it, etc. From the Brief we quote:

"It will be observed that the American walnut grower must spend the best portion of a lifetime in bringing his grove into what should be a profitable bearing state. The walnut is a slow growing tree but eventually grows to a very large size. The spread of a full bearing tree is fully 50 feet and only 12 to 17 trees are planted to the acre. In this regard the walnut differs very much from the annual crops such as peanuts where the grower can rotate his crop from year to year or abandon the business without loss of any capital investment. The walnut grower necessarily makes a very heavy capital investment in the constant caring for his grove during the period between planting and profitable bearing. He cannot rotate his crop and can only abandon the business with a very heavy loss in his capital investment.

"The output of American grown walnuts for the past 12 years has been doubling on an average every four years, and indications are that this ratio of increased production will continue to hold for the next 10 or 12 years at least. We believe that this is a more rapid increase in production than can be shown on any other staple food. This rapid increase certainly proves that the point of market saturation will be reached within the next year or two. Then the American grown product will not only be available in sufficient quantity to supply the entire normal consumption of the United States but a large surplus will develop which will tend to make the competition for markets so keen among the American growers themselves, as to force prices down to low levels regardless of foreign competition. But, as the average foreigner has an advantage of at least 8 cents per pound in his production cost, he can continue to materially undersell the American producer regardless of the fact that a sufficient supply will be produced in the United States. In other words the foreigner can sell his walnuts in America at a profit when the domestic producer has to sell at a considerable loss."

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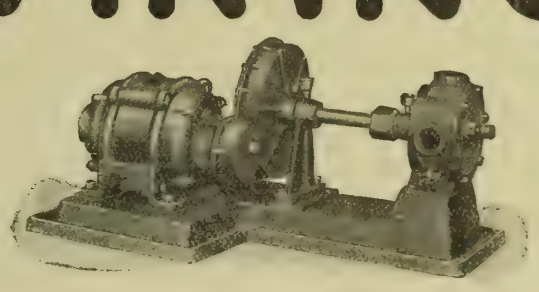
The cannery at Hilmar, Merced County, will operate this year.

## IRRIGATION OF SAN JOAQUIN VALLEY SHOWS FARM GROWTH

According to reports of the federal department of agriculture "The San Joaquin and its tributaries supply water to the larger part of the irrigated land in California. The low water discharge of these streams is all used, but very little provision for storing flood water has been made. State and private agencies are working on plans for large storage projects which will provide water for a large additional area.

"In the San Joaquin valley irrigation has brought the ground water near the surface and a great many wells and pumps have been put in, in some instances to furnish supplemental supply of water when the streams are low and in others, to provide the entire water supply." Acreage irrigated, classified by drainage basin, shows an increase of 125.5 per cent from 1902 to 1919. The total area irrigated has increased from 932,931 acres to 2,103,694 acres in this period. In 1920 the area enterprises were capable of irrigating stood at 3,248,919 acres and the area included in enterprises at 4,294,966 acres. San Joaquin river and tributaries have 269 diverting dams, 85 storage dams, 1,452 main ditches with a capacity of 55,628 second-feet and a length of 5,995 miles; there are 4,394 lateral ditches with a length of 6,904 miles; and 1,419 reservoirs with a capacity of 329,522 acre-feet. The number and length of ditches are well over half the total for all Pacific ocean streams excepting the Colorado and Columbia rivers.

VIKING



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259 A Market St., San Francisco, Calif.

# Feeding Dairy Cows---No. 3

By E. J. Sturgis

## ADVANCED REGISTER TESTING

LIFE is restless. Old Mother Nature has decreed that nothing can stand still; either it advances up the scale or deteriorates. Accepting this law, mankind is endowed with the desire to get somewhere, to prove that it can do things and to be a success. This inalienable right enters into the everyday things of life and is present whether we know it or not. There is no branch of industry where the spirit of advancement is stronger nor where it reaps greater reward than in the dairy business. The man who takes things as they are and does not exert himself to make them better is never heard from and is continually on the edge of failure, if he is able to remain on the surface at all. The desire to do something worth while has been the factor which has developed the splendid dairy animals that we have and has brought great returns from increased production.

The satisfaction felt when an animal which one has bred, wins a blue ribbon in the show ring or makes a record for production that is talked about wherever brother breeders meet is so complete that it makes one forget all the hardships and worries of many a year.

### Value of A. R. Testing

Advanced Register testing has done more for the dairy industry than any other operation connected with it and yet it is really not one of the vital agencies of breeding. A cow may go through life and give just as much milk and make as much butter fat if not tested as if she is. Her offspring may be just as plentiful and as good as though she were tested every lactation period, but neither she nor her offspring can be as valuable. Advanced Register testing provides an authentic proof of an individual's greatness and gives the breeder a foundation on which to build. A. R. records tell us whether a herd bull is helping to better the breed by throwing daughters which are equal to or better than their dams and eliminates all elements of guess as to his value as well as their own. It is the duty of all owners of pure bred dairy cattle to give them A. R. records both for their own success and for the advancement of the breed. A summary of dairy cattle sales such as was published in these columns a year ago proves conclusively that testing pays through the increased valuation placed upon the animal and her offspring. The successful sale of most males is due to the records of the dams behind him and of his tested daughters, if he be fortunate enough to have them. One of the first questions a prospective buyer asks is, "What has his dam done."

Advanced Register testing need not be confined to the breeder with a well built plant and special equipment although these things tend to make the operation easier and perhaps the record a little bit higher. W. J. Higdon of Tulare made his first 30 pound record with the cow tied in a stall in his horse barn and I doubt whether any of the later records, of which there were many over 30 pounds, have ever caused quite the moment of happiness that this one did. Many other breeders have had a like experience.

### Be Ready to Test

One of the very important things when one desires to put a cow on test is to be prepared. Supervisors are not always at leisure, and it is better to write to Arthur Folger, University Farm, Davis a few weeks before you expect to make the test and tell him that you expect to need a supervisor at about a certain time, than to be worrying and fretting because he is unable to send you one at a moment's notice. A number of prospective high records have been spoiled because a supervisor was not available, and the breeder is often liable to blame the university rather than his own negligence when such is the case. It costs you nothing to help Mr. Folger anticipate his needs and it may be the means of saving a record for you.

### Various Tests Defined

The various breeds have their own rules and charges for Advanced Registry work, and complete details can be obtained from the secretaries of the breed associations or from Mr. Forger. The Ayrshire, Jersey and Guernsey Associations do not recognize anything but the longtime semi-official test, while the Holstein Association recognizes the seven and 30 day strictly official and 305 and 365 day semi-official tests. In the seven and 30 day tests the supervisor is present; weighs the milk and takes samples at each milking. In the semi-official the milk weights are kept by the milker, and once a month the supervisor is present for two days to weigh and test the milk. The milk weights for these days must be close to those of the period before and, since he is liable to drop in without warning at any time, they serve to provide an accurate record of what the cow is doing.

### Short Time Tests

For many years the short time test was the one generally in vogue with Holstein breeders and is still in use but is rapidly giving way to the long time tests which prove the persistency of production and are more valuable on that account. Short time tests are valuable in that they give an insight into what a cow is liable to do on year test and should not be given up entirely. They also provide a means of comparing an animal with her ancestors who were given nothing but the short tests.

### Conditioning Heifers

In my first article I explained the feeding of the heifer up to within a short time of calving. If this has been followed she should be in good condition to be made ready for her first test. As I do not like to have heifers in too high condition I treat them differently from cows. Ten weeks before calving the heifer should be brought in, and if she has been getting a little grain as I suggested there will be no trouble in getting her to eat the grain ration. If not it may take a few days before she will eat it with a relish. If it is possible to do so, feed her four times a day at the hours when she will be milked after calving. If this is not possible be sure to feed her three times a day. For the first six weeks I like to use a wide, light ration composed of 200 pounds coarse ground oats, 100 pounds bran, 100 pounds cornmeal and 50 pounds linseed oil meal. Feed not to exceed 10 pounds of this ration a day with plenty of good alfalfa. For the next three weeks feed the same quantity of equal parts of oats, bran, corn meal and linseed oil meal. The last week cut out the grain ration and feed only soaked beet pulp and alfalfa with six pounds of linseed oil meal a day. This brings the heifer up to calving not too fat and allows her to calve easily and clean readily.

### Feeding Dry Cows

Cows that are to be tested should have a rest of eight weeks before calving unless they have a tendency to keep fat easily and then six weeks is sufficient. A cow destined for a short time test should carry all the soft fat it is possible to crowd on to her. Feed as high as 20 pounds a day of equal parts of ground oats, bran, corn meal and linseed oil meal with plenty of alfalfa. She may also have wet beet pulp or green alfalfa or stock carrots or mangels. It is a good thing to vary the feed once a week by substituting a hot bran mash for the grain. This may also be given to the heifers. It serves to whet the appetite for the regular ration. The last seven days treat the cow as I have told you to do the heifers.

After calving give a hot bran mash and hot water. Do not leave the calf with the cow more than 12 hours as the milk will be extremely rich and full of fever from the high condition of the cow. Watch her carefully for milk fever as cows that are in high condition are very apt to have it and that advice applies to her entire lactation period as well as to the period directly after calving.

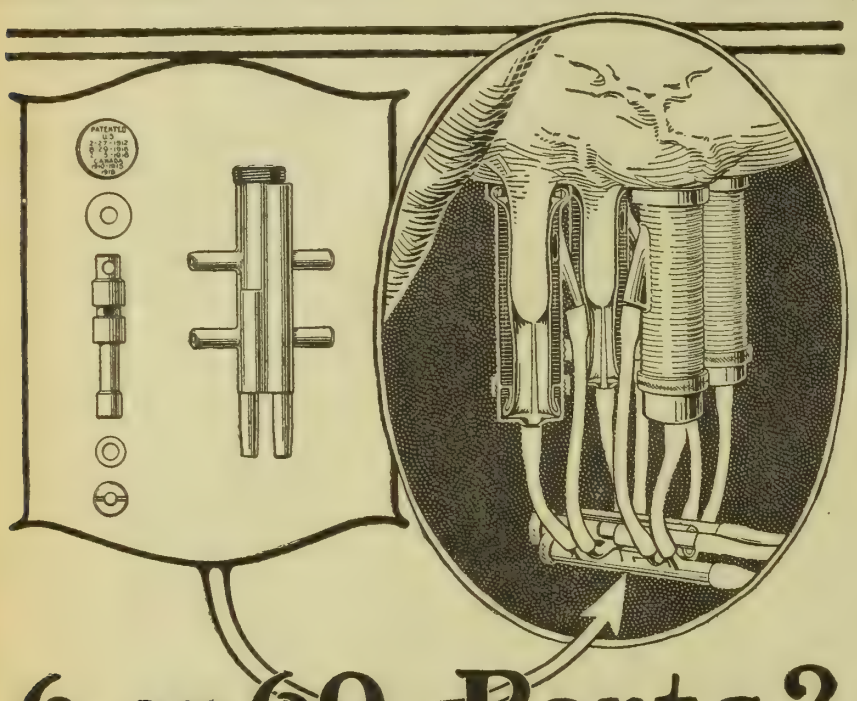
For the first three or four days feed not over 5 pounds of equal parts oats, bran and oil meal with about 10 pounds of wet beet pulp. Feed and milk four times a day and provide plenty of good alfalfa. It is imperative that the milker watch his cow closely and humor her whims. What suits one perfectly will not please another at all.

## FRESNO WILL HAVE A PORK DAY

Fresno County's first annual "Pork Day" will be held October 20. The event will consist of a sale and competition for prizes by the best hog raisers of Fresno County. It will be held at Kearney park farm.

Prizes are offered in four classes in which farm centers, individuals, and agricultural club members will compete. The fourth class will be for grand champion open to winners in the other three.

In the farm center competition prizes will be given for lots of 35 hogs, for lots of five and for individual hog. In individual competition the lots are similar. In the junior competition 10 prizes are offered for the 10 best individual hogs raised by members of the boys' agricultural clubs.

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There are just six parts to the De Laval Pulsator—only one of which moves, and it never requires oiling.

A pulsator is a very important part of a milking machine. It governs the periods of suction and squeeze or massage, which must be of correct frequency and exact and uniform in duration, in order that the cow's milk-producing organs may be stimulated to greatest activity and production. With the De Laval these periods are just right and absolutely uniform, which means that your cows are milked the same morning and night, year after year.

The De Laval Pulsator cannot be adjusted by the operator. It is thoroughly reliable, running years without attention. It is practically fool-proof.

Compare the De Laval with pulsators on other milkers which have from 30 to 60 or more parts, consisting of spring, screws, adjustable devices, etc., and you will realize its greater value. Then keep in mind that the same thought and care in designing the De Laval Pulsator have been put into the entire milker, all other parts being just as superior.

On thousands of dairy farms the De Laval Milker is proving that it is "The Better Way of Milking" — faster, better, cheaper, cleaner, and more profitable and pleasant than any other way. It soon pays for itself. Sold on easy terms.

**De Laval Pacific Company**
61 Beale Street San Francisco

Sooner or later you will use a
**De Laval**
Milker and Cream Separator

**You Should Not Buy a Bull Unless:**

You have seen his dam and know that she is the type you want his daughters to be.

Or you have seen a good picture of her with a close-up picture of her udder.

She is a big producer of milk with a high percentage of fat.

Our cows are the tops of all the big sales in the state for the past three years.

Practically all of them have high 7 day and yearly records. They hold 4 world's records. Our herd bull is **Sir Aaggie De Kol Mead**, whose five nearest dams average 1130.66 pounds of butter in a year testing over 4%.

You should have one of his sons out of a high record dam.

Call or write for our long-time, easy payment plan.

Lankershim, Cal. *Fred Hartsook* RANCH

Visitors always welcome.

*MR. FARMER:—*

You are contemplating the purchase of a service bull next year. Why not save 50 per cent of the purchase price by buying a registered Holstein bull calf now? Pay for him next year when he is ready for service.

Sons of SIR VEEMAN KORNDYKE PONTIAC, who has 27 A. R. O. daughters. and of BURR WALKER SADIE VALE, whose seven nearest dams average 29 lbs. of butter in 7 days, included in this offer. Call or write at once.

**BURR FARM** 26th and Downey Road, Los Angeles
RFD 2 Box 120

## Livestock News Notes

G. L. Strobeck and C. R. Grice of Santee have formed a combination and are putting a fine Guernsey herd on Edgemoor Farm. They have the two great bulls, Masterpiece of Edgemoor and Deanie's Marose of Apple Tree Point, to head the herd. They have recently purchased four heifers sired by Golden Hero of the Beauregard from F. B. Naylor. All of these heifers are making big records with their first calves.

Fred Hartsook has sold the young bull, McCloud Ormsby Imogen whose dams average over 930 pounds of butters for the year, to E. Paggi of San Fernando. Mr. Paggi has been using a son of Hartsook's former herd sire, Hazelwood Finderne Fayne, for a number of years and has purchased this young bull to use on his daughters. Mr. Paggi is one of the largest shippers to the Los Angeles market and he believes that no bull is too good to head his grade herd.

George Junior Republic is to have a new test barn which will be the present of the Rotary clubs of Redlands, San Bernardino, Colton, Pomona, Ontario and some of the other surrounding towns. Wonderful work is being done at the Republic with cows as well as with boys, and the herd is growing rapidly. They will have 16 to put on test in the next few months and the new barn will be needed.

A. J. Elliot, pure bred swine breeder of state wide repute, has sold his entire herd of Poland China hogs to H. G. Merritt, Jr., of the Tagus ranch. This famous herd of pure bred swine has taken many prizes at county and state fairs during the last several years and is considered one of the best herds on the Pacific coast.

L. D. Smith of Hydesville will hold a public sale of pure bred Guernseys at the Riverside fair grounds on August 4. The lot will be made up largely of cows in milk and bred heifers with two or three good young bulls. The sale will be held under the auspices of the Pacific Pure Bred Sales Company of which C. R. Thomas is manager.

J. A. Brown of Capitola, who owns one of the largest herds of pure bred Guernseys in the state says that inquiries for purebred Guernsey bulls to head grade herds in his section are becoming very frequent. He has sold two sons of Imp. Golden Hero of Beauregard within the past week, one to H. F. Potter of Salinas and the other to Jack Shannon of Arroyo Grande.

The Los Angeles County Farm reports sale of a yearling bull and a two year old to Bert Baker of Hill Post Office, San Diego County. The first is a son of Sir Aaggie Mead and the dam is Jessie Pietertje Fayne 2d. who was first prize senior yearling in the Portland International Exposition of 1919. The two year old, Romeo Pontiac of L. A. County, is a son of King Segis De Kol Mead 3rd, paternal brother to the state champion (Whittier Pontiac Netherland 4th, 1139 pounds butter in yearly test) from an 1100 pound yearly record granddaughter of King of the Pontiacs with an excellent show record. The dam of this bull is one of the foundation cows of the County Farm herd and made two records over 22 pounds butter in seven day test after passing 11 years of age.

A new edition of the History of Aberdeen Angus cattle in Great Britain and America has just been issued and may be had for the asking by writing to Charles Gray, 817 Exchange Avenue, Chicago. This book covers the development of the breed in the countries named from its first introduction to the present day and provides a lot of useful information on the "doddies."

The Southern California Fair has taken the stand that the ultimate end of the hog is the pork barrel and it is striving to foster the pork business by offering some very excellent prizes in the barrow classes. The barrow contest will consist of singles and pens under one year of age in each breed and a sweepstakes prize for the best pen all breeds competing. Another big feature will be the carcass contest which will be under the direction of the State Swine Breeders' Association. Preliminary plans for this contest are being made and it should be a good one. The entries will probably be limited to three from each breed all under 1 year. If you have a good barrow better get it entered. The pigs will be weighed the first day of the fair and then slaughtered. A competent judge of carcasses will then pass on their qualities. The percentage they dress out, marbling of the meat, amount of ham and bacon etc. will be the big factors in making the award. It is hoped to be able to exhibit the carcasses in a glass refrigerator during the fair and then sell them at an advanced price. The prizes in this class will be well worth going after.

Baywood Herd, Hollister, owned by The Lewis Company, San Jose, recently passed another tuberculin test without a reactor. This herd has gained a most enviable reputation for good health during several years of regular tuberculin testing.

Nancy Ormsby Skylark, a junior three year old owned by Maxwell Farms, Hollywood, recently made over 30 pounds butter in seven days. She is a daughter of the 40 pound cow Nancy Lucy Hengerveld, and sired by Sir Ormsby Skylark, sire of the former world's record cow, Duchess Skylark Ormsby. This gives "Nancy" the distinction of being the first 40 pound cow in California to produce a 30 pound daughter.

Rosamaines Bonita Ormsby, freshening at three years, one month, lately made 31.47 pounds butter in seven days in the good herd owned by Carl Ray, Lankershim. She is sired by King Pontiac Netherland Segis 3d, the noted proven son of Gerben Abbekerk Maid, and is out of the 32 pound four year old Stanislaus Princess Cleopatra. She is thus full sister to Rosamaines Pontiac Netherland, the sire now heading the herd at Pottenger Sanitorium, Monrovia. Stanislaus Princess Cleopatra was purchased in the recent E.R. Stalder dispersal by L. S. Pratt, Long Beach, and has dropped a fine bull calf by King Pontiac Netherland Segis 3d, thus another full brother to Mr. Ray's 31 pound heifer.

The Lewis Company, San Jose, recently sold sons of Ormsby Segis Marie Lad to Charles Woof and John Cannon, both of San Benito County. This high class son of Ormsby Segis Marie is siring a type of calves that appeals instantly to dairymen who appreciate the value of straight tops, deep bodies, and strong, rugged frames combined with quality.

Sir Veeman Korndyke Pontiac, noted sire of producing heifers, lately had a nice addition of five to his list of A. R. O. daughters in Frank M. Helm's big herd at Corcoran. Helm Tuebie Fayne Veeman, at two years, six months, made 23.19 pounds butter from 405.4 pounds milk in seven days


# horse profits

No. 4 of a Series — Published Monthly in the Interests of Better Horses and Better Harness — Louis Lichtenberger, Editor

## Your Horses Are Worthy of Good Harness

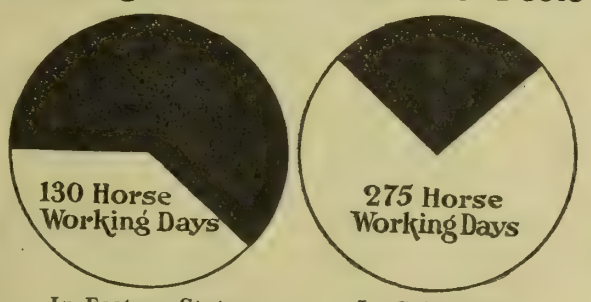
Horse comfort brings highest horse efficiency. Your good horses cannot deliver their maximum of power unless their comfort is given careful consideration. An ill-fitting, worn-out harness is a liability at best. Inspect your harness frequently. Take it to a reliable harness dealer and have him look it over. If you need new harness ask him to show you Superior Brand—the kind that has given satisfaction for more than a quarter-century.

Every whit of leather used in Superior Brand Harness must pass rigid tests for texture, tensile strength, pliableness and uniformity. It is built to meet California requirements.

### Various Types of Harness Used in California

Unusual as it may seem, different districts in California require certain types of harness. In the San Joaquin Valley, for instance, certain types of harness are used which are seldom seen in Southern California, and vice versa. There are approximately 100 types and sizes of Superior Harness from which to select.

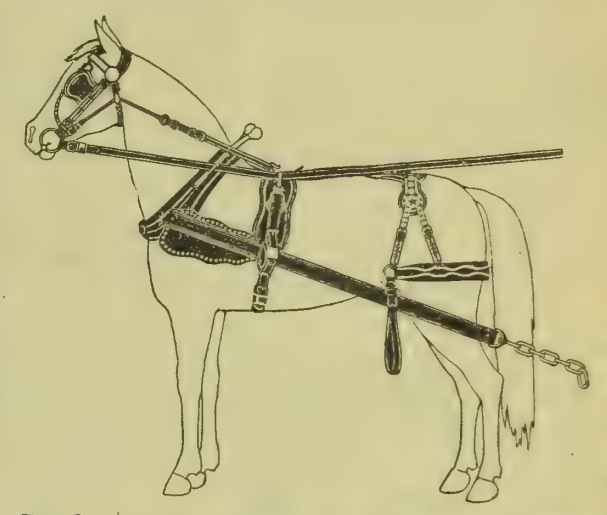
### Harness Used in California Undergoes Most Strenous Tests




In Eastern States — In California

It is poor economy to use any but the best of harness in California. Here harness is subjected to most severe use. The fact that there are 275 horse working days here means that harness must give double wear. Furthermore, the soil resistance is greater in California, subjecting harness to much greater strain and wear than elsewhere. Superior Brand Harness has the reserve strength to withstand this severe service.

**Write for Interesting Book Entitled "HORSE PROFITS"—Free**



### Style 150---Heavy Single Express Harness

A serviceable style for severe duty. The breeching is folded body with waved and raised layer, box loop hip strap tugs; heavy 3-ply traces, large fender; bridle with box loop cheeks, round winker brace and side reins; saddle with 5½-inch heavy harness leather skirts, Neat's leather pad and metal jockey plates. Price upon request.

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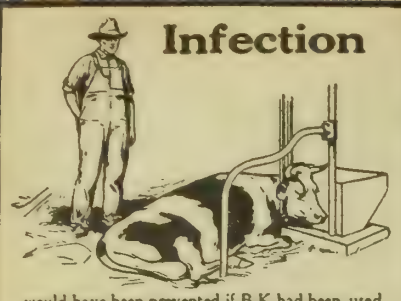
**Infection**



would have been prevented if B-K had been used shortly after this cow dropped that beautiful calf.

When cows do not clean properly after calving, it indicates a germ infection which is likely to run through the entire herd and result in Abortion and failure to "get with calf." The afterbirth should be removed at once, without force, and the cow flushed out with a powerful antiseptic.

B-K is scientifically correct for this work. It quickly dissolves the adhesions and slimy matter and brings the afterbirth, kills the germs and foul odors, stops the discharge and straining. B-K is non-poisonous, healing and soothing.

If your dealer does not have B-K send us his name. Get a gallon—the standard farm package.

FREE "trial offer" and bulletins on contagious abortion—calf scours—hog raising.

B-K—in one bottle—helps you keep all these diseases out of your herd—and prevents big cash losses.

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(STANDARDIZED)
WILL
PROTECT YOUR PROFITS
BY KEEPING
All Livestock and Poultry Healthy
Effective. Uniform. Economical.

Kills Lice, Mites and Fleas.
For Scratches, Wounds, Scab, and Common Skin Troubles.

HELPS PREVENT HOG CHOLERA
Experiments on live hogs prove that a 2 1/2 per cent dilution of Kreso Dip No. 1 will kill virulent hog-cholera virus in 5 minutes by contact.

FREE BOOKLETS.

We will send you a booklet on the treatment of mange, eczema or pitch mange, arthritis, sore mouth, etc.

We will send you a booklet on how to build a hog wallow, which will keep hogs clean and healthy.

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Comes in cube-marked cakes instead of cans. Solid like soap. You simply cut off and drop one of the handy Tarx cubes in a gallon of water and you have 1 gallon of the best dipping and disinfecting solution you ever used.

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Send only $2.50 (check or M. O.) for 6-lb. package. Makes 150 gallons. Shipped prepaid. If you are not pleased your money will be refunded. You take no risk. Send today.
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NEVER HAS HURT A COW
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BREEDING DATE BOOK---FREE
We have issued a convenient little book for the keeping of breeding dates of cattle, hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly mail you a copy free if you request it. A postal will do.
CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
O. L. Hughes, Sales Manager
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and 94.50 pounds butter from 1,850 pounds milk in 30 days; Helm Veeman Scioto Girl, at seven years, eleven months, made 21.44 pounds butter from 426.5 pounds milk in seven days; Helm Goshen Veeman, at three years, 11 days, made 22.84 pounds butter from 497.4 pounds milk; Helm Pontiac Bess Veeman, at two years, seven months, made 18.35 pounds butter from 354 pounds milk in seven days, and Helm Queen Veeman, at two years, 10 months, made 17.89 pounds butter from 361.1 pounds milk in seven days. All of these are first calf heifers and the five average 20.75 pounds butter in seven days. Herdsman Harry L. Redd has a large list of promising heifers moving up toward freshening time and more substantial records from this herd may be expected.

Pottenger Sanatorium, Monrovia has purchased from A. W. Morris & Sons Corporation, Woodland, a splendidly bred young bull to head its good registered herd. This young fellow is sired by Sir Aaggie De Kol Acme, the proven son of Asggie Acme of Riverside 2d, that made 1,331.50 pounds butter in 365 days on strictly official test, she a daughter of the 1,054 pound yearly record foundation cow, Aaggie Acme of Riverside 2d, is also the dam of Miss Aaggie Acme Burke, California's only 1,000 pound yearly record junior two year old, who, in turn, is dam of the $41,000 bull, King Korndyke Pontiac Acme, owned by Anita M. Baldwin, Santa Anita. The dam of the Pottenger sire is the great individual and producer, Flossie De Kol of Nevada that made at her last freshening 36.63 pounds butter from 681.2 pounds milk in seven days and is now on yearly test making a splendid record, having 536 pounds butter to her credit in her first four months.

Young daughters of King Korndyke Pontiac 20th continue to make excellent records as they calve for the first time in the herd of W. J. Higdon, Tulare. Among some of the latest are Dame Korndyke Pontiac Lilith with 19.01 pounds butter from 426.3 pounds milk in seven days at two years, 15 days, and now is milking 70 to 78 pounds per day; Ida Lotta Winifred Burke 2d, with 19.05 pounds butter from 483.9 pounds milk in seven days, now milking from 75 to 80 pounds per day; Lady Tricksy Korndyke Pontiac, with 17.37 pounds butter from 475.9 pounds milk in seven days, now milking 75 to 80 pounds per day; Winifred Hotaling Pontiac that made 25.04 pounds butter from 480.3 pounds milk in seven days at two years four months, has now been on yearly test 107 days and in that time has made 321.6 pounds butter from 7,907 pounds milk, making as high as 85 pounds per day of milk. Korndyke Creamcup, a junior three year old daughter of the same sire, made 26.64 pounds butter in seven days from 697.9 pounds milk and has since milked as high as 107 pounds in one day and is making a most promising start on another yearly record.

Report of the Kern County Cow Testing Association for June shows a total of 872 cows tested with an average of 696.2 pounds milk and 26.8 pounds butter fat. One hundred and two cows produced over 40 pounds of fat. The high cow was a mixed grade belonging to H. G. Grundt, Wasco, which made 67 pounds fat from 1425 pounds milk.

## PRESERVING GREEN FORAGE BY ELECTRICITY

Preliminary trials of preserving green forage by electricity have been conducted at the University of California farm by by F. W. Woll, professor of animal nutrition, and A. H. Hoffman, assistant professor of agricultural engineering. The method employed bids fair to become of considerable importance to stockmen in any country where cheap electric current is available.

Electrical current of medium voltage was conducted through layers of cut green forage that is tramped down solidly in insulated containers, something like modern silo structures, until a temperature of 140 degrees is reached in the mass. In the University of California experiments the current was conducted through green alfalfa and green foxtail, both cut at an early stage of growth and placed in three trial cement cylinders. One of the cylinders was opened one month after the treatment and the other two after two months. The contents were found to be in excellent condition with only a small amount of waste around the edge of the cover. It was of light brown color and had a very slight silage odor. The feed was eaten by cattle with apparent relish and without waste.

Further studies of this electrical method of forage preservation will be made with a view to determining its merits and practical value under the conditions present in this state.

## RAM SALE SATISFACTORY

Optimism prevailed at the annual ram sale of the California Wool Growers' Association, recently held at the University Farm, when nearly 300 head of sheep were sold at auction at an average of $42.26 per head. If this price is an indication it shows a healthy tone of the sheep business and a tendency toward better prices all around.

Eighty-three head of Hampshires brought an average of $52.05. Seventy-one Rambouillets were sold for an average of $41.31. One hundred and twenty-five Shropshires averaged $38.40. A Shropshire ram sold by Oeste Brothers of Davis and purchased by the Corriedale Sheep Company of Hollister topped the sale at $200.00. The University of California sold a Rambouillet ram for $100.00. Straloch Farms of Davis sold the top Hampshire ram at $157.50.

W. P. Wing was sales manager, and H. L. Hull was auctioneer.

## POISONING BY TREE TOBACCO

The following news item received by the California department of agriculture will be of interest to stockmen:

Early in November a drove of cattle reached the end of its day's drive at the Salinas River, tired and hungry, about midway between Bradley and San Ardo. Of course, anything green looked good to them, and they browsed on the green shoots of our tobacco. Four or five cows were dead by morning, and others were too weak to proceed on the day's journey. Others fell out during the day, and 21 was the total number of deaths at the last report. Local stockmen trace occasional deaths of cattle to eating this plant but consider that under ordinary conditions their stock become immune to injury from this source.

## NEW HOME FOR U. S. MOTORS

What is declared to be the largest electrical factory west of the Mississippi is being erected by the U. S. Electrical Manufacturing Company on a 5¼ acre tract on Slauson Avenue in Los Angeles.

The present factory is claimed to be the largest west of the Mississippi devoted exclusively to the manufacture of power motors and is the only electrical motor factory on the Pacific Coast. U. S. Motors are in operation in practically every kind of industrial plant on the Coast and are giving service to railroads, mines, irrigation projects, packing and canning industries, iron mines, ship building yards, garages and to innumerable manufacturers. The motors embody a number of exclusive, patented features and are reported to be giving unusually high degree of efficiency and durability. The range of motor sizes is from one-quarter horse power to 125 horse power. Among recent installations made by the factory was one amounting to $125,000 for irrigation service on land owned by the Southwest Cotton Company of Phoenix. Another group of U. S. Motors is supplying power to irrigation pumps on 72,000 acres of the James Ranch in the San Joaquin Valley. Several manufacturing firms in Los Angeles are each reported to have from 50 to 100 of these motors in operation on various machines.

# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Foxtail

I have a heifer that came fresh in February and has since been in apparently good health. She eats well and plays when turned out after milking but for the last ten days she spits out food in large chunks that has not been remasticated. She just swings her head around for a moment and throws out the food. She has access to alfalfa hay that has foxtail in it, which may have something to do with it. What is the remedy?—Subscriber, Oakdale.

The foxtail probably has something to do with the trouble. Examine the mouth carefully and you will probably find a place where the foxtail is working into the flesh. Remove it and wash out the place with alum water. Or the trouble may be due to a split or decayed tooth. The trouble is evidently all in the mouth. Hunt until you find it.

### Sore Shoulder

I have a horse that has a sore shoulder that I can not cure. Would like a remedy for it.—Subscriber, Winona.

Try wetting it with turpentine once a day. You did not say what part of the shoulder is sore nor whether there is a hard swelling under the sore or not. A fuller description gives us something to judge from. Sore shoulders are usually caused by ill fitting collars. Be sure that the collar is short enough so it nts close to the neck and just does not choke him. Too long or too wide collars cause most of the shoulder trouble.

The man who uses a scrub bull deserves a leather medal made out of the bull's hide.

The lime spreader is the soil's sugar bowl.


GUERNSEY COWS
produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

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Italian Vineyard Company
GUERNSEY CATTLE
Herd Headed by the King of Hollow Hill
BERKSHIRE HOGS
Stock of Both Breeds For Sale
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GUERNSEY BULLS
Service Age
Have a couple crackerjack sons of the $10,000 bull, Pencoyd's Golden May Secret, ready for service.
Priced reasonably.
G. T. DRINKWATER
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TOP QUALITY, BOTTOM PRICE
Registered Holstein Bulls For Sale
From Cows with Official Production Records. Sires all from Cows making Yearly Records. 1000 lbs. to 1200 lbs. Butter and 22,000 lbs. to 31,000 lbs. Milk.
Buy one and breed profit-making cows.
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3 Miles south of Downey on Downey-Long Beach Blvd.

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California cowmen who wish to improve their cow herds have a rare opportunity to draw from the 1,000 bred twos S. M. S. heifers and unbred yearling heifers in lots of one or more cars. Write for particulars.
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White Leghorns, Anconas, R. I. Reds.
Special prices for May-June-July

THREE MONTH OLD PULLETS
All selected—no culls

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ORANGE COUNTY HATCHERY
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## POTATO FIELD DAY

(Continued from Page 27)

crop but he had not tried it. With fall crop results were of the best, though it involves a summer's holdover in storage. The greening process he had not practiced but this season will try 1,000 sacks, first dipping them in corrosive sublimate, then putting them in trays and covering with cheesecloth to keep out the tuber moth. In straw curing he had placed them in low piles, in a cool place and covered with straw. Considerable rot occurred but he believed it would have occurred under any other treatment, so results were good. Planting whole tubers gave uneven stand but crop was good with those that grew. He further said he had experienced success in planting potatoes 48 hours after being dug, but ascribed it to the splendid condition of the potatoes when dug. Others gave fragmentary bits of experience and the visitors then dispersed.

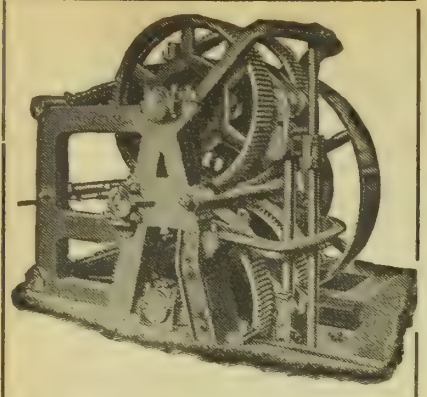
## POTATO FERTILIZER

A circular letter, of which the following is the main part, has of late been distributed by a fertilizer firm at meetings of potato growers.

The potato is not a self feeding plant; it cannot be made to support itself and do well. It must be fed, and fed well, to produce a yield that pays up to the average accomplishment of successful growers. The qualities desired are: regularity in shape, shallowness of eyes, general smoothness of skin, freedom from disease, clear color of flesh, fineness of texture, mealiness and dryness when cooked, delicacy of flavor. There are growers who by an exacting system of rotation and extra good farming do obtain profitable yields, but there are no record crops made by them such as are made by the use of a really high-grade potato fertilizer of proven effectiveness.

Sulphate of potash seems to have a direct action on the starch formation in potatoes, and potatoes with a higher starch content show better qualities, being dry and mealy, and are of a finer, smoother skin, more regular in shape and size and outweigh a potato not containing such a high starch content and are therefore in greater demand for the market. A potato fertilized with sulphate of potash seems to mature quicker and withstand to a greater extent the attacks of scab, blight, nematodes, which always appear to attack the unthriftier, weaker plants. Never starve your potato plants for if there is plenty of plant food available, even though conditions are unfavorable part of the growing season, the plants will be able when conditions are better and more favorable, to make up time and turn out a good crop after all. The growing season of potato plants is short, therefore, the fertilizer to do good must be rapid and made of materials all of which are immediately soluble in water and capable of being assimilated by the plant when it starts to growing.

A cow condemned by a state inspector as tuberculous was recently sold by a stock dealer who represented to the purchaser that she was healthy. He was fined $25 in justice's court.



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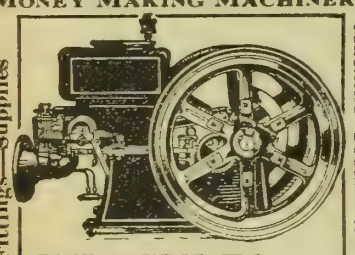

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# Poultry Queries

Conducted by Jean A. Koethen

### Dropsy

One of my hens was so large behind that she dragged on the ground. When I killed her I found her full of water. What was the cause and is such a hen good for table use?—Subscriber.

Your hen had abdominal dropsy, originating perhaps in a mild case of peritonitis (inflammation of the abdominal membrane), obstruction of the circulation, or an anemic condition resulting from bad feeding and unsanitary surroundings. Dr. Salmon says: "Treatment of this condition is not profitable, but in special cases stimulating diet with considerable animal food, tonics and diuretics may be tried. Iodide of potassium or iodide of iron in doses of 1 grain is particularly indicated. Tapping with a hollow needle through the skin and muscles of the abdomen and allowing the fluid to escape is also recommended. It will usually be found more profitable to kill the bird." I should hardly consider such a fowl fit for the table.

### Sex of Geese

How can I tell the sex of geese?—A Subscriber, Simi.

The sex of geese is best distinguished by size and voice. Ganders are somewhat heavier and have harsher voices. It is the ganders that hiss when they are attacked or annoyed. It is said that among farmers in England it was customary to pick geese from ganders by putting them in a small yard with a dog. The ganders would stretch out their necks and hiss and the geese would get as far from the dog as possible. An expert can distinguish sex by a careful examination, but the amateur must depend on external characteristics.

### Sick Turkeys

Many of my turkeys are dying of liver trouble. They have plenty of fresh water and a large range of alfalfa.—Subscriber, Encanto.

You do not say how you have fed them. This liver trouble, which is really blackhead, is generally due to overfeeding or improper food, but sometimes when it appears in very young birds, comes from lack of sufficient warmth at night, or exposure to cold or dampness. The best thing you can do now is to let them get most of their living from the alfalfa field, with a little wheat at night. As you do not say how old they are I can not say exactly how to feed them. Chopped onion mixed with hard boiled egg and oat or wheat flakes is the regulation feed for little turkeys up to six weeks of age. After that they may have bran and grain, but onions should be fed till they are at least two months old. Cottage cheese and sour milk may be given freely. Poults that have alfalfa and sour milk need have little else after the first two or three weeks. Some turkey growers are finding that powdered ipecac in the mash, a teaspoon twice a week to 20 turkeys, prevents blackhead.

### Profit in Ducks

Is there any profit in raising ducks, and is there a good demand for them? What breed is best and how old should they be when they are put on a grain ration?—Subscriber, Wasco.

There is a fair profit in raising green ducks for market if they are raised early enough. Hatching for this purpose should begin in January, and the ducklings should be pushed as rapidly as possible till they are ten weeks old, when they should weigh six pounds or more. The Pekin is the only duck that grows rapidly enough to make a good green duck. Ducklings that are to be marketed as green ducks should never have anything but soft feed. Start them on bread crumbs or dry bran, and as soon as they have learned to eat well give a mash of 2 parts bran, 1 part middlings and a very little corn meal, moistened with water till crumbly, and with about 5 per cent sand or chick grit added. This may be fed at first five times a day but should soon be gradually diminished to three times a day. Never forget the sand, for the ducklings must have it to digest their food. The amount of corn meal in the mash may be gradually increased and a little beef scrap added after two weeks, though some duck raisers never feed it, and it is a good plan to mix cut up alfalfa or other greens in the mash until the ducklings have learned to eat without cutting. By the eighth week the mash may consist of equal parts bran, corn meal and middlings, with five per cent beef scrap, and always sand. The last two weeks some of the big duck men add a little oil meal for finishing. The point is, you see, to make the mash richer and more fattening as fast as the birds are able to digest it and to get them to market at the earliest possible moment. Duck prices are best in April. After the market is flooded with broilers they drop rapidly. The greatest demand is of course in cities. I am not sure that you would find green ducks profitable if you cannot ship them to a good market.

### Feeding Young Turkeys

I am certainly pleased with your paper. I am a novice in poultry lines and I find so many helpful hints and remedies. Please tell me the best feeds for young turkeys. At present I feed cracked wheat the first thing in the morning; in the middle of the forenoon hard boiled egg, chopped shell and all with onion and a little charcoal. They have sand, oyster shell, clean water and clabbered milk before them. At 4 p. m. I give egg and onion again. They are two weeks old and so far results have been good.—Subscriber, Oroville.

The best and safest feeds for young turkeys, from all I can learn, are alfalfa and sour milk or cottage cheese. They must have a little cereal food, of course, and perhaps the cracked wheat is as good as anything. The most successful feeders I know use the egg and onion but mix with it a good deal of alfalfa or other greens and a little cereal, preferably either flaked wheat or rolled oats. Fine grit should always be added. Miss Kate Warner of Hemet adds cottage cheese also. This mixture of egg, greens, cottage cheese and cereal is fed four or five times a day the first week and three times afterward, only a very little being given at a meal. After a week Miss Warner runs them on the alfalfa for part of every day. For successful turkey raising I believe an alfalfa field is absolutely essential. Another woman who has had good success feeds only sour milk and the turkey mash which is now prepared especially for little turkeys and feeds very little after the turkeys are able to run out on the alfalfa. Cracked wheat may be given separately as you give it or added to the softer feed to accustom the poults to it. I certainly wish you success with your venture. Remember it is not so much what you feed as how much that determines the fate of the little turkey.

### Sick Ducklings

My ducklings are dying of a disease no one seems to understand. First their eyes gum up, then when they are forced open the water squirts out. Then they begin to wheeze, find it hard to breathe and linger for several days, gradually getting worse and finally dying.—Subscriber, Bakersfield.

I am afraid you have not kept your ducklings warm enough at night, or perhaps they have gotten their down wet in their drinking water. If the down gets wet before it has changed to feathers they are apt to get cold. You might wash out their eyes with a boric acid solution (½ teaspoon boric acid to a cup of warm water) and grease with vaseline at night to keep them from sticking, but not much can be done for a sick duckling. The main thing is to keep them warm at night and cool when the sun is hot and not let them get wet till their feathers are grown.

### Castor Oil

What is the proper dose of castor oil for a White Leghorn hen?—Subscriber, Arroyo Grande.

From two to three teaspoons for an adult bird is Dr. Salmon's prescription. As the size of the bird should be considered two teaspoons is probably sufficient for a Leghorn.

### Roupy Chicks

Our last hatch of Leghorn chicks, hatched April 25, has not done well. They had a rather bad chilling at two weeks of age, and since then are dying. Eyes fill with white matter and close entirely and eye is pink outside. There is no odor and the chicks eat till they can no longer see.—Subscriber. Bakesfield.

I am afraid your chicks have roup of the eyes, due to the severe chilling they received. It is probably contagious among the younger birds, but the older and stronger are less susceptible. The eyes should be washed out morning and night with a boric acid solution, (½ teaspoon boric to a cup of warm water; let stand till dissolved). Use an eye dropper or a bit of absorbent cotton, and clean out all the secretion, then anoint with white vaseline. If there is no improvement in a few days try boric acid in a decoction of chamomile flowers, which your druggist can probably mix for you. Keep the chicks in a shady place and give all the range and green feed possible.

### Dry Mash Feeder

Please give me dimensions of a dry mash feeder to hold 1½ sacks of mash, to feed from both sides and be used inside or out.—Subscriber, Redlands.

You refer, I think, to the portable feeders which are used for young stock. To hold 1½ sacks of mash such a feeder should be 33 inches in each dimension. At the bottom on each side is a slit two or three inches wide through which the mash falls into a sort of open trough perhaps 4 inches wide and the length of the feeder. The whole is covered by a roof of sufficient slope and width to protect from rain. Most poultrymen feed their hens from a long trough or box built into the front of the house, and the portable feeder is used only for young stock that is not permanently in any one place.

### An Old Hen

How many years will a hen lay? We are prone to limit her usefulness to three or four or at the most six or seven years, but Mrs. Nebelung of

Anaheim has a Buff Leghorn that was 18 years old in February. "She looks like a pullet," writes Mrs. Nebelung, "is lively, has smooth legs, lays about six months every year and has only wanted to sit once in all that time. Can any one beat this?"

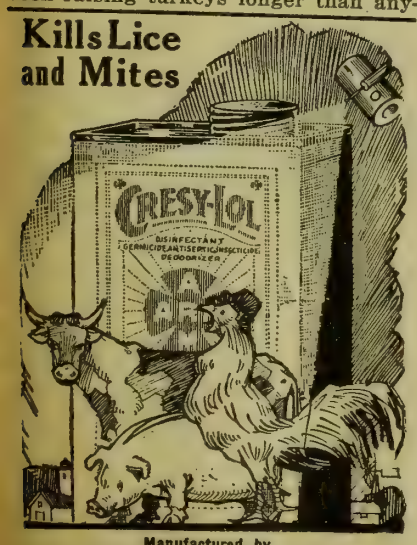
Some hen, sure. That is what we call a long distance layer. I wish Mrs. Nebelung had kept a record of the eggs laid by this remarkable hen.

### A Turkey Paradise

Sometimes I get a little blue about the future of the turkey industry. Turkeys are so hard to raise, so difficult to understand, and when you think you have mastered the secret they die and spoil everything. And so the following from a Caruthers man has done me a lot of good. He may not have put his finger on the crucial point of the situation but he is mighty near it:

"Last February I bought some poultry and moved it home. Then the operator at the electric substation a mile away left and I fell heir to his job. I moved the fowls again. I bought 1500 pounds of barley from a farmer, some oyster shells and charcoal, and I was keeping poultry. I decided I would try the extensive system. In this system you throw a pailful of barley into the chicken yard after they have gone to roost, and go round the next day and gather up the eggs. My turkeys have plenty of insects, green feed, water and a variety of grains the horses and cows waste out of their mangers, irrigating ditches full of water to drink from, piles of sand and gravel to pick grit from, oyster shell and charcoal before them all the time, a rye patch to harvest, and always green alfalfa. They run loose in a shady chickens' paradise. And it suits both me and the chickens. I don't like to fuss with them all the time. I would rather grow all I can for them and let them run around loose and pick it up, balancing their own ration. So far I haven't lost a young turkey. I feed only curds and chick feed. They rustle the green feed for themselves. My only trouble is that neither turkey nor chicken hens will sit. I have had to sell turkey eggs when I wanted to raise turkeys and have raised so far only a few young turkeys. I would like to know how many turkeys I can keep should I put the 10 acres at the substation into alfalfa. I would also like to visit some successful turkey grower and talk things over."

That is the natural way to raise turkeys. Birds that can run around and forage for themselves are lucky indeed. If Mr. W. is willing to keep his turkeys in part of the time and let them run on the alfalfa only at certain times I believe he can raise 500 turkeys on his ten acres. If he prefers to let them run all the time I doubt if he can raise more than 200. Turkeys are terrible eaters when they have unlimited access to growing greens. I might suggest that he visit Miss Kate Warner in the Fruitvale district at Hemet. Miss Warner has been raising turkeys longer than anybody I know, and she learned how from "Turkey" Myers, who led his flocks of turkeys over the Hemet hills for many years. He should also see Mrs. T. T. Middleton at Lankershim and Mrs. C. W. Young at Whittier. All these women are giving much thought to the problems of turkey growing and are quite determined to solve the mystery if mystery there be.

Manufactured by
ARTHUR R. MAAS, CHEMIST
Los Angeles, Calif.
Send for Circular A


### SONOMA COUNTY EGG LAYING CONTEST

Petaluma, June 15.—Report of the Sonoma County Farm Bureau Egg Laying Contest at Petaluma:

#### Highest Pens

J. J. King, Petaluma, 1292; G. E. Mahoney, Petaluma, 1272; J. F. Kohnke, Kenwood, 1264; H. R. Thomas, Petaluma, 1253; Des Praetzel, Petaluma, 1194; L. J. Ott, Petaluma, 1168; E. O. Hussey, Petaluma, 1152; D. E. Cox, Petaluma, 1140; Ed Dinic, Petaluma, 1135; A. M. LaFranchi, Petaluma, 1078; Purvine, Petaluma, 1126; D. Ingwerson, Petaluma, 1101; Garcia & Sarich, Sonoma, 1098; Roy Church, Petaluma, 1095; C. E. Fuller, Petaluma, 1092; C. H. Purvine, Petaluma, 1078; —. —. Purvine, Petaluma, 1074; V. H. Guthrie, Petaluma, 1057; Brown Bros., Petaluma, 1055; H. J. Hardin, Petaluma, 1054; W. B. Hussey, Petaluma, 1046; G. F. Warren, Sonoma, 1043; V. H. Guthrie, Petaluma, 1041; C. C. Boyson, Petaluma, 1028.

#### High Hens

Thomas, 187; Mahoney, 177; Thomas, 173; Purvine, 173; Brown, 172; Praetzel, 164; Kohnke, 161; Peck, 158; J. Koch, 156; King, 154; Cox, 153; E. O. Hussey, 152; Thomas, 151; Hardin, 147; W. B. Hussey, 148, Kohnke, 148; Hardin, 147; Purvine, 146; Mahoney, 146; Purvine, 146.

### CANDLE EGGS

Do you know how to tell the quality of an egg without breaking the shell? All you need is a pasteboard box with a hole 1 1-4 inches in diameter, a strong light such as is furnished by a lamp or an electric light bulb, a dark room, and the egg. When the egg is held close against the hole the strong light renders its contents visible and its quality is indicated by the appearance of the yolk, the white and the air space at the blunt end. By comparing the egg with charts furnished by the United States department of agriculture in Department Bulletin 51, it is possible to learn the exact condition of an egg before it is broken.

Testing eggs by candling, as it is called, may not only be used by the housewife in obtaining fresh eggs for her table but has also proved to be commercially practicable in preventing loss by separating for local consumption, eggs that, because of cracks, wetness, incipient spoilage, and other defects, are likely to spoil in shipment. Such eggs are suitable for immediate use but will not stand shipping.

Candling as near as posible to source of production will not only save transportation and storage charges for the farmers who wish to buy and sell on an accurate quality basis but will prevent the loss of a valuable food product. This method of conservation was tried out during the World War and the results have been so gratifying that many states have made it a permanent feature of their food control work.

Department Bulletin 51, which contains these charts, may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 40 cents.

### SOME HATCHING DON'TS

Don't leave the door of the incubator open while turning the eggs.

Don't fill lamp before turning the eggs.

Don't handle eggs with kerosene on your hands.

Don't leave the incubator without making sure the lamp flame is not too high or smoking.

Don't lay things on top of incubator, as they may interfere with regulating device.

Don't change regulating device after it has once been adjusted, unless toward the end of the hatch when the temperature has a tendency to climb.

Don't forget to fill and clean the lamp daily.—Colorado Agricultural College.

California poultry raisers will find valuable information in the new circular on artificial incubation just issued by the University of California agricultural experiment station. It gives detailed information on the selection of eggs for hatching, the proper location of the incubator, controlling temperature, moisture, and ventilation, the turning, cooling, and testing of the eggs, and how to care for the hatch. A copy of the circular may be obtained by addressing Director, Agricultural Experiment Station, Berkeley, and asking for Circular No. 233.

Chicks should not be fed for at least 48 hours after hatching. They can safely go 72 hours. Nature has taken care of the norishment during this period through the yolk of the egg, which is incorporated into the chick's body just before hatching. While this is being absorbed nature is preparing the delicate organs of digestion for the acceptance of outside feeds. Let your motto be "Feed little and often," and never completely satisfy the chick's hunger. This will insure against overfeeding and a consequent opportunity to loaf and get into mischief. Inactivity breeds such vices as toe picking, feather pulling, etc.

### TEHAMA COUNTY FARM BUREAU MEETINGS

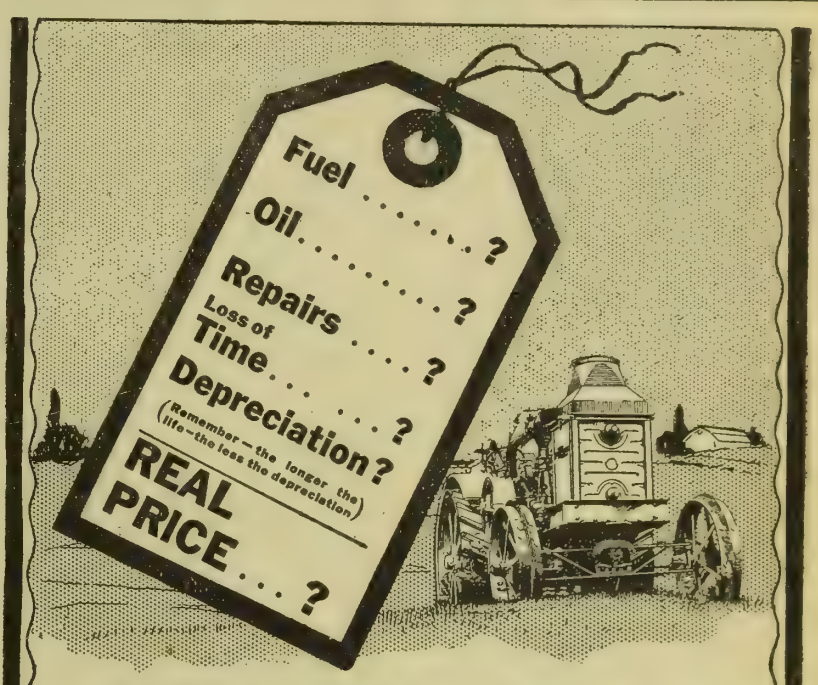
Johnston-Reeds Creek, July 10; Corning, 11; Dairyville, 12; Antelope, 13; Oak Park, 14; El Camino, 17; Red Bank, 19; Bend, 21; Richfield, 24; Stanford, 26; Liberal, 27; Flournoy, 28; Bowman, 29.

Farm home department meetings: Antelope, 11; Corning, 12; Oak Park, 13; Henleyville, 14; Vina, 18; Dairyville, 20; Capay, 21; County meeting (Red Bluff) 22; Bowman, 25; Squaw Hill, 26; Flournoy, 27; Red Bank-Reeds Creek, 28.

Says Sam: There's three kinds of folks; those who think things couldn't be worse; those who allow that after all things might be a lot worse; and those who roll up their sleeves and say, "Things can be bettered."

Shallow cultivated corn has beat deep cultivated corn about four bushels to the acre in Ohio tests.

Labor worketh a hardness upon sorrow.—Cicero.


# What Would the Real Price Tag Say?

*—if Tractors Were Priced According to Their Cost per Year of Service*

FARMERS everywhere face the same problem. Here is a "low price" tractor with flashy inducements, on one hand. Here is a "quality" machine—a long-life machine—at a reasonable price, on the other hand. Which tractor is the best investment—which costs the least in the end? Here is the answer:

Imagine tractors priced on the cost per year of service. Add up the cost of fuel, oil, repairs, loss of time, depreciation, etc., for one year on each tractor. Then compare these totals, which are the real prices. Many so-called "cheap" tractors would be exceedingly expensive. "Quality" tractors would prove their real economy.

## OILPULL

*The Cheapest Farm Power*

The OilPull saves at least 39% in fuel. Many California owners who burn stove tops and distillate enjoy even greater savings. Saves 50% in upkeep; averages 10 years and more of service, according to authentic investigations and comparisons. This is real economy.

Mail the coupon for further facts and a copy of our booklet, "Triple Heat Control."

Advance-Rumely Thresher Co., Inc.
17-19 Main St., San Francisco, Cal.

*Serviced Through 30 Branch Offices and Warehouses*

*The Advance-Rumely line includes kerosene tractors, steam engines, grain and rice threshers, alfalfa and clover hullers, husker-shredders and farm trucks.*

*Advance-Rumely Thresher Co., Inc., Dept 17-19 Main St., San Francisco, Cal.*

Please send free copy of "Triple Heat Control" Booklet.

Name .....

Address .....

County ..... State .....

## ADVANCE-RUMELY

# Los Angeles Markets

Los Angeles, July 5, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 44 cents.

Prices extras past week:

| | | | | | |
|---|---|---|---|---|---|
| June | 28 | 29 | 30 | July 1 | 3 |
| | 43½ | 43½ | 44 | 44 | 44 |

### CHEESE

Brokers' prices:
California flats, 18@20.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 32½; case count, 28; pullets, 27.

Prices extras past week:

| | | | | | |
|---|---|---|---|---|---|
| June | 28 | 29 | 30 | July 1 | 3 |
| | 30½ | 31 | 32½ | 32½ | 32½ |

### POULTRY

Price to producers: Hens, 15; colored, 30; broilers, 22@26; roasters, 35; old roosters, 12; fryers, 30; ducks, old, 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 10@12; old, 8.

### LIVESTOCK

Los Angeles, July 3.—Weighed and delivered off cars without food or water.

Hogs (hard grain fed), 125 to 175 lbs., 10.75; 175 to 225 lbs., 11.00.

Cattle (on foot, gross weights): Steers, good, 5.00; bulls and stags, 9.25; calves, 125 to 150 lbs., 10.25; 150 to 225 lbs., 8.50.

Sheep: Ewes, 5.00@6.00; lambs, 11.00@12.00.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, July 3, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Movement slow, market steady. Idahos, Russets, 3.00@3.50. Stocktons: Ordinary 2.00@2.50. New Stock: Best, locals, 70@80 per sug; small, 60@65; sk. cwt., 2.00@2.10.

Sweet Potatoes: Movement light, market steady. Arkansas: Nancy Halls, per bu., mostly 1.50@1.75.

Onions: Demand moderate, market steady. Quality fair. Coachella and Im- 1.50; yellow, 1.25. Stocktons: Reds, 1.40@1.60; yellows, 1.60@1.85.

Garlic: Mex. best, 10@12.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, July 3, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Asparagus: Per lb.: Northern, 10@12.

Beans: Market dull. San Pedro Ky. Wonder 4.

Bunched Vegetables: Per doz. bunches: Turnips, beets and carrots, 35@40; radishes, parsley, 15; spinach, 20; parsnips, 35.

Cabbage: Market steady, quality ordinary. Field cr., best mostly 2.00@2.25.

Cucumbers: Local, No. 1 boxes, 50@55.

Celery: Movement moderate, market steady. Wide range in quality and prices; quality, generally ordinary. Locals, best, 6.50; poorer, 6.00@6.25.

Corn: Green, Imp., best, 35@40.

Eggplant: 16@18 lb. Coachella.

Lettuce: Market steady. Locals: 1.00@1.10 per cr.

Okra: Lb., best, small, 8@9; poorer, large, 5@6.

Peas: Best Northern, lb., mostly 5@6; few high as 10.

Peppers: Demand moderate, market firm. Bell, local, 25@30; chili, 15.

Rhubarb: Local, best, Crimson, 75@1.00; mostly, 75@85.

Squash: Market steady. Locals: Summer, lugs, 60; Italian, lugs, 75@85.

Tomatoes: 4 basket crates Imperial Valley: Best mostly, 1.25@1.50; poorer, 1.00. Coachella Valley: Mostly 1.50@1.75. San Pedro: lugs, 3.50@3.75. Texas: Crates, 1.25@1.35.

### FRESH FRUIT

These are actual prices obtained July 3 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: New White Astrachan, per lb., 7@8.

Apricots: Lb., Northern Royal, best, 3@4; poorer, 1@2; local, 2@4.

Blackberries: Cr., 2.00@2.50.

Cantaloupes: Imperial Valley: Standards, best, 1.25@1.40; poorer, 75@1.10; ponys, 1.00; flats, 50@60.

Cherries: Per lb.: Black Tartarians, ripe, best, 13@15; Bings, 18@20; Black Republicans, 15@16; Royal Annes, 14@16.

Currants: Cr., 2.50@2.65.

Figs: Northern, 27@32 lb.

Loganberries: 2.00@2.50 per cr.

Grapes: Coachella Valley. Thompson Seedless, 16 lb.

Peaches: Few fy., 8 lb.; mostly, 4@5; poorer low as 2.

Plums: Market oversupplied. Beautys mostly 3@4; overripe, low as 1½@2.

Raspberries: No. 1, 3.00@3.25.

Strawberries: No. 1, 3.00@3.50; No. 2, 2.00@2.75.

Watermelons: Imperials, Chilean, 1@2 per lb.; Klondike, 1@2.

### CITRUS FRUITS

These are actual prices obtained between 7 and 8 o'clock July 3 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms, cash on the walk. There may be slight fluctuations during the day's trading. Higher prices are frequently obtained where credit is given or goods are delivered.

Grapefruit: Market steady. Californias: Northern, packed box, 3.50@4.00; market pack, 3.00@3.50; small, 2.25@2.50.

Lemons: Demand and movement light, market firm. Locals: Loose boxes, best, 2.50@2.75; poorer, 2.25; special brands, fancy, 6.75@7.50; choice, 5.50@5.75.

Oranges: Demand moderate, market steady. Navels, culls, 1.50 per field box; Valencias, special brands, 7.75@8.50.

### HONEY

Beekeepers report that the orange flow is over, but that bees are still gathering sage honey. The yield of orange honey is reported as fair to good, that of sage and buckwheat as good. Both orange and sage new crop are said to be of fine quality. Few sales are reported in carlots F.O.B. Usual terms from California points of extracted: Water white orange blossom and sage at 9½@10; fancy high as 10½ per lb. Light amber alfalfa, no sales reported, but shippers quoting 6@6½ per lb.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 20.00@26.00 |
| Barley | 18.00@22.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@22.00 |
| No. 1 Alfalfa | 15.00@17.00 |
| Standard Alfalfa | 12.00@14.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 20.00 |
| No. 1 Dairy | 15.00 |
| No. 1 Alfalfa | 12.00 |

### GRAIN

Prices L. A. Grain Exchange, July 3.
Barley: 100 ton lots July Del., 1.13¾.

# San Francisco Markets

San Francisco, July 3, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 43½ |

Prices Extras last week:

| | | | | | |
|---|---|---|---|---|---|
| June | 28 | 29 | 30 | July 1 | 3 |
| | 42 | 43½ | 43½ | 43½ | |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 25 |
| California Flats, fancy | 17½@19½ |
| Oregon Trips | 21½ |
| Oregon Young America | 25 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 32 |
| Extra Pullets | 23½ |
| Undersized Pullets | 18½ |

Prices Extras last week:

| | | | | | |
|---|---|---|---|---|---|
| June | 28 | 29 | 30 | July 1 | 3 |
| | 30 | 30 | 32 | 32 | 32 |

### POULTRY

Prices furnished by state department of agriculture division of markets. Sales to retailers:

Broilers: 1 to 1¼ lbs. 27@29 per lb.; 1½ to 1¾ lbs., 28@30 per lb. Colored, 32@34 per lb; 2 to 2¼ lbs., 32@33 per lb. Colored, 34@36 per lb.

Fryers: 2½ lbs., 33@35 per lb. Colored, 37@38 per lb.

Young Roosters: Colored, 3 lbs. and up, 43@47 per lb.

Colored Old Roosters: 17@18 per lb.

Leghorn Old Roosters: 14@15 per lb.

Leghorn Hens: 2½ to 3 lbs., 14@16 per lb.; 3 lbs. and over, 20@23 per lb.

Large Colored Hens: 28@31. Off stock, 26@27.

Ducks: Young, 20@25. Off stock, 10@15.

Geese: Young, 24@26.

Live Turkeys: 32@35.

Dressed Turkeys: Young, 36@40. Off stock, 25@32.

Belgian Hare: Live, 13@15. Dressed 18@23.

Squabs: Live, fancy, 50@52 lb.; common, 3.00@3.50 doz.

Old Pigeons: 2.50@3.50 per doz.

Guineas: Young, 8.00@10.00 doz.

Jackrabbits: 2.00@2.50 doz.

### LIVESTOCK

Western Meat Company quotes:

Weighed off cars at our yards in South San Francisco:

Cattle: Steers, first quality, 6½@7 per lb.; second quality, 5¼@6¼; cows and heifers, No. 1, 4¼@5; second quality, 4@4½; bulls and stags, 3@4 per lb.

Calves: Light weight, 8@9 per lb.; heavy, 5@7 per lb.

Sheep: Wethers, 6½@7 per lb.; ewes and stags, 3@4 per lb.

Lambs: 10½@11½ per lb.

Hogs: Hard, fat, grain-fed, weighing 125 to 200 lbs., 12 per lb.; 200 to 250 lbs., 11 per lb.; 250 to 300 lbs., 10 per lb.; light sows, 10 per lb.; heavy, 9 per lb.

California Farm Bureau Marketing Association reports:

| No. Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Tulare, June 27, 1922** | | | |
| 30 | 128 | 30 | $12.00 |
| 73 | 201 | .... | 10.70 |
| 100 | 160 | 10 | 10.65 |
| 51 | 172 | 20 | 10.65 |
| 92 | 149 | .... | 10.60 |
| 2 | 225 | .... | 10.20 |
| 7 | 343 | 100 | 7.65 |
| 3 | 110 | .... | 5.45 |
| 2 Stags | 590 | .... | 3.10 |

363 Hogs.
5 Cars, 33 Consignors, $6531.51.

| | | | |
|---|---|---|---|
| **Visalia, June 28, 1922** | | | |
| 86 | 164 | .... | 11.05 |
| 47 | 200 | .... | 10.90 |
| 30 | 161 | 180 | 10.65 |
| 6 Feeders | 100 | .... | 10.05 |
| 12 | 281 | 281 | 7.90 |

181 Hogs.
2 Cars, 8 Consignors, $3375.68.

| | | | |
|---|---|---|---|
| **Hanford, June 29, 1922** | | | |
| 11 | 64 | .... | 12.00 |
| 7 | 80 | .... | 11.50 |
| 68 | 164 | .... | 11.15 |
| 15 | 224 | .... | 10.65 |
| 8 | 387 | 140 | 8.15 |

100 Hogs.
1 Car, 17 Consignors, $2,008.54.

| | | | |
|---|---|---|---|
| **McFarland, June 30, 1922** | | | |
| 88 | 167 | .... | 10.70 |
| 87 | 174 | .... | 10.70 |
| 41 | 108 | .... | 10.00 |
| 8 | 297 | .... | 8.50 |
| 24 | 341 | 220 | 7.50 |

248 Hogs.
3 Cars, 17 Consignors, $4445.78.

Totals for the week:
902 Hogs, 11 Cars, 72 Consignors, $16,361.51.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: River, fancy, 1.60@2.00; Idaho netted gems, 2.00@2.25; off grades, lower; Salinas, 2.25@2.75 per cwt; new, 2@2¾ lb.

Onions: Green, 1.00@1.25 box; Stockton Red, 1.00@1.25 cwt.

Garlic: 2@3 per lb. for medium grades; poorer quality, less.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, July 3, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per large cr., 4.00@6.00; extra large, 8.00.

Asparagus: 5@6 per lb.; white, 6@8 per lb.; graded, 9@11 per lb.

Beans: Ky. Wonder and wax, poor 2@5; Italian, 7@9.

Beets: Sack, 1.00@2.00.

Bunched Vegetables: Carrots, 60@75 per dozen; turnips, 55@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Carrots: 1.75@2.25.

Celery: So. Cal. 8.00.

Corn: New, doz., 25@75.

Cucumbers: Southern, 70@1.00 crate; 1.00@1.25 lug; English, 2.75@3.00 doz.

Eggplant: Southern, 10@15 per lb.

Lettuce: Local, 75@1.00 cr.; iced, 1.25.

Parsnips: 3.00@3.25 per sack.

Peas: Bay, 1½@3 lb.; Half-moon, 3½@4.

Peppers: Cal. Bells, 25@30; Chili, 15@25.

Rhubarb: Box, 1.50@1.75.

Spinach: Lb., 3@4.

Squash: Summer, lug, 50@1.00; Italian, cr., 45@65.

Tomatoes: Imperial, best, 1.25@1.50 cr.; Merced, 2.50@2.60 lug, 1.10@1.35 cr.; poor for less.

Turnips: 1.10@1.25 per sack.

### FRESH FRUIT

Apricots: Lb., 4@6; lug, 1.00@1.50; cr., 75@1.25.

Apples: New crop, green, lug, 1.00@1.50; fancy, box, 1.25@1.75.

Bananas: Hawaiian and eastern, 7½@8 per lb.

Blackberries: Dr., 30@35.

Cantaloupes: Imperial Valley, best standard crates, 1.00@1.25; pony crates, 75@1.00; Flats, 50@60; few higher. Soft, lower; Honey Dew and Casabas, flats, 1.00@1.25.

Cherries: Black, 1.25@1.50 per box; bulk, black, 6@10 per lb.; white, 8@10; Royal Anne, 10@13; Bings, 11@13.

Currants: Dr., 90@1.00.

Figs: Small box, 50@70.

Gooseberries: 10@15 lb.

Loganberries: Dr., 30@35.

Pineapples: 5.50@6.00 per doz.

Peaches: Cr. and basket, 50@1.00; lug, 75@1.50.

Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.

Plums: 75@1.75 per cr.

Raspberries: 60@75 dr.

Strawberries: Watsonville and Salinas, cr., 90@1.20; local, 45@50 dr.

Watermelons: Imp., 2@2¼.

### CITRUS

Grapefruit: Southern Cal., fancy, spec. pack, 4.50@5.00; choice, 3.00@4.00.

Lemons: Spec. pack, 6.00@6.75; choice, 5.00@5.50; Lemonettes, 2.00@3.50.

Oranges: Valencias, fancy boxes, 126s, 9.50; 150s, 8.50; 176s, 8.00; 200s and smaller, 6.00@7.50; choice, 5.50@8.50; Culls, 3.50@5.00.

### DRIED FRUITS

Packers' Quotations:

Apples, 1922—In 50s:

| | |
|---|---|
| Choice | @12 |
| Extra choice | @12¼ |
| Fancy | @13¼ |

Apricots, 1922—In 25s:

| | San Joaquins |
|---|---|
| Standard | 18½@18¾ |
| Slabs | 19 @19½ |
| Choice | 23 @23¼ |
| Extra choice | 24½@24¾ |
| Fancy | 26½@26¾ |

Apricots, 1922:

California Prune and Apricot Growers' prices, in 25-lb. boxes:

| | San Joaquin "Growers" | Southern "Growers" | "Sunsweet" |
|---|---|---|---|
| Standard | 18 | 19½ | ..... |
| Slabs | 19 | 19½ | ..... |
| Choice | 22½ | 23 | 24 |
| Extra choice | 24 | 24½ | 25½ |
| Fancy | 26 | 26½ | 27½ |
| Extra fancy | 28 | 28½ | 29½ |

Prunes—1922:

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11½@11¾ | 15¼@15½ |
| 40-50s | 9¼@ 9½ | 12½@12¾ |
| 50-60s | 8¼@ 8½ | 11 @11¼ |
| 60-70s | 7¾@ 8 | 10 @10¼ |
| 70-80s | 7¼@ 7½ | 9 @ 9¼ |
| 80-90s | 6¾@ 7 | 8 @ 8¼ |
| 90-100s | 6¾@ 7 | 7½@ 7¾ |

Raisins: Sun-Maid Raisin Growers' prices, for shipment to July 1:

Seeded—Sun-Maid, 15-oz., 15½. Bakers (in 25s and 30s) 13⅜. 1-crown (in 25s and 30s), 13⅜.

Loose Muscatels—4-crown (in 25s), 15⅜. 3-crown (in 25s), 14½. 2-crown (in 25s), 13½. 1-crown, recleaned (in 25s), 13⅞. 1-crown, not Sun-Maid (in 25s), 13⅜.

Seedless—Thompsons, bulk (in 25s), 15¾. Thompsons, bakers (in 25s), 15½. Sultanas, bulk (in 25s), 14¾.

Bleached Thompsons—Choice, sulfur (in 25s), 18¾. Fancy, sulfur (in 25s), 19⅜. Extra fancy, sulfur (in 25s), 22⅜. Soda dipped, 15-oz., 17¼. Soda dipped, 8-oz., 9½. Soda dipped, bulk, 15⅜.

Thompsons, 5c pkgs., six 24s, per case, f. o. b. jobbing points, 3.65. Valencias, bulk (in 25s), 12⅝. Feherzagos, loose (in 25s), 12⅝. Malagas, loose (in 25s), 12⅝. Zante Currants (in 25s), 15⅜. Black grapes, 1920 crop (in 25s), 16⅞.

Layers—All grades, withdrawn.

### BEANS

California Bean Growers.

| | |
|---|---|
| Large Whites | 8.00 |
| Small Whites | 7.40 |
| Pinks | 8.00 |
| Mexican Reds | 4.25 |
| Red Kidney | 8.00 |
| Cranberries | 7.75 |
| Bayos | 5.75 |
| Blackeyes | 4.20 |
| Henderson Bush Limas | 9.00 |

### RICE

California Rice Growers Assoc. report: No. 1 Paddy, 2.77.

### HAY AND FEEDSTUFF

A. W. Scott Co. reports under date July 1:

Receipts past week, 725 tons as compared with 1022 previous week. The quality of the new crop so far received is very good. Export and coast-wise shipping has been very active during the week, but the demand is by no means heavy. Country trading continues light on account of harvesting. Baling is going on rapidly in many sections and heavy shipments should be headed towards central markets within the next couple of weeks. Alfalfa is moving slowly and with sales somewhat poor.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions).

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 16.00@18.00 |
| Wheat Hay, Fair Grade | 14.00@16.00 |
| Tame Oat Hay | 15.00@18.00 |
| Wild Oat Hay | 11.00@13.00 |
| Alfalfa Hay, 1st and 2nd Cutting | 13.00@15.00 |
| Stock Hay | 10.00@12.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 28.00@29.00 |
| Oats, Rolled Feed | 38.00@40.00 |
| Bran | 33.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 55.00@60.00 |
| Coconut Meal | 33.00@35.00 |
| Alfalfa Meal | 22.00@24.00 |
| Cottonseed Meal | 50.00@55.00 |
| Sugar Beet Pulp | 32.00@34.00 |
| Molasses, tanks | 17.00 Barr 25.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices f. o. b. S. F. warehouse and storage charges paid.

Barley: Feed, 1.12½@1.15; shipping, 1.25@1.35.

Oats: 1.40@1.50.

Wheat: Mill, 1.80@1.85; Feed, 1.80@1.85.

Corn: White Gyp., 1.95@2.00; Colored Milo, 1.90@1.95; Middlings, 42@44.

# Citrus Markets

Los Angeles, July 5, 1922.

Large sizes, good quality Valencias are bringing good prices, as high as $18.25 having been received in New York. Small sizes are doing better. Recent hot weather has increased the usual June drop. Groves which have been inadequately irrigated are showing excessive drop. Reliable estimate of the coming crop can not be made until end of the dropping period.

Lemon demand is very light and prices not satisfactory. Cool weather generally in the East has severely affected the market.

### AT THE AUCTIONS

**June 28**

New York: 26 or., 3 mix., 1 grapefruit, 5 lem. Val. 3.70@13.00, grapefruit 4.70@6.25, lem. 95@3.90.

Boston: 6 or., 6 lem. Val. 3.70@6.00, lem. 1.45@3.35.

Cleveland: 4 or., 5 lem. Val. 3.45@7.10, lem. 1.90@2.40.

Pittsburg: 2 or., 4 lem. Val. 5.95@7.35, lem. 2.80@4.05.

Philadelphia: 8 or., 3 lem. Val. 4.00@8.25, lem. 2.65@4.85.

St. Louis: 4 or., 8 lem. Val. 1.70@6.75, lem. 1.50@4.75.

Cincinnati: 6 lem., 3.25@4.55.

**June 29**

New York: 21 or., 4 mix., 1 lem. Val. 3.65@10.85, grapefruit, 5.90@5.95, St. Mike, 2.90@5.05, lem. 6.15@6.85.

Boston: 7 or., 6 lem. Val. 3.40@8.95, grapefruit 6.60@6.80, lem. 1.75@4.55.

Philadelphia: 8 or., 5 lem. Val. 3.75@9.00, lem. 2.20@4.60.

Pittsburg: 3 or., 4 lem. Val. 3.55@7.50, lem. 2.45@5.20.

**June 30**

Boston: 5 or., 4 lem. Val. 4.80@8.10, lem. 2.00@4.45.

Philadelphia: 5 or., 3 lem. Val. 4.30@9.20, lem. 1.30@3.75.

Cleveland: 5 or., 5 lem. Val. 1.85@

5.95, lem. 2.10@4.75.
Pittsburg: 2 or., 3 lem. Val. 2.75@7.45, lem. 1.10@4.55.
New York: 19 or., 1 grapefruit, 1 mix., 2 lem. Val. 3.70@10.55, grapefruit 1.70@6.00, lem. 3.40@5.80.
St. Louis: 2 or., 7 lem. Val. 5.10@6.40, lem. 2.45@5.05.
Cincinnati: 2 or., 5 lem. Val. 5.15@7.40, lem. 1.45@4.90.

## CALIFORNIA CATTLEMEN'S MARKET REPORT

San Francisco, July 3:
The Chicago market showed an increase in the number of cattle received during the past week compared with the previous week and an increase of 30c a hundred in price. The bulk of corn fed steers brought from 8.25 to 9.50 during the week. It is still impossible to ship California cattle east with profit, but the margin is increasing.

The San Francisco market holds steady, though rather quiet. Sales are reported at 7c f. o. b. ranch for good, fat, prime steers in Yolo, Solano, and San Benito Counties. 5½c f. o. b. ranch has been paid for good fat cows. San Francisco slaughterers agree that not more than 25% of the present slaughter is of prime fat cattle. Because of the shortage of prime stuff, half-fat cattle are being slaughtered.

The Los Angeles market also remains steady but shows a little more activity. Sales are reported in Coast counties at 7c for steers and 5½c for cows f. o. b. ranch, to Los Angeles buyers. Sales are reported at 6½c to 7c f. o. b. ranch for steers in Tulare County, and 5¼c to 5¾c for heifers.

Because of the exceedingly large supply of calves being rusned onto the market, it is highly desirable to hold back as many calves as possible for the next two weeks. This will unquestionably result in increased prices. Approximately 2500 head of cattle have been shipped to market outside of California during the month of June.

It is becoming more and more evident that there is a shortage of really prime cattle in the state. It is also evident that there is going to be an abundance of hay and stubble for holding and fattening cattle to killing quality later in the season. It appears that this will be a highly desirable thing to do, since adjoining states are also short of cattle and are planning to feed an unusual number this coming winter. Fed cattle should, therefore, be in good demand during the fall months.

A strong market is expected for the remainder of the year, and particularly during the next 2 months. We believe that the packers generally understand this to be the condition and are disposed to cooperate in giving the cowman fair prices. We are glad to note the sympathetic support of most of the large packers.—Marketing Committee: C. N. Hawkins, Owen Duffy, W. O. Blasingame, E. F. Forbes, Hub. Russell.

## CROP AND LIVESTOCK NOTES
June 15-30

By California Cooperative Crop Reporting Service

No serious damage was reported as a result of the warm weather the last half of June. Generally, it was of value by advancing the late season.

**Pasture and Livestock**

Dry feed in the valleys is generally in good condition but reported scarce in a few districts; however, enough stubble pasture is now available to supply the needs. Mountain and coastal regions report sufficient feed. Livestock continues to improve. The peak of the movement of early grass fed cattle has been passed, and netted fair returns.

**Grain**

The recent warm weather made harvesting conditions ideal. The quality and yield continues to be reported as very good. Destructive grain fires have occurred in both Sacramento and San Joaquin Valleys causing some losses.

**Fruit**

Fruit conditions are still very promising. No more grapes than usual were sunburned during the recent hot spell. A large crop of all varieties is indicated with the possible exception of Malagas and Thompson Seedless. Plums are moving generally in large quantities. The first boxes of Bartlett pears from Sacramento County have already been sent east. The cantaloupe season has passed the peak shipments with 649 cars moving on June 28. Reports of pear blight still continue and the production will be lowered slightly.

**Miscellaneous**

The labor situation is largely a local question, some districts reporting sufficient and others a scarcity, but at the present time the supply is equal to the demand. Beans are in good condition although the hot weather has caused serious wilting in a number of fields. The wire worm is reported in the San Fernando Valley and Garden Grove district in Orange County. Cotton shows good color and uniform stand, and while the season is a little late the condition of the crop is improving.

**California, Oregon and Washington**

Drouth in Oregon and Washington is cutting down the promise of all grain and hay crops. Throughout California grain harvest is general and good yields are promised. Temperatures have been high throughout the three states the latter half of the month with deficiency in rainfall in Oregon and Washington. The wheat harvest in California is in full swing and condition is considerably above the average, while in Oregon and Washington a decrease in condition is shown on account of drouth. The spring wheat crop in both Oregon and Washington will be short. The hay crop is also below average in the two northern states. Potatoes are generally reported in good condition. Fruit crops are somewhat late but making good progress and will fully maintain condition of June 15. The California prune crop is expected to be about equal that of last year, while a record crop is promised for Oregon.

## COMING EVENTS
(Corrections and Additions Requested.)

**Coachella Valley Grape Day**, Narbonne Ranch, July 11.
**Citrus Institute**, Pomona, July 14-15.
**California Rodeo**, Salinas, July 26-30.
**Yuba County Fair**, Arboga, August 18-20.
**Sonoma County Fair**, Santa Rosa, August 23-27.
**San Joaquin Valley Fair**, Stockton, August 24-30.
**California's Pageant of Progress and Industrial Exposition**, Los Angeles, August 26-September 9.
**Walnut Growers Field Day**, Santa Barbara, September 1-2.
**State Fair**, Sacramento, September 2-10.
**Grape Day**, Escondido, September 9.
**Tehama County Fair**, Red Bluff, September 11-17.
**Kern County Fair**, Bakersfield, September 12-19.
**Tulare County Fair**, Visalia, September 12-19.
**Colusa County Fair**, Colusa, September 14-17.
**Glenn County Fair**, Orland, September 18-23.
**Kings County Fair**, Hanford, September 19-23.
**Fresno County Fair**, Fresno, September 25-30.
**Shasta County Fair**, Anderson, September 28-30.
**Ventura County Fair**, Ventura, October 4-8.
**Butte County Fair**, Oroville, October 2-7.
**Pork Day**, Turlock, October 11.
**Los Angeles County Fair**, Pomona, October, 4-8.
**Southern California Fair**, Riverside, October 10-15.
**San Francisco Livestock Show**, October 18-22.
**California Horsebreeders Association**, Los Angeles, October 18-22.
**International Festival of Dates**, Indio, October 18-22.
**Pork Day**, Fresno, October 20.
**Imperial Valley Fair**, October 23-28.
**Valley Citrus Fair**, Visalia, November 26-December 2.
**Orange and Olive Festival**, Oroville, November 28-December 2.
**First National Walnut Exposition**, Santa Ana, December 4-9.

COAST AND GENERAL

**Southwest Washington Fair**, Chehalis-Centralia, August 28-September 2.
**Interstate Fair**, Spokane, Washington, September 4-9.
**Washington State Fair**, Yakima, September 18-23.
**Oregon State Fair**, Salem, September 25-30.
**Arizona State Fair**, Phoenix, October 30-November 3.
**Pacific International Livestock Show**, Portland, November 5-12.

## PRACTICAL TRAINING AT DAVIS

Young people of California who desire to increase their earning power but who do not care to pursue a regular college course, will be interested in the announcement of the Non-Degree Curriculum just issued by the University of California, College of Agriculture. Formerly known as the University Farm School Course, this provides a three year course for anyone 18 years of age or older, who has the equivalent of a grammar school education, and a two year course for high school graduates. One year of instruction may be had by young men who can spare only that amount of time. The courses give intensive, practical training in a number of different fields, much of the work being done in laboratory, field, shop and stable.

Positions open to men with such training include assistant herdsmen with various classes of purebred livestock, buttermaker in commercial creameries, cheesemaker in commercial cheese factories, ditch tender for canal companies, garden foremen to take charge of vegetable gardens for state institutions, tester for creamery and dairy plants, and tractor operators, service men and other positions connected with the farm machinery industry. Copies of the announcement describing courses offered and indicating probable expenses of the student may be secured by addressing the University Farm, Davis, California.

Experiments in control of water grass in rice fields are being made at the experiment station at Cortina, Glenn County.

## IRRIGATION MAP OF CALIFORNIA

A new irrigation map of California combining irrigation features with relief and a completely revised base has just been completed by the division of agricultural engineering of the U. S. department of agriculture with headquarters in Berkeley, cooperating with the state department of public works and the college of agriculture of the University of California, and is available without charge on application to any of these agencies. It is printed in nine different shades or colors on a scale of eight miles to the inch, and is issued mainly as separates embracing northern, central, and southern California.

The preparation of this map has involved the location and field platting of 5,999,300 acres of irrigated land out of a total in the state of 23,912,200 acres found to be irrigable to the extent water is available. The figures show California well in the lead of all of the western states both as to irrigated and irrigable area.

Besides giving information as to the location and extent of the irrigable and irrigated lands of the state, the map shows the location of the principal irrigation and power canals and conduits, existing reservoirs, rainfall and stream gaging stations, and existing hydro-electric developments.

The map is not alone of value to engineers, but is also of special interest to schools, chambers of commerce, boards of trade, irrigation districts, irrigation and water power companies, and all concerned in the development and disposal of agricultural lands. The relief shading, executed by John H. Renshawe of the U. S. geological survey, added to the land features shown, and the large scale of publications, gives the map a general educational value not approached by any map of the state previously isued.

## FEDERAL FUNDS HAVE HELPED AGRICULTURE

Dwight F. Davis, acting managing director of the War Finance Corporation, makes the following statement:

"Marked improvement in the condition of the agricultural industry and a better outlook for business generally is indicated by the April 1 reports received from the agencies of the War Finance Corporation throughout the country. Livestock producers and farmers generally are reported much more confident because of improved market and financial conditions. A strong demand for cattle has developed with buyers operating actively in the markets. Sheep and lamb markets have continued strong. Increased values for hogs, corn, and wheat at country points in the corn belt have encouraged the farmers and they are entering into their spring work with more zest.

"Good range conditions for the summer are already indicated in some states, and the drouth has been broken in the Southwestern wheat region. The growing feeling that it is possible to market sugar, corn, rice, and cotton on a paying basis has given a healthier tone to business.

"Financial conditions have greatly improved as a result both of improved markets and better arrangement for financing agricultural and livestock operations.

"Bank deposits have increased in many agricultural communities, and the country banks are generally in a stronger position than they have been for a long time.

"Best of all, confidence is returning and with it the trend of business is toward a restoration of more normal conditions all along the line.

"Up to March 31 the corporation has approved loans for agricultural purposes, to banks, $214,187,761.02, to cooperatives, $58,387,816.10; for export purposes, $50,250,120.03; total, $322,-825,697.15."

## U. S. AID TO CALIFORNIA IRRIGATORS

In the U. S. Department of Agriculture Clip Sheet we find:

"Ingenuity and resourcefulness are both working overtime for irrigation farmers in Southern California. Water for irrigation has generally a higher value there than in any other section of the West, and has become so scarce that in the absence of suitable reservoir sites where usual methods of storage might be put into effect the practice has grown up in recent years of spreading the flood waters over the gravelly soil where the streams emerge from the mountains. Where this is done the underground formations are such as to hold the water until it can be recovered by pumping during the irrigating season.

"Upon request of communities interested in the possibilities of this plan for their own development the bureau of public roads, United States department of agriculture, through its agricultural engineering division recently made an informal survey of what has been accomplished so far by such underground storage, finding that the method is now practiced on about a dozen streams in Southern California and that it has been effective in raising the water level in the wells through a series of years, notwithstanding the increasing demands made upon them by irrigation necessities. The department's representative recommended the practice of spreading water wherever conditions favor it, and several cities are now considering the adoption of the plan to help out domestic water supplies which will soon be insufficient if population increases at its present rate."

## WEEDS COST MONEY

Some weeds stock up ditches and drains, interfering with irrigation and drainage (cat-tails, Typha.)

Weeds increase the cost of cultivation. The United States department of agriculture in a series of experiments showed that the principal, and in some sections perhaps the only, value of cultivation in corn is to remove weeds.

Weeds increase the cost of harvesting the crop by requiring more time, more power, or more labor; and by increasing the wear and tear on machinery.

Weeds may delay the curing of hay or the drying of grain.

Weed seeds in grain cost the farmer freight on material for which he receives no returns, as well as the expense of separating.

Weeds may interfere with the regular system of rotation.—California Department of Agriculture.

## LIME TO CORRECT ACIDITY

In order to determine the relative effectiveness of lime in correcting soil acidity when it was introduced into the soil, and when used as a top dressing, the Rhode Island experiment station performed an experiment with timothy upon three plats. The manuring was the same in every instance. Upon one plat no lime was employed, upon another it was harrowed into the soil very thoroughly in the early autumn before the seed was sown, and upon the third it was weighed, left until the following spring, and then sowed broadcast. Where the lime was worked into the soil a good stand of timothy was secured. Only a very small stand was obtained where the top dressing of lime was used, and where it was omitted altogether timothy was entirely absent.

## THE "MAGIC ISLE"

Just off the coast of Los Angeles County lies the "Magic Isle" of Catalina, the vacation land incomparable. The humdrum cares of every day slip off one's shoulders somewhere in the blue waters of San Pedro channel and one steps ashore at Avalon into a land of romance and rest and beauty.

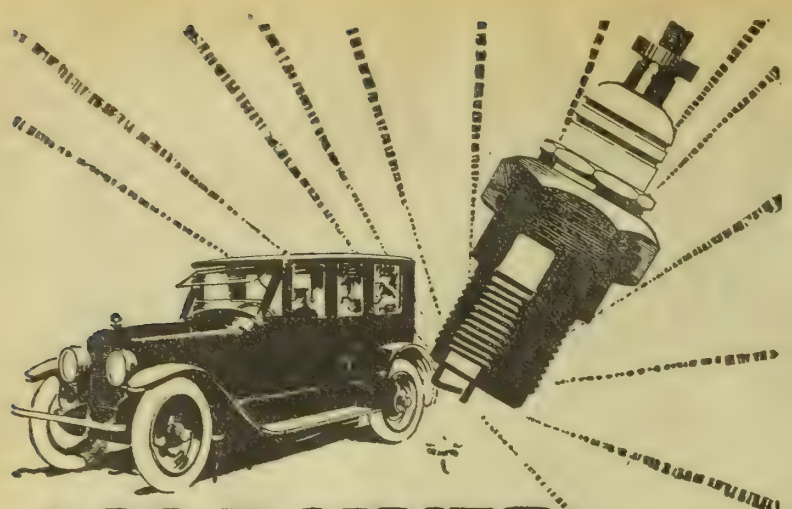
People who have traveled the world over and are qualified to make comparisons, give Catalina Island the preference over any resort in either hemisphere. "Go where you will, Catalina is incomparable," is the statement of world travelers, writers and sportsmen. One writer designated Catalina as "California's sample package de luxe." Boating and bathing at Avalon, with the incomparable fishing to be enjoyed in Catalina waters, submarine gardens seen through glass bottom boats, and the various land sports, including golf, tennis, horseback riding and auto trips, combine to give the Catalina visitor every form of diversion. And the most delightful part of it is that it is reached in two hours from the mainland.

The Catalina Island Company has issued a new illustrated folder, which will be sent free to inquirers from the Los Angeles office upon request.

## WEATHER REPORT

San Francisco, Cal., July 1, 1922.

| Stations | Rainfall: Week | Season | Norm. | Temp.: Max. | Min. |
|---|---|---|---|---|---|
| Eureka | .0 | .0 | .0 | 64 | 48 |
| Red Bluff | .0 | .0 | .0 | 110 | 66 |
| Sacramento | .0 | .0 | .0 | 106 | 56 |
| San Francisco | .0 | .0 | .0 | 71 | 52 |
| San Jose | .0 | .0 | .0 | [illegible] | 54 |
| Fresno | .0 | .0 | .0 | 110 | 62 |
| San Luis Obispo | .0 | .0 | .0 | 92 | 50 |
| Los Angeles | .0 | .0 | .0 | 86 | 58 |
| San Diego | T | .0 | .0 | 74 | 62 |



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Fill your tank with "Red Crown" and *nothing else,* and you won't have to bother with carburetor adjustments. You'll get prompt starting, better mileage, and a sweeter-running motor.

Fill at the Red Crown sign—at Service Stations, at garages, or other dealers.

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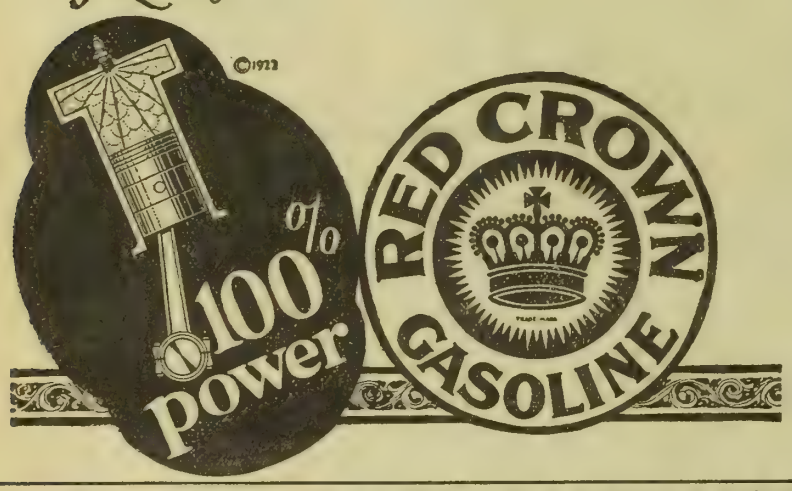


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## Will Control Citrus Pests

You can depend upon Universal Brand Sprays. Your use of them in combating Red Spider, Citricola and Black Scale will convince you of their prompt effectiveness and marked economy.

What is more—Universal Brand Sprays stimulate the trees and increase their resistance to the climatic conditions thereby setting a good crop of fruit.

Right now is the time to use the following spray:

| | per 200 gal. tank. | |
|---|---|---|
| B. T. S.....15 lbs.<br>TRIUMPH.....1½ to 2½ gals.<br>K-SEEN GLUE.....1 lb.<br>(for citricola and black scale) | | B. T. S.....12 lbs.<br>TRIUMPH.....1 gal.<br>K-SEEN GLUE.....1 lb.<br>(for red spiders) |

(patented formulas)

**4 Gals. Lime Sulphur Solution can be substituted for the above B. T. S. dosage.**

Remember that Mr. Herbert, our assistant entomologist, is ready to inspect your trees and give specific advice relative to spraying. Call on him at our Los Angeles office.

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## BALFOUR, GUTHRIE & COMPANY

Paul R. Jones, Entomologist

Los Angeles
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San Francisco
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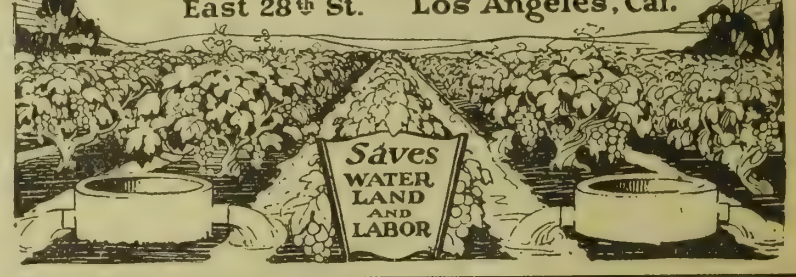


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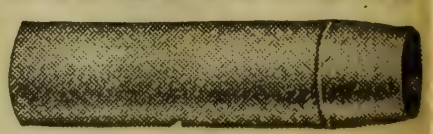

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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

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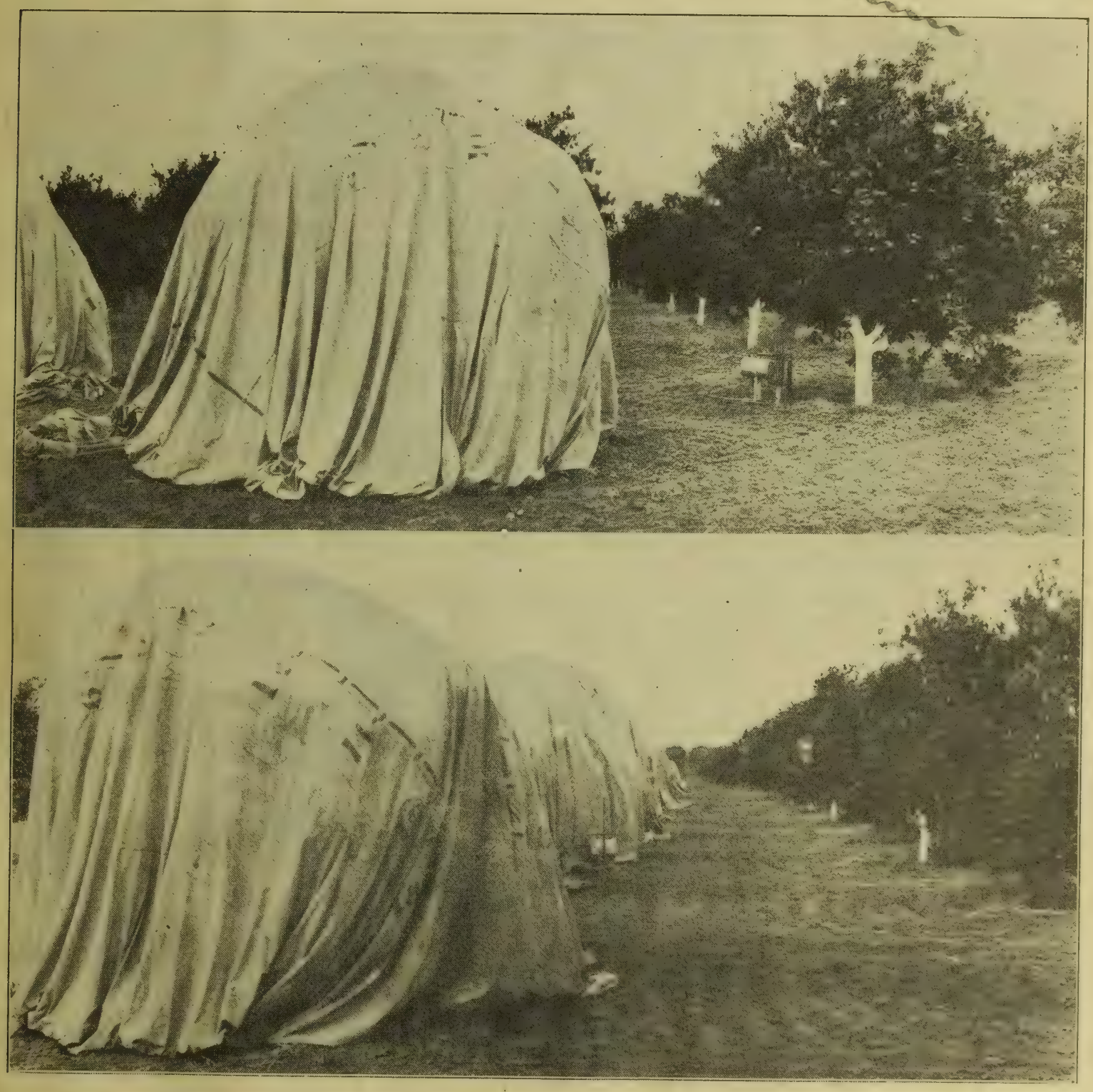
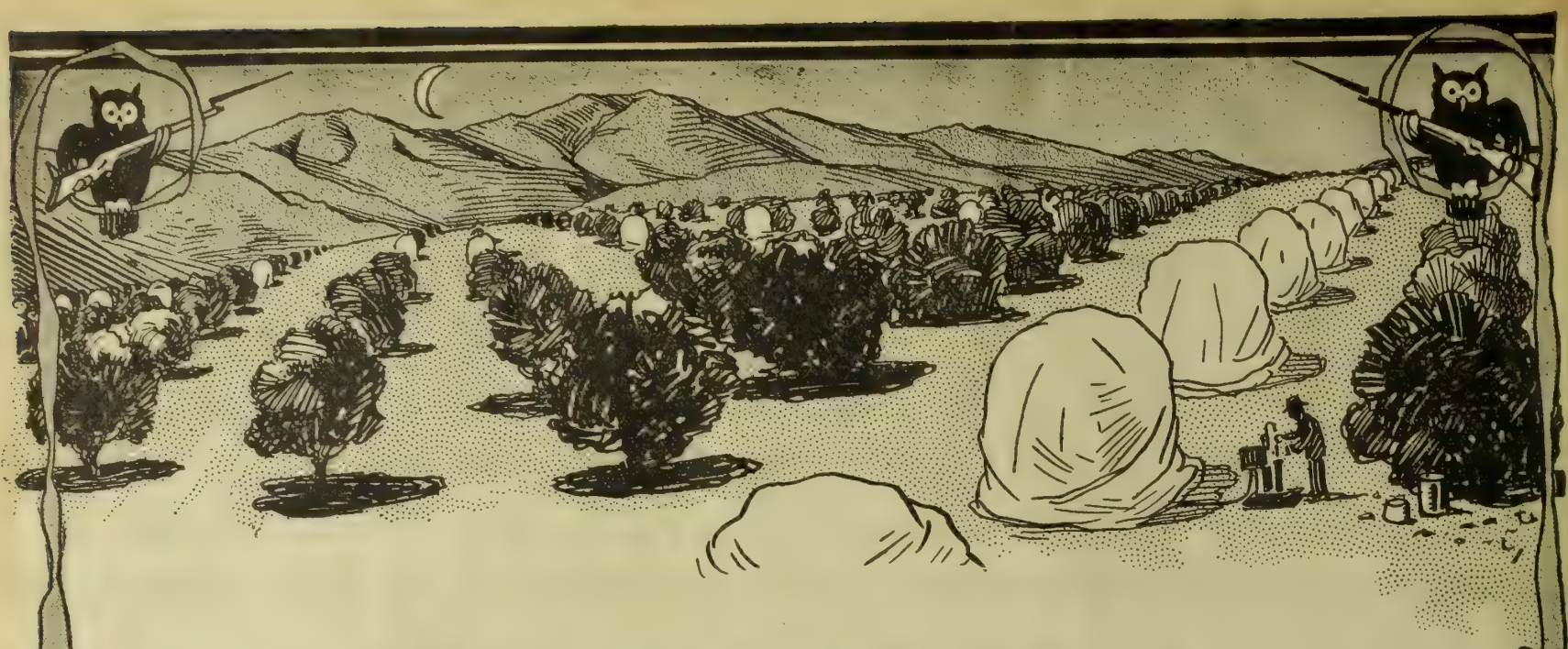


Fumigating on 2300-Acre Citrus Grove of Arlington Heights Fruit Co.



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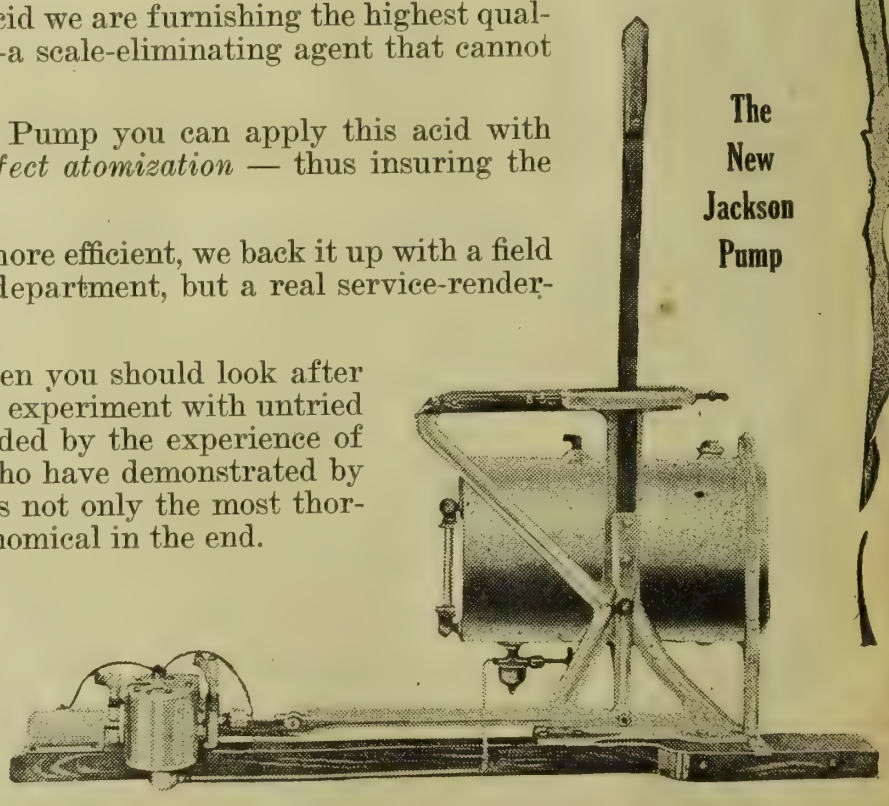

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BROADMILLER L.A.

# California Cultivator

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# Black Scale and Fumigation

By H. J. Ryan, Horticultural Commissioner, Los Angeles County

DURING last winter's fumigation season 15 citrus growers associations and 26 commercial contractors operated 108 licensed fumigation outfits in Los Angeles County for the treatment of citrus orchards infested with scale insects. The largest cooperative outfit reported to the district horticultural inspectors over 542 orchards fumigated. In all 2,800 citrus orchards were fumigated in the county. This represents an expenditure of not less than $900,000 by the growers.

Due to a combination of conditions favorable to the natural increase of black scale since the heat wave of 1917, considerable dissatisfaction over fumigation results has been expressed by the growers for the past two seasons. A very direct and tangible benefit has resulted to the citrus industry through this expressed dissatisfaction in that it has stimulated the close attention and thought of the commercial manufacturers of fumigating materials and appliances and has unquestionably speeded inventions and competitive effort toward improved materials and appliances.

In certain districts a retrial of the pot and the cyanofumer method has been resorted to, thus affording an opportunity for comparisons of results between these systems and the liquid gas.

Through a system of annual inspection and grading of orchards according to individual conditions it has been possible to secure a comparison between different methods of treatment over a wide range of operation.

Unfortunately for the value of these comparisons, last winter's low temperatures resulted in a defoliation, or partial defoliation of groves over a considerable area and a consequent reduction of scale infestations in those localities because of exposure to the sun and wind. The owners of frost injured groves may secure some solace from the fact that the number of scale insects in their orchards has been temporarily reduced, thus affording a chance to hold the infestation in check by proper treatment.

### Scale Probably Abundant

Isaria fungus and the inevitable periodic increase of natural insect enemies have been very important factors in the scale situation this year. The crest of one of the periodic waves of scale invasion was reached last winter. Whether the present slump will be succeeded by a higher wave in 1923 will depend largely upon whether natural factors are more than usually favorable from now until the 1923 hatch is completed. Present indications are that these conditions will be favorable. Comparatively cool weather up to the present writing has allowed large numbers of newly hatched young to become established and the succulent new growth in many frost injured orchards will afford an ideal food supply and an excellent protection for the maturing insects.

### Don't Neglect Fumigation

Repeated experiences have shown that it is extremely difficult to clean up a grove which has been allowed to become badly infested, but a grove only lightly infested can, in almost every case, be kept in normal condition by annual fumigation.

The greatest influence on degree of scale infestation is artificial control; it is the only one which the grower can direct. Fumigation should not be neglected this year in any orchard in any district where black scale is a pest of importance.

It will not be safe to neglect fumigation in groves where the scale infestation has been reduced because of defoliation, for in such groves, under favorable weather conditions, the most severe infestations are likely to occur next season.

### Little Difference Between Pots and Cyanofumer

In comparing results of different methods of fumigation, it has been thought necessary to tabulate separately the defoliated and uninjured groves. Because of the necessity of making packing house inspections in the enforcement of the frosted fruit law, the district inspectors have been delayed in making their annual report this year. A complete tabulation will not be possible until August. Preliminary reports indicate that no practical difference in results between "liquid gas" and "cyanofumer" methods will be shown.

Less than 100 orchards in the county were reported as having been fumigated with pots; too few upon which to base comparisons with other methods.

A tabulation of partial reports shows that orchards uninjured by frost have been improved 15 per cent by fumigation with liquid gas and 14 per cent with the cyanofumer. Frost injured orchards fumigated with liquid gas show an improvement of 19 per cent as do also the same class of orchards fumigated with the cyanofumer.

# Is the Third Horseman Riding?

By A. L. Spellmeyer

WE have heard much of the Four Horsemen of the Apocalypse of Bible prophecy in the application to recent wars and world troubles. The first horseman is supposed to ride a white horse, wear a crown "and go forth conquering that he might conquer" and represent the recent World War that started with the kings. The second horseman rides a red horse and takes peace from the earth. Some people claim this is typical of the red movement of the Bolsheviki, that is the menace of the world's peace at present. The third horseman rides a black horse, while a voice calls "two pounds of wheat for a penny," and represents Famine.

Famine has visited Russia, China and many countries. Famine cannot injure any country with a food reserve unless it is of long continuance. We read of seven good years and seven lean years in ancient Egypt. They must have been unusual. The Chinese famine in that ancient country must have been unusual, an occurrence once in centuries. Famine in this nation with its rich land and plentiful water seems a remote and impossible occurrence, but the unexpected has happened, and a failure of a year's crop or of two years' crop is neither unknown nor impossible in our national experience. With a food reserve this is not a national calamity, but without that surplus food reserve it becomes a danger.

### No Surplus Food Reserve

Unprofitable agrarian production is today wiping out our food reserve. There is no question of that. The reason suggests another question: "In what line of farm production is there a profit at present prices?"

We do not believe the third horseman is riding with possible famine to us, but if our export surplus is wiped out other countries that depend upon that surplus may receive his visit. Shortage and oversupply may be but a matter of ten per cent in commodity supply. Range cattle with reserve feed pasturage live; without it they die in time of drouth. Lack of food supply is not worrying us yet as overproduction is what farmers in some lines are facing now as an apparent reason for low prices. Yet there is a question if it is overproduction or manipulation of the middle markets, as the end of each year rolls around with no unsold bulk remaining in the warehouses and each year shows less livestock numbers, less wool supply, and less reserve in a hundred commodities.

National inventories that have assured us of a vast surplus are open to grave doubt. We found the statistics of the 1920 census excessively optimistic in livestock numbers. The recently reported wool surplus was shown false, and wool has risen from ten to 50 cents. A noted research authority casts doubts upon the authenticity of the national wheat crop figures. Already we face a sheep shortage and we also are about to know a cattle shortage. Producers in many lines are advocating a limit of production in order to force a fair return where other methods have been without avail.

### Limiting Production

There is more than a threat in a limiting of country production unless the three to one city majority permits the country producers a living profit, for you can find rich land that is not being farmed in every county in this U. S. A., but production is still with good years more than adequate for present actual demand at times of the year in most of the food staples.

Generally farm producers are making an effort this year to raise crops and secure a living profit. If that profit doesn't come, next year will show the application of the limited production idea, and if the new crop returns on potatoes and cantaloupes and a few early food items indicate what will happen to the bulk of food production, there are breakers ahead.

The persistent robbery of both producers and consumers by middle marketers has been resumed of late with renewed vigor. General farm production remains unorganized. Those particular farm production efforts which have organized have achieved self protection, and when nature is kind, goodly profits. The citrus men, raisin men, peach and fig men and dairymen are organized and they have protected their industries with profit. But general livestock and farm production remains unorganized, and therefore impotent.

It is impossible to fight bad seasons and low markets combined. Singly a low market or a bad season can be weathered through, but a condition in which economic laws are outraged, with supply and demand inoperative, is destructive. The higher price for less production is what enables another effort; the lower price for greater production is what prevents surplus and waste.

Do you care to go into poultry with eggs at 27 cents that will cost you 30 cents to produce? Would you care to grow melons in Florida that bring you 7 cents and which sell at $1.50 in New York? Do you care to grow cantaloupes in Imperial and find you owe money on their shipping expense? Do you wish to grow olives on $150 per ton expense and sell for $60, or when you get a price find the heat has killed your bloom and you only have a half crop? Perhaps you would prefer to grow spuds and sell them at 50 cents a sack, as last year, or $1 a sack this year, after it cost you $35 an acre to plant and $3 an acre for each watering? Perhaps you would like to grow lemons and experience that frost which hit some of our frostless lemon and avocado districts this year, or grow oranges and have the fine little marble sized oranges drop from heat like some did last month.

We can't all be growing raisins and wine grapes and figs and walnuts and the things that appear profitable now for, outside of organized self protected products, what is high this year may be low next year.

Some people may prefer to branch out and join the range cattlemen who are presenting a $10 bill of loss with every yearling they sell on the present prices. Sheep are paying and to get into the sheep business now takes cash and the high price.

(Continued on Page 71.)

# Agricultural News Notes of the Pacific Coast

## Northern California

The Tioga road into Yosemite opened July 10.

Colusa County grain farmers report shortage in supply of harvest hands.

Supervisors of Placer County have decided to put in a home demonstration agent.

Managers of the Colusa County fair report many requests for space by prospective exhibitors.

In the two weeks ending June 17 over 70 dozen eggs were shipped from San Francisco to Hawaii.

Farm centers of Glenn County are making plans for their exhibits at the county fair to be held September 18-23.

Sonoma County has 36,717 acres planted to fruit trees. The heaviest acreage in one variety is 11,344 in prunes.

Records for one day's automobile travel in Yosemite national park were broken July 2 when 525 cars entered the park.

I. J. Condit, horticulturist of the Peach and Fig Growers Association, has been making a tour of fig orchards in Butte County.

H. J. Baade, who has been for several years farm advisor of Napa County, is planning to do a year's research work in Europe.

The first car of fruit shipped from Lincoln, Placer County, was a mixed lot of cherries, apricots and plums sent out on June 24.

The California Dairy Council has arranged a series of meetings in Sonoma and Marian Countits to advance interest in purebred dairy sires.

Ranchers at Madison, Yolo County, are asking Horticultural Commissioner Van Tassel to help them in their fight against yellow thistle.

Veterinarian R. A. Caldwell of Colusa County reports livestock in a healthy condition, range feed not quite so good as stockmen would wish.

John Stewart, San Joaquin County rancher, carries saddle horses by truck to his cattle ranges. He says he saves a lot of time and a lot of his horses' pep.

The dairy cattle show held at Valley Ford by dairymen of Sonoma and Marin Counties cleared between $200 and $300 which will be used to finance a second annual show next year.

Contract has been let by the state highway commission for grading and paving with reenforced concrete the section of highway between Upton and Shasta River in Siskiyou County.

The California State Automobile Association has two tow cars giving free service on the roads into Yosemite, one on the big Oak Flat road and one on the Chowchilla Mountain grade.

Sonoma County's exhibit at the state fair will feature each day some special product from some special section—Apple Day for Sebastopol, Pear Day for Sonoma, Prune Day for Healdsburg, Egg Day for Petaluma, etc.

The Placer County farm bureau has adopted the following wage schedule: Unskilled labor, 35c per hour; packing cherries, 20c per box; packing plums, 7c per box; packing peaches, 3c per box; packing pears, 8c per box; packing grapes, 5c per box, cleaned.

## Central California

Fresno grape growers report some injury to grapes from sunburn.

The Hume cannery at Turlock started on apricots the last of June.

Tulare County farm bureau picnic was held at Mooney Grove, Fourth of July.

Grain fires near Terra Loma, Merced County burned more than 10,000 acres.

San Benito County may hold a fair this fall, the farm bureau taking charge.

The Shasta County Producers Association has a refrigerating plant at Redding.

A series of nine poultry culling demonstrations was held this week in the Modesto district.

Dates for the second annual San Joaquin Citrus fair at Visalia, November 26-December 2.

Barley is now going into warehouses in the Salinas Valley and is of particularly fine quality.

Farm bureau meetings will be held in Stanislaus County at Wood Colony, July 17; Fairview, 21.

The Tulare cannery is not to be opened this summer. The Sanger plant will be open instead.

Salinas Valley lettuce growers are receiving $1 net per crate, lettuce averaging 300 crates to the acre.

A goat milk factory is to be established about Salinas. It will specialize on condensed baby and invalid food.

Ranchers about Hollister, San Benito County, are having some difficulty in securing sufficient labor to harvest their crops.

The California Peach and Fig Growers has secured headquarters in the Drodge Building at Fresno and will move about the first of August.

Five septic tank demonstrations were held in Monterey County last week under supervision of Prof. Belton of the University of California.

Irrigation districts concerned in the Pine Flat project have subscribed more than $10,000 to pay for expenses of investigation by the state engineer.

R. L. Nougaret, viticulturist of the state department of agriculture, is investigating reported occurrence of phylloxera in the Oakdale section of Stanislaus County.

Monterey County Pomona Grange held an all day session June 24 at Lake school in the Prunedale section. The next meeting will be held at Fort Romie, September 30.

The pest control bureau of the state department of agriculture is establishing a weed free area in Stanislaus County, the first to be established under the state law of 1921.

The Turlock Melon Growers Association has completed organization with J. H. Smith president and D. L. Wolfe secretary-treasurer. 1,000 cars have been signed with the association.

The Oakdale Almond Growers Exchange has elected as directors Harry J. Wood of Waterford, L. Langstroth of Riverbank, Wright Boddy, J. B. Stearns and S. A. Anderson of Oakdale. The exchange this year expects to handle 500 tons of almonds.

## Southern California

Redlands district is picking its largest apricot crop in years.

Pest Control school at Pomona, July 14, Citrus Institute, July 15.

The cantaloupe season for Palo Verde Valley started last week.

Six big canneries will handle the peach crop of the Pomona district this year.

Dates of the Los Angeles County fair at Pomona have been changed to October 17-21.

A number of Oxnard ranchers have become interested in the growing of winter vegetables.

Julian, San Diego County, celebrated on July 4 the completion of the state highway from Santa Ysabel.

Airplane patrol of Los Angeles County forests was started July 4 and will be continued through the summer.

The Banning cannery started on apricots July 1. The fruit is ripening up very fast now due to the hot weather.

Los Angeles County supervisors have passed an ordinance making it unlawful to pick yuccas on private or public property.

Because of the exigencies of the fruit canning season the railroad commission is granting temporary permits for auto truck service.

A modification of federal quarantine regulations allows entry into California of potatoes grown in the Imperial Valley of Lower California.

San Bernardino County farmers are fighting a pest of grasshoppers. Poison and burning of brush are recommended by the farm bureau to destroy the pests.

The Elsinore cannery of the California Growers Association is operating on first grade apricots only, shipping lower grades to other association canneries.

According to preliminary estimates of the California Lima Bean Growers Association there will be approximately 96,000 acres planted to Lima beans in the state and 13,000 to Baby Limas.

Vegetable growers of Ventura County, principally growers of cabbage, lettuce and cauliflower, are planning a permanent marketing organization. F. M. Bigelow of the state bureau of markets has been assisting them.

A tri-counties meeting, (Riverside, San Bernardino and Orange) was held at Corona yesterday to hear report of Mayor Evans of Riverside on his trip to Washington in the interest of the Boulder canyon dam project.

Water from the big break in the Palo Verde levee is receding and now stands only a foot deep at Hauser's Bend. Since the withdrawal of objections by Arizona to the plans of the levee board to straighten the river a crew of men is blasting out the new channel.

Representatives of the farm bureaus of Los Angeles, Orange, San Bernardino, Riverside, San Diego, and Ventura Counties met at Ventura June 24, and talked good roads. A resolution was forwarded to the state supervisors association urging legislation prohibiting loads in excess of 22,000 pounds on state highways.

## The Coast and General

Farmers in northern Arizona are investigating possibilities of growing head lettuce.

Texas expects to ship 2500 cars of tomatoes to middlewest and north central states.

The National Home Economics Association will hold sessions at Corvallis, Oregon, August 1-5.

Nineteen states have made application for special Holstein-Friesian calf club offers at state fairs this fall.

The Horse Heaven irrigation district of Washington has voted a $32,000,000 bond issue for the building of canals.

The Yakima Fruit Growers Association of Washington will this year sell its fruit through its own sales organization.

Thinning operations in the Wenatchee district of Washington have developed an estimate of about 14,000 cars of apples this season.

Alfalfa growers of Stevens County, Washington, are planning an observation tour of successfully producing fields in that county, July 27.

Truck growers of Yuma County, Arizona, are organized and will work with commodity organizations in Coconino, Maricopa and Pima Counties.

The Yakima warehouse of the Washington Cooperative Egg and Poultry Association, just established, is sending 400 cases of eggs weekly to Eastern markets.

The Aroostook, Maine, Potato Growers Association has decided to ship out all its potatoes this year in sacks. All members are prohibited from sending out any of their potatoes in bulk.

President Jewett of the Northwest Fruit Growers says that 12 to 15 per cent of the wheat produced in the United States this year will be marketed on a pooling basis, approximately one hundred million bushels.

Commercial production of 60,000 cars of early watermelons is estimated by the U. S. department of agriculture. Georgia will have something over 22,000 cars, Florida nearly 13,000, southern district of California, 3,000.

The sugar factory at Twin Falls, Idaho, will operate this fall. Live stock men say this means bringing into Southern Idaho hundreds of cattle and thousands of sheep to be fattened on beet pulp and will provide a market for their alfalfa hay.

National forest highway construction involivng an outlay of approximately $10,000,000 for 1,170 miles of road in 23 states has been approved by Secretary of Agriculture Wallace. Fifty miles will be built in California forests at an expenditure of $1,246,197.

A bill has been introluced into congress which would establish a federal standard for butter, making the minimum butter fat content 80 per cent and the maximum moisture content 16 per cent. These standards have the backing of the department of agriculture.

Farmers of Whatcom County, Washington, have adopted the following scale of harvest wages: Haying, $2; shocking, $3; box drivers, wheat haulers, straw haulers, hoe downs, header tenders, $3; sack sewers, combine drivers, loaders, $4; header punchers, push binder drivers, $5; pull binder drivers, $4; gas engineers, $6; steam engineers, $5; firemen, $4.

# Walnut Diseases

By V. F. Blanchard

DR H. S. Fawcett recently gave field lectures on walnut diseases, from which the following points were gleaned:

In maintaining a walnut grove in a high state of productivity it is essential that steps be taken to prevent disease attack and to treat it when it gains entrance. To understand the various diseases to which a walnut tree is subject it will be well to discuss them from the standpoint of those below ground and those above.

**Root Diseases**

There are three principal diseases which attack the roots, crown gall, oak root fungus, and foot rot. All are important and attempts should be made to prevent and to control them.

Crown gall occurs both on the roots and on the trunk. It is caused by a bacterium which gets into the cells, irritates them, resulting in the formation of a gall. These become enlarged and even girdle the roots and trunks. Decaying fungi get into them and kill the tissues, finally killing the tree.

The method of control is to cut out the galls and disinfect. Sometimes it is necessary to treat a second time. Treatment should be given before the galls progress very far.

Oak root fungus is a disease which attacks most kinds of trees. Infection takes place in the roots. Roots of a healthy tree coming in contact with roots of an affected tree will get the disease. It progresses into the larger roots and then into the trunk when death usually results. It lives between the bark and the cambium layers, forming white, ribbon like structures.

Treatment is rather unsatisfactory but it pays to try to control it. When a case is found, dig out the tree, removing all roots. Disinfect soil with carbon bisulphide, using 1½ ounces in hole 1½ feet deep and 1½ feet apart, covering up the holes again. Growers in citrus orchards practice digging a deep trench around the affected portion once a year to cut off roots which pass from one tree row to another. When the disease is found before it has progressed far it can be held in check by cutting out the affected bark and painting with disinfectant.

Foot rot is a disease which so far has only been found on Southern California Black walnut stock. It causes a dying back of the bark on the roots. It usually does not show up in the tops until the roots are practically destroyed, and then the leaves wilt suddenly. It is under investigation at the present time by the citrus experiment station. It seems to be correlated with wet soil and soil above the bud union. As soon as found each tree in the orchard should be inspected for the early stages of the disease. If it has not progressed too far it can be cut out and disinfected with Bordeaux paste. The soil sould be left open around the crown roots to dry out.

**Diseases Above Ground**

There are two principal infectious diseases which attack the trunks and limbs, heart rot decay and melaxuma. Both depend upon wounds to gain entrance. One of the greatest agencies for gaining entrance is sunburn. More harm comes to walnut trees from sunburn than any other one thing. If one were to examine the bark on the south side of most walnut trees that are not protected it will be seen that the outside layers of cells are dead while on the opposite side the cells are green at the surface. The top of a tree gets its moisture from roots on the same side, and roots obtain plant food from the top on the same side. If the trunk has the outside cells dead the sap flow to the roots is interfered with. Very often the bark splits and heart rot fungi gain entrance, finally injuring and destroying the tree by eating up the heart wood which is the tree foundation. It would be a paying investment for every walnut tree, no matter how large and old, to be painted with Bordeaux paste on trunk and main limbs. Bordeaux paste not only serves to protect against sunburn but prevents to a great extent the two diseases from gaining entrance.

Pruning wounds should be painted with a disinfectant and then with a wound dressing. It is better to apply a non air-tight disinfectant letting the wound dry out, and then follow with asphaltum paint within a day or two. That prevents the sealing in of moisture which would make conditions favorable for fungi growth.

Melaxuma diseases gain entrance in wounds and sunburn. When sunburned places become moist the fungus spores germinate and the fungus grows. After it becomes firmly established in the rotted bark it penetrates the living tissue, killing it as it progresses, and a black sap forms which flows copiously. It is quite severe sometimes and even girdles trunk and limbs. The most common trouble from it is that it makes favorable conditions for heart rot fungi to gain entrance. The method of treatment is to scrape away all of the dead bark to good tissue and disinfect. Bordeaux paste is quite satisfactory for it serves to prevent sunburn also.

# A Successful Five Acre Orchard

By M. E. Bemis

TO plant an orchard and make a home on unimproved land is generally considered a worth while achievement for a young man. When a man, who has reached the twilight years of life, starts out on an enterprise of this kind, it is somewhat more noteworthy, and when the dreams of such a man are realized, I always feel that it deserves something more than mere passing mention.

Just the other day I had the pleasure of meeting H. T. Crosby, and I met him where I like to meet farmers, that is to say, on his own farm, and literally "under his own vine and fig tree."

Mr. Crosby was formerly from Mississippi. He raised a large family, coming to the Salt River Valley some five or six years ago a widower and alone. About four years ago he purchased five acres in what is known as the Alhambra district. This land had been under cultivation but had not been intensively farmed and a good deal of work was necessary to make the land adaptable for fruit growing.

With some knowledge of deciduous fruits, and a willingness to work hard, which would have been commendable in a man much younger, Mr. Crosby set to work in the early spring of 1919. About one acre was set in grapes; the rest in apricots, plums and peaches. These trees were set 36 feet apart in order that the ground in between might be utilized to better advantage for the growing of other crops. In passing, I might as well say right here, that this to all appearance was successful. For two years the crop grown between the trees was cotton. One year four bales were made on the four acres. Last season he grew some sweet potatoes and some watermelons. This spring he has completed his original plan of filling in the spaces between the trees with fruit trees. These trees bore their first commercial crop last season—plums producing at the rate of 25 pounds per tree, peaches 15 pounds to the tree. Several varieties of apricots, peaches and plums were planted.

Last year's production gave an opportunity for studying production, vitality of trees, time of ripening, market prices of fruit and other factors that are of value to the producer of commercial fruit. The consequence is that the trees that have been planted in this season to fill out the orchard are mostly plums, the Santa Rosa variety being chosen as the most desirable deciduous fruit for the Salt River Valley of Arizona. The yield of this plum this year will probably be at least 100 pounds to the tree, even with careful thinning, which is apparent now will be necessary. A single limb of this variety, 50 inches long, was taken more or less at random and 74 plums were counted.

In the vineyard the Thompson Seedless grape seems to be with Mr. Crosby, as with other grape growers, the most popular. However, another variety known as the Isabelle, a late ripener, has proved a wonderful producer. Coming on the market at a time when there are no fresh grapes, prices are consequently good.

A somewhat unique system of utilizing all space available and preventing, to some extent, waste spaces which will grow weeds, Mr. Crosby laid out his head ditch with just a little additional space, permitting the planting of a row of apricot trees on the opposite side of the trees from the main orchard. Grapes have been set along the ditch through a part of the orchard.

The orchard is free from weeds, grass or other unsightly growth, showing conclusively that cultivation has been thorough.

Mr. Crosby was past the three score year milestone when he began his farming operations, but in spite of the fact that he has reached the time of life when many men retire from active work, I venture to say that he is more active than a great majority of men less than half his age. This achievement is something of which he is justly proud.

# Bee Locations and Honey Plants of California

By Henry Perkins

CALIFORNIA abounds in a very wide range of nectar producing flora both as to variety and seasonal distribution. The nectar flow extends from January to October or even later, beginning with the willow and eucalptus in January and terminating with the blue curl and sunflower in the late fall. The major honey plants upon which the beekeepers rely for a surplus are the orange which blooms in April, the sages from May till July, wild buckwheat from July till September, Lima beans in July and August, and alfalfa in the interior valleys from May till September. A large number of plants such as wild alfalfa, wild mustard, alfilaria and others too numerous to mention sandwich in throughout the entire season and although they seldom produce any surplus they serve as a source of pollen, also enough nectar for early and late stimulation for the bees, which is very important.

Fully half the honey produced in California is from wild flowers and therefore largely dependent upon adequate rainfall. A survey of the past 20 years will show that a full crop from this source need not be looked for oftener than one year in three or thereabout. The orange bloom, while not dependent upon rainfall, is very sensitive to other climatic conditions. It is seldom a total failure but often a partial one. The orange has a freakish way of yielding well in one locality and doing nothing in another perhaps only a few miles distant, due to a variety of causes. I should say that the orange flow is 50 per cent dependable. The alfalfa is the most reliable of all where it is far enough inland to escape the coast air. Imperial, Coachella and Yuma valleys, also Sacramento and San Joaquin valleys, are famous alfalfa honey sections. The wild buckwheat and sages are widely distributed throughout the coast range from the Mexican border to Santa Clara County. The higher elevations are as a rule the most dependable. The semi-arid sections on the desert side of the range frequently produce better than the coast side.

Now from the foregoing it is plain that there is no such thing as a bee location which combines all the desirable features and honey plants in one.

(Continued on Page 67)

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## EDITORIALETTES

A view of fumigation operations on one of California's big citrus groves is shown on this week's front cover. This grove belongs to the Arlington Heights Fruit Company and comprises some 2300 acres of citrus trees. No expense has been spared in keeping this orchard in ideal condition as will be noted from the illustrations. Nothing tends to improve the appearance of a grove as much as well cultivated ground and properly pruned trees. The trees in this orchard show by their vigor and productiveness that it pays to give citrus orchards the best of care. Mr. Alfred Crebbin is president and manager.

## AFIELD

In my last letter I did Ohio roads an injustice. I've nothing to take back as to the particular roads I described then, but there are others.

There is but little attention to highways by the state of Ohio. The auto license fee, which is entirely held by the state, is the only source of state road funds. The counties levy a tax and build some paved roads, but my experience has been largely on township constructed roads. This results in variety. All widths, heights and depths are experienced. Often a township is unable or unwilling to join in the construction, and a five mile interval of mud or dry humps gives a test to drivers nerves and to the cushions. Some pavements are on one side, some on other, some in center. Most are ten feet wide, some 12 or 16, a few 18 and occasionally curb to curb width. The 10 foot width is usually on one side and with no apron. That means that one must skid for it when two meet. Which one is determined by the side on which the pavement is laid.

When approaching a town this is usually on the right side of a road. The merchants insist that the farmer with a load of produce shall be encouraged to come to town with right of way in his favor. So in driving between towns 16 miles apart one is on the left for about eight miles, then suddenly is jumped to the right side of the road and has the right of way for the rest of the way in.

### Some are Wider

The other day I was driving from Mittawanga, a little resort on Lake Erie, some 75 miles south and west and to Freemont on the Sandusky River. There were a dozen types of highway and "nonhighway" construction. But between Norwalk and Fremont there is a brick pavement 18 feet wide of 4 by 4 brick on 4 inch concrete base with cushion of an inch or two of sand. There is practically no rounding of the surface, almost flat as the floor, and speedometers of the new Lincoln stuck at 50 miles and stayed there mile after mile.

Motor cops did not molest us though there are alleged to be certain small town officers who are ofttimes active, so "you'd better watch out" signs occasionally appear.

Then there is a fine strip of road between Ashland and Wooster. On the way via the Lincoln Highway one passes the memorial to Johnnie Appleseed. Johnnie, you know, was a wonderful character in the apple growing industry of Northern Ohio—was in the long ago when trails were still blazed an whitewood trees. But Johnnie Appleseed is worthy a longer story than I can write this week. The passing by his memorial was merely an incident of a drive to one of the finest of agricultural experiment stations in this U. S. A.

### Ohio State Agricultural Experiment Station

The Ohio state experiment station is in Wooster, Wayne County. It was formerly on the grounds of the state university at Columbus. The growth of the city and needs of the station made necessary removal to greater acreage and to a more representative farming section and the Wooster site of 700 acres was chosen. It is a wonderful piece of soil and is located in most beautiful surroundings, with view over a little valley with a city of 10,000, Wooster College and campus and rich little farms in its center, and with its surrounding hills rimmed with the forest primeval.

Ohio recognized the needs of agriculture even before the enactment of the National Experiment State Act (Hatch act) in 1887. In fact, beginning in 1883 an appropriation of $2,000 started the state work. This was soon increased, and by the time the Hatch act was in force Ohio was in position to take immediate advantage.

One of the fundamental problems of agriculture as stated by W. K. Greenbank, editor of the station publications, is: "Increased production which may be brought about by better methods of culture, by adding to the fertility of the soil, by improving the plants themselves and by controlling insect pests and plant diseases. Fertility experiments are planned and conducted. Agronomists cooperate as far as practicable with the botanists and entomologists in the study and control of crop diseases and insects."

Besides the fertility tests there are wonderfully illuminating plots showing the result of drainage. Drainage is proving most beneficial on naturally "well drained" soils. The lands of the station are rolling, and there is scarcely an acre which to the inexperienced eye appears to need under drainage. Yet two plots, one underdrained with tile, show most marked advantage in favor of the tiled plot planted to wheat.

Then in fertilization of oats there are a vast number of plots showing marked differences from application of nitrogen, phosphorus, or potassium, also all of the three elements in different proportions and infinite variety of combination by twos and, even application of single elements, and always the check plots where there is no fertilization. Unfortunately the rank growth of many of the plots, together with a three inch rain which had preceded my visit, had resulted in lodging some of the plots. These will be carefully handled by hand so as to preserve the fertilizer results.

But Californians have little interest in oats? Possibly, but they have great interest in fertilization, and I'm hoping Mr. Greenbank will yet give to Cultivator readers some of the results of the fertilization investigations. Mr. Greenbank gave up valuable hours to show me over the farm and the various experimental plots. Weeks would be required to give thorough study to work of the station. Of particular interest were the horticultural plots where half a thousand varieties of apples are in the testing. Japanese plums are trying Ohio climate, and some of them like it. California is not to have exclusive rights to plums. But the longest pole will knock them off.—C. B. M.

## THE OTHER HALF

Secretary Wallace says: "Marketing is the other half of agriculture." The time was when the wheat was taken to the mill and the grist taken home or a ham or side of pork exchanged with a neighbor for apples or a few yards of homespun.

California had to carry her "grist" so far over mountains and desert that it became necessary for neighbors to unite to fill a car or a ship. Especially was this true of fruits which produced in such abundance that marketing facilities failed woefully to meet the needs of the greatest productive industry of the state.

The far sightedness of California fruit growers and their prompt action in creating marketing forces were able to cope with the difficulties and bring success out of what at first appeared failure. Those of us who were of the first cooperators in '92 and '93 recall most vividly the faintness of heart which we concealed as best we could during those first few years of effort at cooperative marketing The faintness was overcome and while some growers fell by the wayside a sufficient number "stuck" and the greatest cooperative fruit marketing organization was builded. The East came West and went back and builded equally wisely.

Growers still ask each other: "which is best," and the more expert growers, the university specialists, the department people, the farm papers and others aid in the answer. We are still asking for the better and more economical way, but the one big question which the newcomer asks in considering an investment in any particular line of production is "are you people organized so that I may be sure of my market?" We think Mr. Wallace could have said more truly "Cooperative marketing is three-fourths of agriculture."

To meet the growing need of agriculture in marketing there must be more trained workers. Some of the marketers greatest difficulties today are caused by failures in business management. Inefficiency or lack of experience has resulted in financial loss to growers who have trusted their all to the organization. We fully believe there is but little if any loss from dishonesty, but "Inefficiency, thy sins are great!"

One of those who recognized present day needs of marketing was George Livingston, formerly chief of the bureau of markets. Mr. Livingston has now become associated with President J. R. Howard of the farm bureau and other rural uplift service people and there has been organized The American Institute of Agriculture with headquarters in Chicago. The work of the institute will be strictly educational and largely through correspondence courses.

## MORTGAGES INCREASE

The secretary of the federal department of agriculture has been directing the gathering of statistics as to mortgages on farming property and especially has been endeavoring to determine why they are increasing in the aggregate. The conclusion arrived at is that the increase is normal and because of the great increase in farm values.

A mortgage on the farm is not always a liability, at least not in the sense the overly careful sometimes consider it. In fact, we can imagine wherein a mortgage might be one of the strongest assets to the intelligent careful farmer. The greatest need of the farmer today is a working capital and when a mortgage is used to secure that working capital, and that capital made productive through purchase of fertilizers, of feeders, of better care of orchards, possibly of more irrigation water, it may readily be seen that the mortgage may result in profit rather than in loss or possibly total failure.

Amongst the findings of the department are the following:

"A very large per centage of farm mortgages is the result of land transfers, the mortgage, like tenancy, forming a rung in the agricultural ladder to farm ownership. The size of the mortgage naturally tends to bear a direct relationship to the purchase price of the farm. To the extent that farm mortgages are the result of investments in productive permanent improvements and equipment by existing farm owners, they evidence progress and not regression. In general the increase in farm mortgages during each decade since data were first gathered by the census has been most marked in sections which have made the greatest progress during that period. Even where improvements are paid for out of savings instead of with the proceeds of loans, the increased value and price of a farm is quite certain to result in a larger mortgage in case the farm is transferred to a new owner."

## AVOCADO FIELD DAY

By Ernest Braunton

THE southern half of California contains thousands of seedling avocados and there are many more well north of the median line. Guatemalan tops on Mexican trunks perished during the January freeze, hardier

Top Workig Avocado

Carter Barret inserting a ⅝ inch scion in the split trunk. Sprouts left on trunk to use surplus sap.

scions will now be used, and there are still other reasons for top working avocados.

So a field day for explanation and demonstration was set aside by the Los Angeles farm advisor, Friday, June 30. In the forenoon the meeting was held at the West India Gardens, Altadena, and in the afternoon on the Edwin G. Hart lands at North Whittier Heights. The preliminary talks were made by Assistant Farm Advisor Ryerson, under whose charge the meetings were held. The topworking demonstrations, budding and grafting, were performed by Carter Barrett, of Puente, and S. W. Funk of Charter Oak.

The budding is done by practically the same methods as those in general practice for citrus trees. Of course, the avocado buds are much larger, but the details of operation are similar. The more common grafting is the same as used in top working walnuts. Mr. Funk showed one other method by which he has had good success. It is by fitting a scion of at least a half inch diameter into a three cornered pocket two or three inches long, made down the side of the sawed off trunk. Two knife slits are made a half inch or more apart for two inches or a little more down the side of the trunk, beginning at top of stub and cut in so that the knife cuts meet a half inch or more deep in the trunk. This leaves what a carpenter would call a three cornered "gain" out of the tree. The piece taken out is a quarter-round, two inches long and a half inch on each face. Into this is fitted a scion, just as a carpenter would do it. This method gives the cambium two inches on each side whereby to form a union, surely an assurance of success if the joinery is well done. One or two small nails complete the cabinet makers job, which is then waxed over as in all grafting. Grafts by this method three years old, are now thrifty trees.

## ALMOND TARIFF—SO FAR, SO GOOD

An import duty on foreign almonds of five cents on unshelled and 15 cents on shelled has been written into the new tariff bill by the senate, but the unrelenting opposition of the candy manufacturing interests obliges California almond farmers to continue their fight until the five and 15 cent duty finally becomes law.

"If the almond growers of the state continue to support the California Almond Growers Exchange," writes Manager T. C. Tucker, "and back up the efforts of the California senators, the five and 15 cent duty will be in the new tariff bill when the president attaches his signature to it. It is a foregone conclusion that confectioners will continue their fight on this schedule, attempting to substitute lower rates when the tariff bill comes up for final vote. The action of the senate as a committee of the whole, however, virtually demonstrates the futility of such attacks. The real danger to the almond schedule lies in the conference between house and senate committees after the bill leaves the senate."

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Imperial Valley will ship out about 150 carloads of grapes.

## FARM BLOC SAVES GRAIN TRADING BILL

The house has passed the new measure drawn up as a substitute for the Capper-Tincher bill passed last year, and later held unconstitutional in some of its provisions. The new act would regulate the grain trade and prevent manipulation under the interstate commerce clause of the constitution. The first bill attempted to attain effective public regulation of the grain pits by taxation, which the supreme court held was a wrongful use of the taxing power. Credit is given to the farm bloc for saving this bill from death in committee.

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The Sun Maid Raisin Growers have sent a representative to Latin America to make a commercial survey of conditions in Mexico, Central America, South America and West Indies.


# How To Crowd Two Days' Tillage Work Into One

MANY jobs are done on Fordson farms that would not be done if horses were depended upon for power. More thorough seedbed preparation is possible because there is more time available for this important work. Good farming practice demands that stubble be disced immediately after removing the grain from the fields, to return valuable humus to the soil, to make fall plowing easier and to conserve moisture.

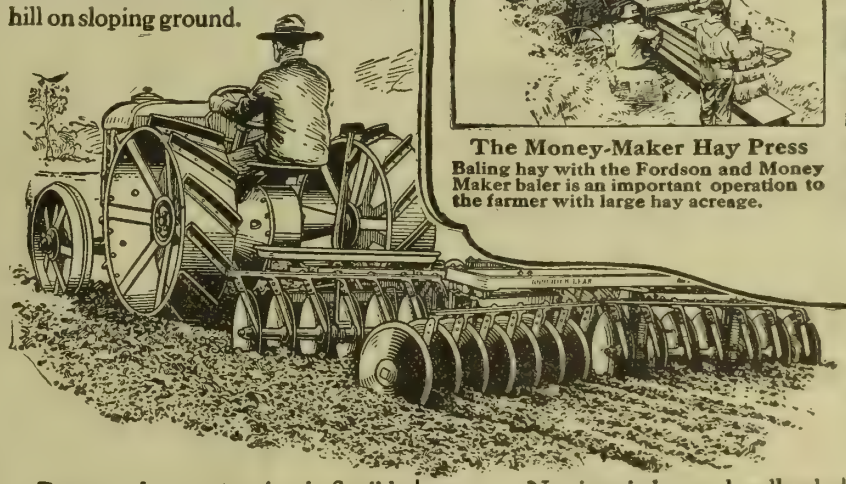
The success of the next crop may depend upon this saving of moisture already in the soil. For this work with the Fordson, as well as for cutting up corn stalks, cotton stalks, and for many other jobs, no other implement does as well as the double disc harrow. There is one disc harrow especially built in every feature to work with the Fordson.

**Roderick Lean**
**Automatic Engine Disc Harrow**

Made dy Roberick Lean Mfg. Co., Mansfield, Ohio

This tool is operated entirely from the tractor seat, and the angle of the discs changed by the power of the tractor, providing quick and easy adjustment without stopping and with little effort on the part of the tractor operator. The entire harrow may be fully and instantly straightened for wheeling through a wet spot, or over an obstruction, while the tractor is in motion.

Working your ground with the Roderick Lean means working every foot of soil. Double reach bars connecting the rear harrow to the front, make the rear disc blades always cut midway between the cuts of the front blades. They cannot track. The rear section cannot slide down hill on sloping ground.



Because the rear section is flexibly connected to the front, this harrow turns short and works close in field corners. No time is lost at headlands—straightening of gangs for turning is unnecessary. The harrow works at uniform depth its entire width, leaving headlands level and well pulverized.

These and many other features have placed the Roderick Lean Automatic Engine Disc first in the estimation of Fordson owners.

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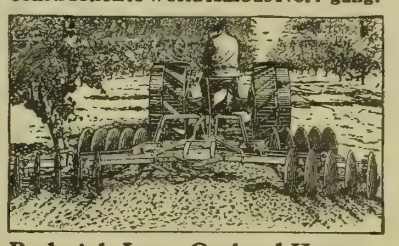

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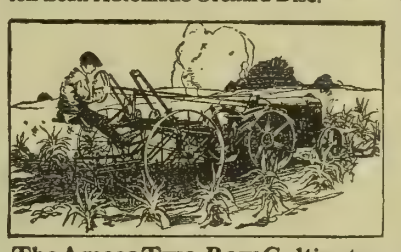

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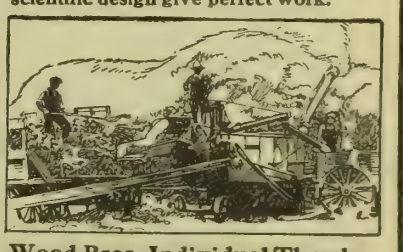

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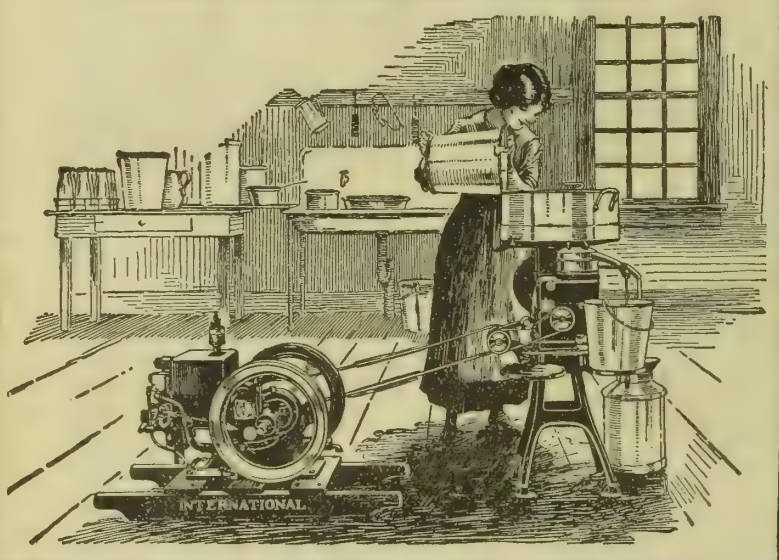


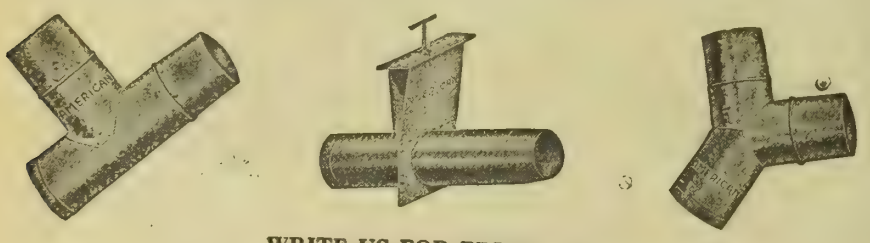

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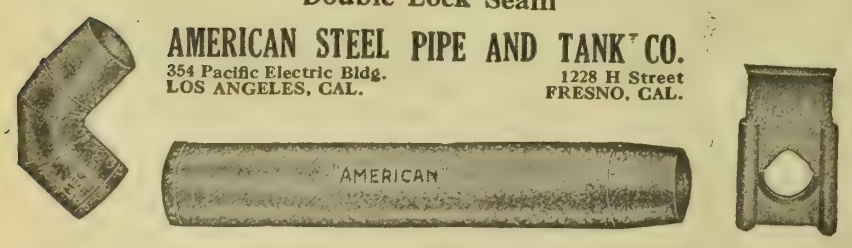

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# How About the Black Monukka Grape?

By Fred K. Howard

Prospective planters are probably as much interested in this question as they are in any other single question regarding the grape industry except, perhaps, that of future prices. A great many people feel, perhaps rightly so, that the Thompson Seedless is being overdone, and that there is danger of glutting the markets with Emperors and Malagas. And it is undoubtedly this characteristic of looking ahead which prompts those who wish to go into grape growing as a profession to cast about for some variety which promises to be better than the common ones named above. The result of this continued interest in the Black Monukka is likely to cause some severe jolts to those who go ahead and plant it without due regard to its limitations. The Black Monukka is a new variety and in an experimental way it gave promise of being an exceptionally fine dual purpose grape. This fact was widely advertised and a great deal of interest was taken in its development. Stock for planting was scarce and, in fact, difficult to obtain, and while the pioneers with this variety were honest in their efforts to prevent a mad rush into its planting, enough of the stock has now been distributed over the state that the situation is beyond their control. Last season there was considerable speculation, both in cuttings and rooted nursery stock of this variety, and early indications are that this speculation will be more than duplicated this season if the demand for stock continues at the present rate.

### Black Monukka Still an Experiment

Very little is known regarding the shipping qualities or consumer demand for this grape, and still less is known regarding the consumer demand for it as a raisin. And it is entirely possible that when, after acreage develops and enough is in bearing to permit placing quantities on the market in the form of fresh grapes and as raisins, growers will find that the consuming public is not to be easily weaned away from the standard varieties. This would mean that it would be necessary for them to set a low price on their product until the consumer could be educated to its superiority. The fact that all agree that the Monukka looks good will not sell a crop at a profitable price. There is a chance that the Monukka will prove to be all that is hoped for it, but it would appear to be wiser to treat the planting of it as an experiment. Some growers are of course in a better financial position to experiment on a large scale than are others, and those who go into the business should regulate their plantings on such a scale that complete loss of crop or returns from their acreage will not seriously affect their ability to keep ahead of their creditors.

# Grafted Citrus Resisted Frost

A Mississippi subscriber of the Cultivator, living at Hattiesburg, writes:

"I was an interested reader of Mr. Brandt's letter in the Cultivator of June 17, on 'Frost Resistant Strains of Oranges,' so much so that I will submit some observations of my own on this interesting subject.

"Fortunately for the Gulf Coast citrus section there has been no severe weather since November and December, 1916, so that the test is yet in an experimental stage. Therefore these observations are passed on to the readers of the Cultivator without an attempt at explanation, hoping that some Pacific Coast orange grower may be interested enough to experiment further.

"In the early part of the winter of 1916, the writer was living at Biloxi, Mississippi. On this place there were ten acres of Satsumas just coming into bearing. This freeze was general along the Gulf Coast of Mississippi and Alabama, and came early in the winter before the growing wood had time to harden. Three-fourths of the trees in this grove were either killed to the bud or entirely destroyed. Some few near the house on high ground overlooking the bay were hurt but little, while most young trees throughout this section were badly damaged.

"So much by way of introduction, and now I will note my observatoins of some frost resisting orange trees, that safely survived the severe winter of 1916.

"A few years before this freeze occurred there was growing in a nursery at Woolmarket a small block of nursery stock that was not at the time in a suitable condition for successful budding, so the stock was grafted. Later when the foreman for the nursery company left their employ to manage a farm of his own he planted an orange grove. He was granted the privilege of selecting his trees in this nursery. Every tree selected was a grafted tree. Also some of these grafted trees were sold and planted near Grand Bay, Alabama. Some were planted by the nursery company as an experiment. Before these grafted trees reached bearing age occurred the hard freeze of 1916. If my recollection is correct, the mercury dropped to 19 and the orange industry got a severe jolt along the Gulf Coast.

"While young budded trees in the same and nearby groves were either killed or severely injured the grafted trees escaped injury. Since then mild winters have not permitted a second test of cold resisting properties. This nursery since then propagates both budded and grafted trees. The writer now living 60 miles north of the recognized Gulf Coast citrus belt, will arrange this coming season to plant some grafted orange trees to further test the cold resisting qualities of grafted over budded orange trees.

"I would like to see some California nurseryman try grafting some Navel and Valencia orange trees and note the result. Sometimes, seeing is believing, yet one test is not sufficient to prove its worth, when millions are invested in this great industry."

### APRICOTS AND FROST

In years gone by, when a piece of ground was found to be too much subject to sharp frosts to make the planting of citrus advisable, the usual determination was: "I will put it into deciduous fruit trees for any of them will stand all the cold that comes to this section." Of course, this was, and is, true so far as the tree is concerned.

But many orchardists have found to their sorrow that hardiness of tree is not the only factor to be considered, and because of the continuance of unwise planting by the novice and newcomer is this article written. Greater care is necessary in selecting sites for apricot planting than for any other fruit tree in the great rose family, and all on account of late spring frosts visiting many otherwise favorable locations.

For the apricot is an early bloomer and if one sharp frost occurs when the trees are in full bloom or fruits are small the crop will be very light or none at all. But very few feet in elevation is necessary to bring comparative safety. Apricot orchards are known that on the whole are very profitable, but in a low corner or end the crop over a series of years would scarcely cover expense of ordinary orchard care. In some cases these low spots are replanted to plums or some fruit less liable to injury from late spring frosts. As for soils, the range may be great. The largest and finest apricots observed by the writer in a third of a century's observation were Blenheims grown in fine pure sand of great depth, on the edge of a wash which was dry in summer but a raging torrent during heavy rains. For food the trees relied upon that washed down from orange orchards above, and the roots below were always in damp sand, though at a depth of several feet in late summer.

# Marketable Celery Needs Careful Handling

IN view of the widespread publicity given last year on account of the fact that celery was too heavily coated with arsenic and spraying was improperly done, this paper was prepared to avoid any similar occurrences the coming year," writes R. E. Campbell, assistant entomologist of the U. S. bureau of entomology, stationed at Alhambra.

Celery grown in certain parts of Southern California is subject to damage by the celery leaf-tyer, a pale green worm which, when full grown, is about three-fourths of an inch long. It feeds on the leaves and stems of celery, and not only destroys much of the foliage, thereby checking the growth, but makes the celery unsightly and frequently unmarketable. Irregular holes, which soon turn dark colored, may be eaten in the stems.

The worms come from eggs laid by a small brown moth which may be seen fluttering about over the fields at dusk. The eggs are placed on the outer leaves, usually on the undersides, and resemble minute flat fish scales. In warm weather the eggs hatch in four or five days; in colder weather in a much longer period. When hatched, the worms begin feeding on the foliage, usually on the outer leaves where the eggs are laid, continuing here until almost mature, when some descend and feed on the stems. The worms become full grown in from three to eight weeks, depending on weather conditions, and then enter the pupa, or resting stage, in which they remain from one to five weeks. From this stage they transform to the moth which in a few days resumes the laying of eggs.

### Don't Plant Near Beet Field

There may be five or six generations or broods in a year, three or four of which occur during the six months from June to December. These insects feed on sugar beets, so that it is not good policy to plant celery near a beet field. When the latter is harvested, the moths fly over to the celery and lay their eggs, which will result in a severe reinfestation of worms in the celery soon after the beets are harvested. If celery is planted near a beet field, it should be carefully watched for worms when the beets are plowed up.

### Control Measures

The best method of controlling the celery leaf-worm is to poison the caterpillars with arsenate of lead. The latter is also poisonous to human beings, hence extreme care must be taken in its application. A small amount of poison can be applied to the plants with safety, but a heavy application may subject the celery to seizure and the grower to arrest.

Since the young worms begin feeding on the under sides of the leaves, it is important to place the poison there. A fine mist-like spray should be used, and a light but thorough application made to both sides of the leaves. The tendency in the past has been to use too much poison and apply too much spray per acre. By using a nozzle which will give a fine misty spray, 100 gallons should cover an acre of celery. Not over three pounds of lead arsenate should be used per 100 gallons of water.

The young celery should be watched both for eggs and young worms. When these appear in numbers, the poison should be applied promptly. It may be repeated, but this should not be necessary oftener than twice a month. Careful spraying should be done, so that the poison will be evenly distributed over the entire plant. This will keep the worms in check. Only growing, not mature, celery should be sprayed. It is necessary to cease spraying operations from one to three months before the celery reaches maturity, or is marketed. This length of time depends on weather conditions, being shorter during the rainy season.

### Mature Celery Must Not Be Sprayed With Arsenicals

If absolutely necessary to spray full grown celery on account of worm damage, 1 pint of nicotine sulphate and 4 pounds of soap to 100 gallons of water should be used.

If celery blight is present, the lead arsenate may be added to Bordeaux mixture in the same manner as it is used with water.

If the dry method of application is preferred, powdered lead arsenate may be used, being diluted with lime or some other dust, so that the application can be made at not over 3 or 4 pounds of lead arsenate per acre. Dry Bordeaux mixture or dehydrated copper sulphate can also be used with the powdered lead arsenate.

It is the belief of both the bureau of entomology and the bureau of chemistry of the United States department of agriculture that the above recommendations, if carefully adhered to, will be entirely satisfactory. Celery, however, sprayed with an arsenical cannot be absolutely guaranteed to be free at marketing time. It is therefore suggested that in carrying out the plans an occasional analysis be made in order that the grower may be certain that his celery, at harvest time, will pass a satisfactory test.

### CONTROL ARGENTINE ANT TO CHECK MEALYBUG

The first step in controlling the citrophilus mealybug, which is a pest of the citrus fruit industry for which until recently no satisfactory control measures have been worked out, is to get rid of the Argentine ant. Argentine ants are very fond of the sweet substance known as honeydew, excreted by mealybugs and other soft scales and are always very attentive to them, to the extent of preventing many of the natural insect enemies of the mealybug from approaching.

The bureau of entomology of the United States department of agriculture has made a study of the life history and distribution of the citrophilus mealybug, and in a new department bulletin, No. 1040, "Control of the Citrophilus Mealybug," by R. S. Woglum and A. D. Borden, entomologists, suggestions for eradicating the pest are presented.

The Argentine ants may be controlled by the use of a special arsenical poisoned syrup in small containers, one to each tree. These are best distributed during the autumn or spring. Banding the trunks of citrus trees with strips of burlap about 5 inches wide from February to April attracts ovipositing female mealybugs and enables the fruit growers to destroy the eggs in wholesale fashion. The burlap bands have to be removed and dipped in a distillate mixture for which a formula is given in the bulletin. The tree trunks are then sprayed and the clean bands replaced. A distillate soap powder emulsion is used after the mealybugs have massed on the trunks and just before the eggs begin to hatch. This is usually done during the latter part of May.

The propagation of certain insects which are natural enemies of the mealybugs is also recommended. The principal species for this purpose are Cryptolaemus montrouzieri, Leucopis bella, Chrysopa spp., and Scymus sordidus.

### GOOD KEEPERS

The possibility of keeping the Mammoth almond over a long period without deterioriation of the sweetness and size of the nut has been demonstrated by W. N. Woodson of Corning, one of the pioneers in the development of the Tehama County district. Twenty-one years ago Woodson put away a few pounds of Bidwell Mammoth almonds. Recently he cracked a few of them in the presence of interested friends and found the kernels to be just as fresh and sweet as they were when first gathered.

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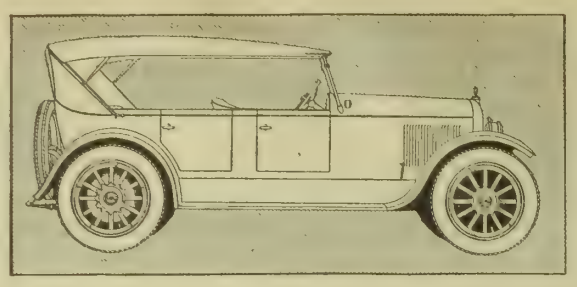

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# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Avocado Culture

I have 30 Fuerte (?) avocados eight and nine years old. They have borne very lightly for three or four years but never more than a dozen on a tree. They blossom heavily but fruit does not set. They have blossomed since the January freeze but on the 30 trees there is not more than a dozen fruits. Irrigate once a month and mulched last year but the soil is heavy and the mulch molded so I took it away. The trees were growing well when I bought the place but I do not know if they are budded or not. Red lady birds cluster thickly in blossoms and elsewhere; are they harmful? Would like to know what culture and care should be given to cause trees to produce good yield of fruit.—Subscriber, Athens.

It seems doubtful if trees are Fuerte as that variety is very precocious and fruits freely at three years of age. The fruits alone will tell what they are, though experts know Fuerte by foilage. If fruits are alike on all trees, the latter are budded; if much diversified, they are doubtless seedlings, though you may have several budded varieties. Again could experts determine this but only on seeing trees. The lady birds do no harm. The mulch was good and if the moldiness alarmed you it would be easy to turn it over. It should have been spaded into soil, or if too bulky, at least part of it, and the remainder left on top. Avocados are partial to mulches. Your soil evidently needs plant food and organic matter. A heavy application of stable manure would prove highly beneficial. A fertilizer when trees begin to blossom would aid in setting the crop. If your trees are of the Fuerte variety we believe they are starving. If your soil is heavy it may be irrigation practice is not sufficiently thorough to wet the soil deeply. In general avocados need about the same culture as oranges.

### Moving Orange Trees

When are the Limoneira people moving the six year old Valencias and can I move without a crane to lift them? Subscriber, Tustin.

The Limoneira moving commenced in May and will doubtless continue to about August. The crane is used because of the great number to be moved and the quickness with which trees may be handled. The trees are not too heavy to handle by "main strength" but we would suggest using a stone boat for hauling as the task of loading and unloading from high wagon would entail heavy labor and time outlay. Roots should be cleanly cut on ends and kept damp during moving, watering at once when planted or better still, put in holes having water in them.

### Subirrigating Trees

I have some shade trees in my back yard (which is hard ground) and wish to know if I can water the trees by putting a pipe (say 1½ inch or so) about 18 inches long in the ground near the tree, leaving a few inches out and putting a hose in it and let the water run, thereby not having to dig a trench around the trees.—Subscriber, Terra Bella.

You can water your trees in the manner suggested provided you use a larger pipe and have it perforated so as to allow the water to seep into the soil. We would suggest not less than a four inch pipe with numerous perforations from top to bottom. If the soil is very compact it would be best to have two or more of these pipes for each tree.

### Budding Deciduous Trees

Could you please tell me when is the latest time of the year that budding of deciduous trees can be done?—Subscriber, Terra Bella.

Deciduous trees should be budded in July and the first part of August. However, August may be a little late in some sections.

### Kadota Figs

Kindly send me a bulletin on the cultivation of Kadota figs. We have taken up a grove of orange trees near Exeter and are advised to set out with Kadota figs. Our soil is adobe, and we are anxious to know if figs will grow in any but sandy soil.—Subscriber, San Jose.

Sorry, but the Cultivator does not have bulletins to distribute. This question was referred to I. J. Condit of the California Peach and Fig Growers, and he answers:

"This variety of fig has been largely planted in heavy soils in the Tulare and Fresno County sections, and I see no reason why it would not grow in adobe soil, providing other conditions are correct. The orchard of W. Sam Clark at Sultana is on a heavy clay soil which is very difficult to work. Other orchards on clay soils are doing well and I see no reason why the trees should not thrive in adobe. The Kadota tree is no more hardy when young than the trees of other fig varieties, and frost injury during the first few years is very common. I have no literature, at the present time, for distribution but can give you, in the appended list, references which you can look up in any good library."

References: The Year's Developments with the Kadota Fig—The Fig and Olive Journal, May, 1918, p. 14—L. C. Beckwith. Why I Prefer the Kadota Fig—The Fig and Olive Journal, June 1918—W. Sam Clark. A Few Remarks About the Kadota Fig—The Fig and Olive Journal, Vol. III, No. 8, 1919 p. 8—W. Sam Clark. History of the Kadota Fig—The Fresno Republican—Oct. 12, 1919—I. J. Condit. The Prospects of the Kadota Fig—The Fig and Olive Journal, March, 1919, p. 9—W. S. Clark. Preserving the Kadota Fig—The Fig and Olive Journal, Vol. III No. 8, Jan., 1919, p. 7—N. E. Beckwith. The Kadota Fig as a Preserve—The Fig and Olive Journal, Jan. 1920, p. 14—R. E. Beckwith. Bearce Fig Gardens Employ Name "Clark dota" to Protect Superior Kadota Strain—The Fig and Olive Journal Jan., 1920, p. 17—Hart C. Donaldson. Some Thoughts Concerning Kadota Fig Culture; Uses of the Fruit and Cooperative Action—The Fig and Olive Journal, Jan., 1920, p. 12—W. Sam Clark. The Kadota Fig—The Associ Grower, Oct., 1920, p. 18—I. J. Condit. The Origin of the Kadota Fig—The Fig and Olive Journal, Oct., Nov., 1920 p. 13—John H. Oliver. The Kadota Fig—Booklet by W. Sam Clark, 1920 1668. Description of the Kadota Fig and Its Cultural Requirements—The Fig and Olive Journal, April, 1921,


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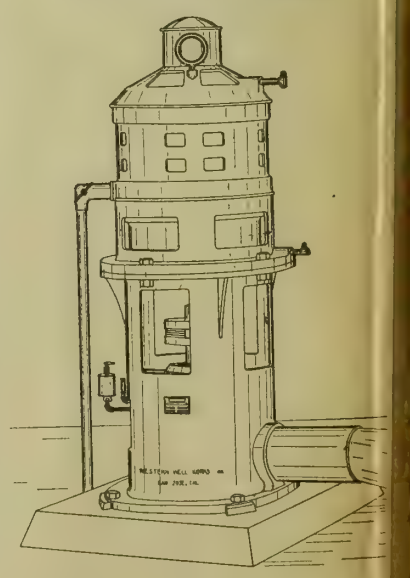

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2—Beckwith Fig Co. The Kadota Fig From a Marketing Standpoint—The Fig and Olive Journal, March, 1921, p. 3—L. C. Beckwith. Advantages of the Kadota from the Growers' Standpoint—The Fig and Olive Journal, p. 4, Feb., 1921.

### Nematodes

Kindly tell me through your valuable paper is there is a soil treatment that will eliminate nematodes and root knot and how is it used?—Subscriber, Porterville.

Any treatment that will destroy other insect life in the soil will kill the nematodes. There is no economic method for the field, however. In greenhouses the soil beds are steamed and some are occasionally drenched with formaldehyde. Small lots of soil for seed purposes are sometimes baked. All these methods are too expensive for the field. About 80 per cent of the nematodes are in the top six inches of soil but in very loose soils some range very deep. Fields infested can never be cleared but the nematodes may be controlled. Even drying through summer following destroys many as they need moisture to remain living.

### Morning Glory

How can I get rid of morning glory?—Subscriber, Potter Valley.

There is no method so effective as digging it out and keeping at it so closely that no leaves can grow. It cannot therefore breathe and must perish. Small patches may be dug by hand, but larger areas should be plowed and cultivated dry for one summer and the area subsequently closely watched and all appearing tops killed. Chemicals, salt, etc., have not given satisfaction, so it would seem elbow grease is the only means to the desired end.

### Lady-birds

Please tell me what are the red bugs that are all over the garden in the corn tassels and where the ears are forming. Some say they are lady-bugs, but they are too red. The 12-spotted lady-bug seems to be among them. I fear they are destroying the corn. Do they eat plants?—Subscriber, Glendora.

No red is too bright for some species of lady-birds quite common; the several species vary in color from orange to scarlet or even crimson, though the latter is dark for the more common species. They do not eat vegetation or destroy it in other ways. The 12 spotted is very destructive with a wide range of plants.

### Association Addresses

Please give us the address of the California Bean Growers Association, also the address of the Central California Egg Producers Association.—Subscriber, Turlock.

The address of the California Bean Growers Association is 120 Battery Street, San Francisco. Address of Poultry Producers Association of Central California is 757 Sansome Street, San Francisco.

### Processing Prunes

Through your question and answer column will you kindly tell me how prunes are processed for a commercial pack? Enjoy being a subscriber of your paper and derive much valuable information from this column.—Subscriber, Oroville.

Prunes ripen and drop from the tree naturally. They call for three pickings during harvest. Toward the close of the season the remaining fruits may be brought down by lightly shaking the trees. Experienced growers grade their prunes into three sizes. The fruit is placed in a wire basket and dipped for a few seconds in a solution of lye (one pound to 30 gallons of water), held at the boiling point. Shake basket sharply so fruits will shift position and be wet on all sides. Dipping the prunes causes a slight checking or cracking of the skin near the stem end, which facilitates drying. If the lye is too strong or immersion too long, the skin may peel off. After dipping the prunes are spread in a single layer upon trays and dried in the sun. They may dry unevenly. In the cool of the day the properly dried fruits may be removed. Prunes are dry when they are leathery to the touch but not hard enough to rattle against the tray. When too dry they may be dipped momentarily into boiling water and piled in bins or on a clean floor while still damp. The moisture is soon equalized. It is well to turn them over with a shovel a few times.

### Ferns With Scales

Please tell me what is wrong with enclosed fern leaves? They are covered with brown bugs. As soon as new leaves open they get brown like these. Ferns are potted in pure rotted leaves gathered from under oak tres and are given best of care.—Subscriber, San Luis Obispo.

Fern leaves were infested with hemispherical scale, a large brown one, and the small whitish wistaria scale, but neither or both together could cause all that seems wrong. Repot your fern in half present leaf mold and half good garden loam and then put a little leaf mold on top. Ferns seldom root in leaf mold but grow through it to firmer anchorage below, often adobe or clay. Your soil is probably too loose. Cut off and destroy old top before repotting and if scale reappear pick off by hand until no more hatch.

### Malagas and Monukkas

Would you advise extensive planting of Black Monukka grapes? Will they ship well? Do the Red Malagas bring a better price than the White? Is the Red as good a shipper as the White? What do you think of the future of the Red Malaga and Black Monukka?—Subscriber, Modesto.

Question as to Black Monukkas is answered on another page. As to Malagas, it is the general belief that colored varieties of grapes sell easier than the white varieties. Prices received for crops, however, depend on the conditions in the markets when the shipment is made, color, quality, and condition of the fruit. These things being equal on the red and white Malagas, the red type should bring better prices on the average.—F. K. H.

### Watering Asparagus

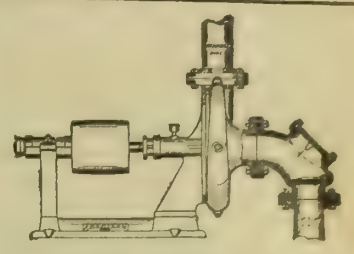
Would you advise watering an asparagus bed during the summer months? If so, how often? I live in a very hot dry climate and the ground gets very hot and dry. How much foliage is best to let grow, and should it be cut off in the fall?—Subscriber, Esparto.

You certainly should irrigate your asparagus during the summer months as it is at this time that the plant is storing up energy to make sprouts the next spring. Once in two weeks should be often enough to keep it in good growth. Allow all the shoots to grow after the first of June. Cut the foliage off as soon as rust appears, if any, or not later than November 1.—D. F. R.

### More Economical Pumping

I have a 5 inch pump and 12 horsepower commercial engine. Pump is 18 inches above water and 18 inches from top of ground. Discharge pipe is four feet higher, which is not necessary. When I irrigate gauge on pump shows 26. How much more water would I get by cutting off the four feet or how much gas would I save? It takes 1½ gallons an hour as it is.—Reader, Bakersfield.

You are drawing the water too low and showing too much suction on the vacuum gage for economical work. Either the water is not coming into the well fast enough to supply the pump, or the suction pipe is too small, and it is possible you will get all the water the well supplies if you will put a slightly larger pulley on the pump and run it slow enough to have the gauge show only 20 feet vacuum, if the trouble is not caused by small pipe. Then by taking off the extra four feet of discharge pipe a further saving of nearly one-sixth of the power will be made and altogether make a saving of one-third the power used, or the use of one gallon of gasoline per hour instead of one and one-half gallons. The taking off of the extra four feet of pipe will not increase the flow of water but will save gasoline.—J. B. N.

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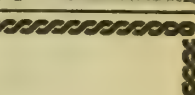

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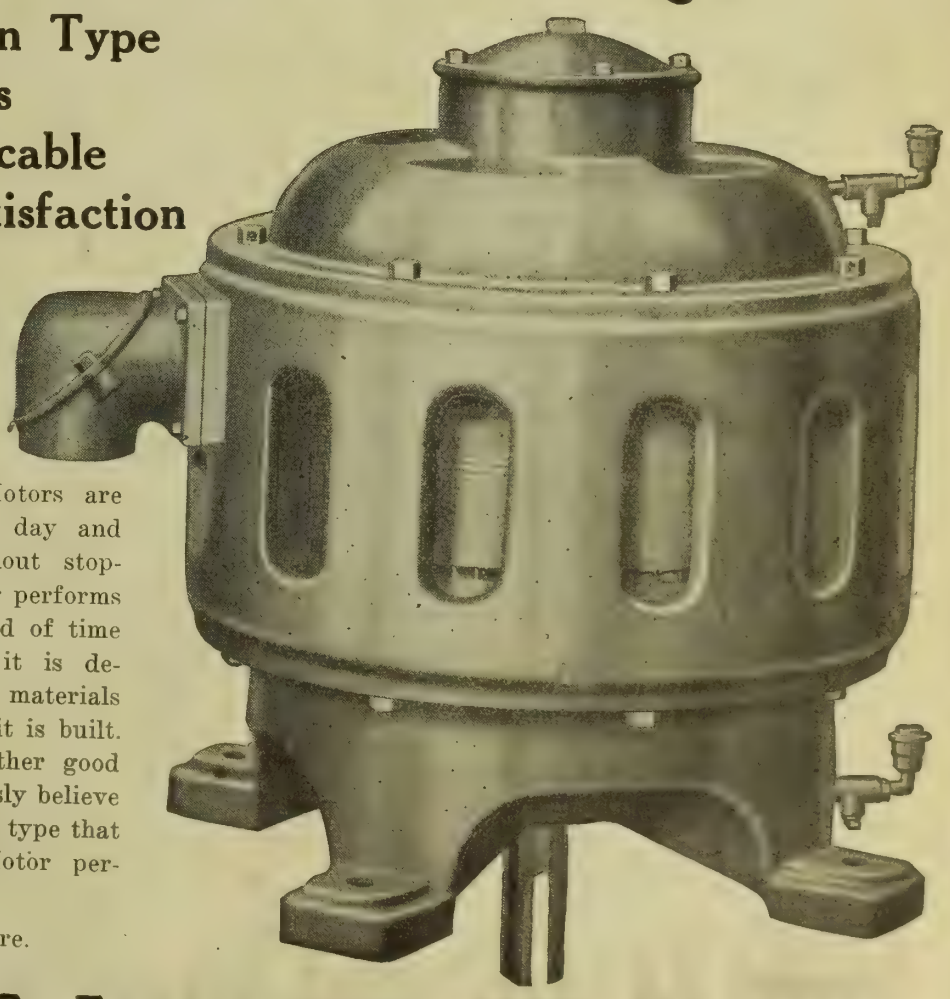

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# Household Department

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My garden is a little school,
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Great honor has been given me
In such a place to teach;
To fit the flowers for ministry
And send them forth to preach.

For on their Graduation Day,
In beauty and in pride,
As teachers, preachers, healers, they
Are scattered far and wide.

My little school is never done,
For in the lowest class
Are buds whose life has just begun,
With many grades to pass.

And often from some Graduate
I hear the happy tale;
He is a mighty potentate
Where other healers fail.

If I must never send them out,
But keep them all in reach,
Though bounded by my love about,
I would not care to teach.

—Bessie Alice Hallock.

### STAREYES AND THE SKY BLUE KEY

By Clara Peterson

(Concluded)

"And so, children," said grandmother sadly. "My box of coins lies locked in the palace unless someone has found the key. However, we shall get along someway. Now, Bab, brush up the crumbs while I change my apron and then for your naps."

The children kissed the old willow bird cage and looked loveingly at the ball of yellow feathers. Then they went into the bedroom. The grandmother tied on her white apron with wide insertion at the bottom and went out the door, carrying a basket of sweet smelling clothes. The room grew perfectly still except for the clock. Stareyes hopped down to the bird cage door. She reached her tiny white hand between the willows and undid the lock. Then out she flew and through the open window.

Stareyes lived with her older cousin Goldwings in a little house under the oak tree. She found Goldwings seated at lunch, but she wasn't eating; she was weeping into her crystal teacup. Stareyes threw her arms around the older fairy's neck.

"Oh, Goldwings! I'm back and I've had such a time. Just a buttercup sandwich for I'm starving and then I shall tell you about it."

When Goldwings would stop hugging her, Stareyes began to tell her story. She had told almost everything when she came to the part about the sky blue key falling from the sky blue box (and there were tears in her eyes for she wanted so badly to do something for Bab and Bobbins and their grandmother.)

"A sky blue key!" cried Goldwings, who also had tears in her brown eyes. "Now let me see!"

She began to dance around the table.

"Now I know where I've seen it. We'll get it! We must have it! It's in the magpie's nest."

To tell the truth, Goldwings was rather vain of her long braids of brown hair and her sparkling eyes and almost every time she flew high into the oak tree she stopped at the door of Mr. Magpie's nest and peeked in—just because there was a little round mirror across from the door.

"On sunshiny days I've often seen a sky blue key sparkling there near the mirror!" cried Goldwings. It's woven into the nest. Oh, he has dozens of things that he picks up everywhere. I'm sure he'll give it to us."

After the two fairies had finished the sandwiches and the rose petal cake Goldwings made Stareyes lie down for awhile and she put on her very best dress of corn silk fringe and flew away to see Mr. Magpie.

At Goldwings' knock on the limb Mr. Magpie put on his blue spectacles and stalked out.

"Ho hum!" he said when she had told him the story. "Yes, it was about four years ago I found that key lying in the dust, but I must say I hate to give it away. I'm trying to collect one specimen of everything in the world and goodness knows when I shall find another key. But now say I should turn it over to you, what will you give me for it?"

"My pink party slippers with the opal heels," said Goldwings because these were the best things she could name.

The magpie shook his head.

"My cobweb fan—my seafoam dress—my best tablecloth with the pearl trimmed lace."

Mr. Magpie wasn't even listening. He sniffed several times and said,

"I think I smell cookies or something. It's many a day since I tasted home cooking."

Goldwings' eyes grew very bright for she thought at once of the one thing she could do better than anyone else in all the land.

"Mr. Magpie," said she very loudly. "If you will give me the sky blue key I'll bake you five dozen of my finest doughnuts!"

The magpie stuck his head on one side and smacked his beak.

"Five dozen—60, sweet, brown, tender doughnuts—all covered with powdered sugar and smelling of nutmeg!"

"I don't believe that key is woven in so very tightly," said Mr. Magpie.

He crawled into his nest and in a couple of minutes came out carrying the little key which shone gladly in the sun.

"We'll just leave it on this branch until you bring the doughnuts," he said.

Goldwings started happily away.

"Ahem—just a minute!" called Mr. Magpie. "As you know, this is a very valuable key and I really must request that you make the doughnuts without holes!"

So all that afternoon Goldwings and Stareyes cut out square doughnuts with a drop of pineapple jelly instead of a hole in the center of each. They sang as they worked. How gleefully they sang and how very hard they worked!

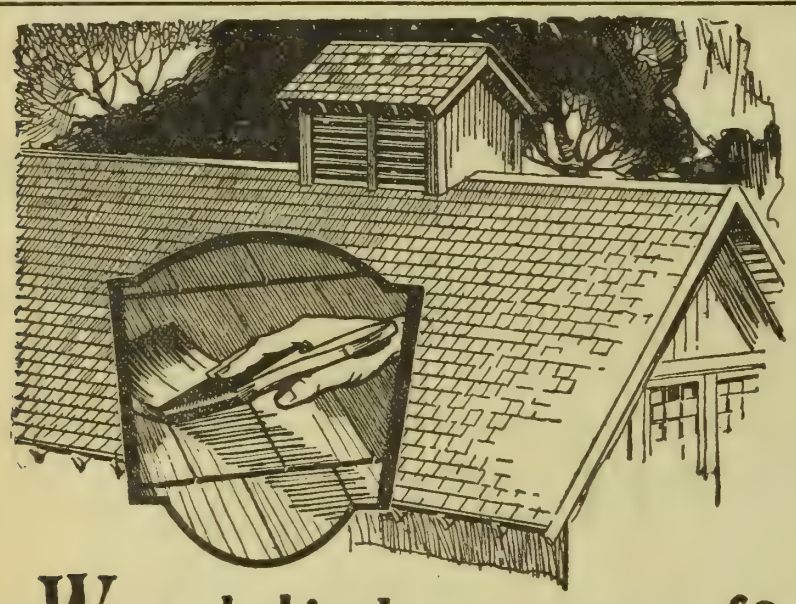
It was sundown when they got the key and I'm afraid Mr. Magpie had indigestion all night, but the best thing about the whole day was this:

Just at dusk Bab and Bobbins and grandmother were sitting lonesomely on the porch thinking of the sky blue box that couldn't stay with them and the little canary who wouldn't. It was very quiet and the air was sweet.

"I hear something flying!" cried Bab. "Perhaps it is our birdie—our little bird!"

There was the sound of wings over their heads and then something dropped gently into grandmother's lap. She ran with it to the lamplight. "My sky blue key!"

After that the two fairies used to fly past the house every day for it did look so very cheerful and shining. There were new flowers and curtains and the children wore such cunning clothes and grandmother sewed on the front veranda instead of washing all day long. It wasn't long too before there was a real singing canary in the old willow cage and Bab and Bobbins pretended ever after that it was the yellow birdie they had lost.

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ORONITE SHINGLE OIL


### SIMPLE DIRECTIONS FOR CANDIED FRUITS

By W. V. Cruess, College of Agriculture, University of California

CANDIED fruits and fruit candies are becoming very popular. The university receives many requests for simple directions for preparing candied fruits on a small scale. This present article is an attempt to satisfy this demand.

#### Preparing the Fruit

Oranges should be cut in half and the pulp removed. The halves are then boiled in water until tender; this will usually require about 45 minutes. Citron, (the kind that grows on a tree and not a watermelon), is cut in half and the pulp removed. The halves are boiled in five or six changes of water until they are practically free from bitterness, and until they are tender. Some prefer to store the halved citron in a strong brine, using 1½ pounds salt per gallon of water for about ten days before they are treated as above. Apricots should not be too ripe. They are cut in half and boiled in water until tender. Figs are boiled whole in water until they are thoroughly tender, using slightly underripe fruit. Peaches, preferably Clingstone, are pitted, peeled, halved and boiled in water until tender. Royal Anne cherries are stored in barrels or in glass top fruit jars in a solution of 2-10 of one per cent sulphurous acid, although for household purposes they may be stored in glass top jars in a solution consisting of one ounce sodium bisulphite and ½ ounce citric acid per gallon of water for about two weeks. They are then stemmed and pitted and boiled in five or six changes of water until they no longer taste of sulphur and are tender. It is possible to use the fresh cherries also. Stem and pit them and boil in water until tender, without using the sulphur treatment at all, but they will not be quite so attractive as if treated first in sulphurous acid to harden and bleach them.

#### Preparing the Syrup

Prepare a syrup of one cup of corn syrup to three cups of water. White Karo is satisfactory. Heat the fruit in this syrup to boiling for two or three minutes, set it aside to cool for 24 hours in the syrup. If the fruit floats put a saucer or plate on it to keep it immersed in the syrup. If cherries are to be candied color the syrup with a small addition of red food coloring matter, which can be obtained from any grocer.

#### Increasing the Syrup

The next day add to the syrup about ½ cup sugar to each three cups syrup. Dissolve in the syrup and heat the fruit in the syrup to boiling and boil for about three minutes. Again set aside for 24 hours. On the following days repeat these additions of sugar and boiling until the syrup becomes about as thick as honey or about 75 degrees Balling, or about 38 degrees Baume. These tests are made by means of a special hydrometer on the cold syrup.

#### Draining and Drying

When the syrup has become heavy as indicated above, allow the fruit to stand in it about three days to thoroughly absorb the syrup. Then place it on ordinary window screen in a place protected from dust and insects. Allow it to drain and dry thoroughly until it can be handled. Pack it in candy boxes. This candied fruit will keep for two or three months usually, although in time it becomes over dry. The dryness, however, can be overcome if the fruit is again placed in a heavy syrup and boiled two or three minutes and again drained and dried.

#### Use of Canned Fruits

Canned peaches, cherries, and pineapples or pears can be made into candied fruit very readily. The require no preliminary treatment and can be put directly into the first syrup. The canning process is then the same as for the fresh fruit. Candied fruit is best when freshly prepared, therefore,

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**PATTERN DEPARTMENT**

**California Cultivator** **Los Angeles**

the writer would advise that only small batches be made at each time, and that surplus fruit be stored or canned in the usual manner until there is need for candying more.

### Chocolate Dipped Candies

Dried fruits of all kinds or candied fruits prepared as above can be converted into excellent chocolate candies by dipping them in melted confectioners chocolate. This chocolate is melted as follows:

Cut it into thin shavings into a shallow pan. Place the pan in water which is heated at from 90 to 95 degrees Fahrenheit. When the chocolate melts dip the dried fruit or candied fruit in the chocolate and place it on an oiled platter. When cooled and solidified it can be packed in candy boxes. The whole secret of success in the dipping of chocolate lies in not having the chocolate at too high a temperature. Candied cherries, chopped raisins and nuts, halved dried pears, peaches and apricots make excellent chocolated dipped candies.

## PRESERVES, JAMS AND BUTTERS

**By J. H. Irish, Fruit Products Laboratory, University of California.**

BY PRESERVES we mean whole fruit or whole pieces of fruit suspended in a heavy or thick sugar syrup. With some fruits this is a very simple product, while with others it requires some skill for success. The quince is a striking example of the former, while the strawberry represents a more difficult fruit to handle. Other berries, such as blackberries, raspberries, loganberries, etc., have a much firmer texture and can be made into preserves with comparative ease. Gooseberries and currants are excellent for this purpose while currants and mulberries make a delicious combination.

Peaches, apricots, plums, cherries, quavas, grapes and other fruits according as they are available and according as they are desired may be made into preserves.

The principles underlying the process of preserving are the same with all fruits.

### Why Fruits Shrivel

The phenomenon of osmosis plays the leading part in the process of preserving fruits. This may be explained in the following manner: Suppose we have a sac of juice comparable to the berry or cherry or piece of fruit. This sac is suspended in a vessel of liquid which corresponds to the syrup used in preserving. These two liquids are separated by a semi-permeable membrane or skin which is represented by the skin of the fruit. The juice passes through this skin into the syrup while the syrup passes through into the fruit. If the process continues, the concentration of the juice within the fruit and the syrup outside of the fruit will become equal. Not all fruits have such texture as to permit the heavy syrup to pass into the fruit as readily as the juice of the fruit passes out. When this is the case the juice passes out of the fruit and the skins become shriveled. Cherries have such a texture as not to permit heavy syrups to pass in readily, so it is necessary to begin with a very light syrup and increase the concentration gradually until the desired concentration is reached. This prevents shriveling.

### Berry Preserves

There are two kinds of strawberry preserves made in California, namely, the one commonly used and that known as sun preserves. For preserves only whole, sound, ripe fruit should be used. The broken and underripe berries may be used in making jam. If it is possible, berries should be preserved the same day they are picked. The berries should be hulled and placed in a wire basket and washed by running water. There is danger of crushing the berries if they are placed in a vessel of water. After draining a few minutes place them in the preserving kettle with an equal weight of granulated sugar. Allow to stand or heat slowly until the water left on the berries from washing and the juice begin to dissolve the sugar. When the sugar has dissolved sufficiently to prevent scorching, bring to a boil, stirring very carefully in order not to crush the berries. Boil rapidly a few minutes until the berries are soft and tender. Pour out into a shallow receptacle to cool for several hours or over night. This gives the berries a chance to absorb the syrup and plump up. Fill into hot jars nearly solid with fruit. If the syrup is not 60 or 65 per cent sugar, it may be concentrated by returning to the fire and boiling. When the desired concentration is reached the jars may be completely filled with the syrup, sealed and pasteurized at 185 degrees Fahrenheit for 30 minutes. Glass jars should be stored in a dark place or covered, as the light acts upon the color of the fruit.

Pasteurizing is accomplished by immersing the sealed jars of preserves in water on the false bottom of a wash boiler sterilizer and heating the water to 185 degrees Fahrenheit for 30 minutes.

### Sun Preserves

Sun preserves from strawberries are made in the following manner: Washed berries are placed in a single layer on a platter or enamel pan. Pour over them a 50 per cent sugar syrup, cover with glass, leaving one end slightly elevated to permit escape of vapor, and place in the sun until the desired concentration of syrup is obtained. The method is very satisfactory in the interior valleys where it is dry and hot. In the damp coast regions it might be necessary to dry in a home size evaporator or over a radiator or in a slow oven.

### Spanish Conserve

The following recipe makes a delicious product: 6 cups rhubarb cut in small pieces, 6 cups granulated sugar, 1 cup chopped raisins, 1 cup chopped orange peel. Boil the orange peel until soft and tender in a pint of water. Pour off water. Place all ingredients in a preserving kettle. Allow to stand a few minutes until the juice from the rhubarb begins to dissolve the sugar. Place over the fire and stir continually to prevent scorching. Boil until the rhubarb is thoroughly cooked and about 220 degrees Fahrenheit or the desired consistency is reached. Place in jars hot; seal and no further processing is necessary.

### Jams

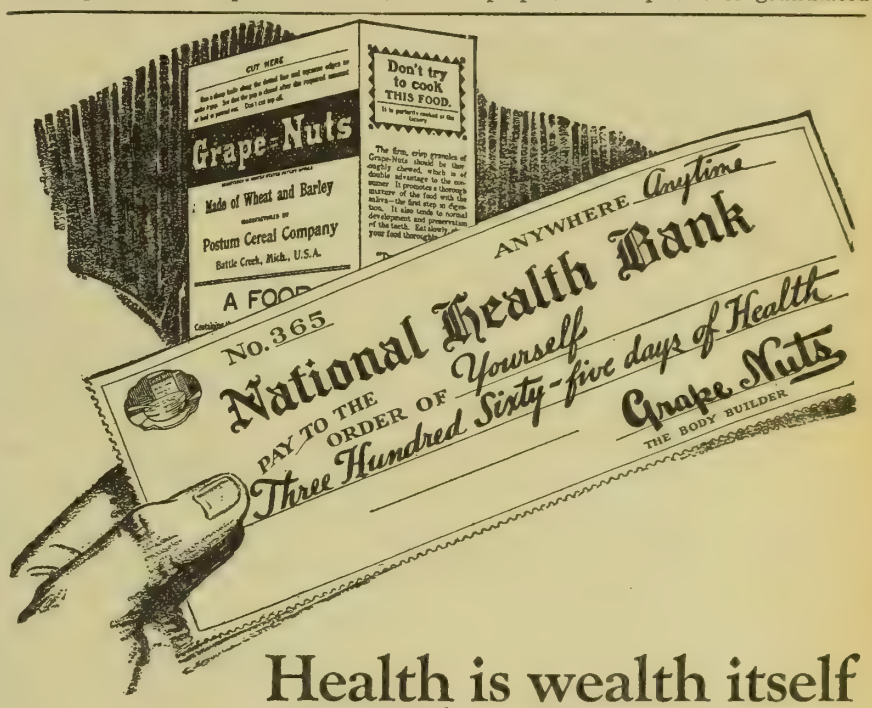
Jams may be made of the broken and imperfect fruit. It is desirable to have some immature fruit to give a jelly like consistency to the product.

The fruit is washed, crushed and placed in the preserving kettle with three-quarters pound of sugar to each pound of fruit. Boil rapdily until the jellying point or 220 degrees Fahrenheit is reached. Place in jars hot and seal. No further processing is necessary.

### Butters or Spreads

Various fruits may be used for this product. Those most commonly used are apples, peaches, grapes and pears. Care should be taken not to allow any decayed fruit to enter the product. The following is the process used in making pear butter or pear spread.

The fruit should be washed, stems removed and fruit crushed or cut into pieces. Place in a kettle; add enough water to cook the fruit. When the fruit is soft, remove from the kettle and pass through a colander or screen to remove skins, seeds, etc. Return the pulp to the kettle. To each quart of pulp add one pound of granulated

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sugar. Boil until about 218 degrees Fahrenheit is reached. Add quarter cup of lemon juice. When 219 degrees Fahrenheit is reached, add half teaspoon of each of the following spices, cinnamon, cloves and ginger. Stir in thoroughly. By this time, the finishing point will be reached. Remove from the fire, place in cans or jars; seal immediately. No further processing is necessary.

## HOUSEHOLD QUERIES

### Sweet Cucumber Pickles

Can you please give a recipe for sweet cucumber pickles, as nearly like the bought ones as you can?—Subscriber, Santa Ana.

The following directions are from Cruess' "Home and Farm Food Preservation."

Choose small cucumbers. Prepare a brine of 2 pounds salt per gallon water. Place cucumbers in this and keep them submerged with wooden float. Store in this brine for about 4 weeks. Fermentation will take place and a scum will form. If pickles become soft add more salt. After about four weeks remove cucumbers and heat in a large amount of water to the simmering point for about 20 minutes. Discard this water and cover with fresh water. Heat to simmering point, remove from fire and let stand about two hours to soak out excess salt. If pickles tend to be soft or "flabby" add a tablespoon of alum per gallon water. Prick cucumbers in several places with silver fork so that sweet vinegar will penetrate without shrivelling.

Prepare the following syrup: 3 cups vinegar, 5 cups sugar (brown preferred), 1 tablespoon mace, 1 teaspoon ginger root, 2 tablespoons stick cinnamon, 1 tablespoon whole cloves. Boil vinegar and spices together slowly for about five minutes. Heat pickles in the spiced vinegar to boiling point and boil about 10 minutes. Pack boiling hot into glass top jars and seal.

### Plum Jelly Not Stiff

Have just discovered that my plum jelly is not very stiff. Is there a remedy?—Subscriber, Bakersfield.

Plums do not have as much pectin as crabapples and currants, that is, ripe, sweet plums, so if one follows the old time rule of 1 cup sugar to 1 cup juice—which is all right for crabapples or sour plums—the jelly will be too soft. 3-4 cup or even ½ cup sugar is enough with fruits of low pectin and low acid content. Quick cooking in shallow pans of small quantities of juice makes better jelly also. A very complete discussion of jelly making, covering these points will be found on Page 656 of the Cultivator of June 17, written by A. W. Christie. A copy has been mailed to this inquirer as she may have missed this article. It is an exceedingly valuable one and will settle many a jellying problem if kept for ready reference.

### Preserving Figs

If you could give me some recipes for preserving figs I would greatly appreciate it.—Subscriber, Bakersfield.

Directions for preserving in syrup were given by Mr. Cruess in his general article on Methods of Home Canning in the Cultivator of July 1. A new recipe for candied figs was given on Page 38 of the Cultivator of July 8. A general article on Preserves, Jams and Butters by Mr. Irish is given in this week's issue, as is another by Mr. Cruess on Candying Fruits. All of these apply to figs as well as other fruits. In addition we give here suggestions for varying preserves.

Preserved Figs With Ginger.—Choose white figs not overripe, puncture thoroughly with fork so that syrup will penetrate readily, use 1 pound sugar and 2 pints water to 1 pound figs, place figs in kettle, add sugar and water, cook down slowly until figs have become heavy preserve. When canning add three or four pieces of candied ginger. This will flavor the figs sufficiently by the time they are opened for use.

Sweet Fig Pickles—Prepare a syrup of 3 pounds of sugar, 1 pint of water, 1 pint of vinegar, 1 tablespoon of coarse ginger root, 1½ tablespoons of stick cinnamon. One tablespoon of whole cloves may be added if desired. All measurements level spoonsful. Parboil 3 pounds of the figs for three to four minutes in water. Transfer them to the above syrup and cook until figs are clear or a heavy syrup is obtained. Allow figs to stand in the syrup over night. Heat to boiling and pack hot in jars.

Fig-Pineapple Marmalade — To 6 cups figs ground through food chopper, add 3 cups cut or shredded pineapple and 6 cups sugar, 1 large lemon or 2 small ones ground. Mix well together and cook in covered granite or aluminum pan in the oven just long enough to thoroughly sterilize it, for too long cooking destroys the delicious flavor so characteristic of this marmalade.—Mrs. Clara Schrack, Valley Springs.

Preserved Figs—Wash and weigh figs. To each pound add ½ pound of sugar and enough water to make the figs float and vinegar to make it a little tart. Five pounds figs 2½ pounds sugar, 1½ quarts water, 1 cup vinegar, 1 tablespoon whole cloves, 1 stick cinnamon. Cook one hour and let stand until next day. Turn figs well and cook one hour the second day. Third day cook until the syrup is thick. They can stand until cold and if syrup is not thick enough, cook again. Take out cinnamon and put in fresh pieces top and bottom of jar.

Candied Figs—These are different from any candied figs we ever saw or tasted—and the best ever. Samples brought in to the Cultivator office aroused much enthusiasm and invariably brought from the lucky tasters request for the recipe. The figs are very tender, clear amber in color and jelly like in consistency, the seeds are not hard and barely noticeable, one gets a real taste of the fresh fig. Here are the directions—and they are very simple:

Slit skins, soak figs in salt water 6 hours, drain thoroughly, rinse if very salty. Make syrup in proportion of 1 cup sugar to 1 cup water to 1 pound fruit. Cook figs in this syrup 1 hour, handling gently and boiling gently so as not to break the skins. Don't stir. Let stand over night and cook another hour. Take figs out of syrup, spread on platters or waxed paper and let drain off and dry for two days. The usual directions call for drying in the sun for a longer time, but these soft figs are vastly more attractive to most palates. Also it was found that it was better not to dry in the sun as this made them too hard. Roll in granulated sugar.

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Greatest earthquake of record occurred at Krakatoa, between Sumatra and Java, August 27, 1883 .

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Sea water weighs 64 pounds per cubic foot.

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Dr. W. H. Walker, president of the California Farm Bureau Federation, returned July 5 from a trip to Washington and Chicago. Dr. Walker went to Washington to help the Imperial County farm bureau put across the Boulder Canyon Dam project, and he attended an executive committee meeting of the American Farm Bureau Federation while in Chicago.


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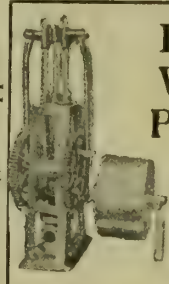

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### CALIFORNIA COOPERATIVE CANNERIES CLOSES 1921 SEASON

Final statement of returns for the season of 1921 have been mailed to the growers by the California Cooperative Canneries. Over $200,000 has been paid out to the growers within the last two weeks.

The statements to the growers show a profit above the prevailing prices paid by commercial canners ranging from 10 per cent on freestone peaches and apricots to nearly 25 per cent on pears and cling peaches. The average prices returned on the entire delivery of each variety are: Gooseberries, 7.02 cents per pound; Royal Anne cherries, 7.06 cents per pound; apricots, $61.70 per ton; free peaches, $34.24 per ton; cling peaches, $48.50 per ton; pears, $75.86 per ton; plums, $37.84 per ton.

The method of grading used by the Cooperative Canneries gives a different return to each grower, who is paid in accordance with the actual pack of canned fruit obtained from each delivery as shown by a sample made as each load is received. This sample is carefully prepared and graded according to the grades of canned fruit. The average prices returned as listed above cover the entire delivery of each variety including any fruit which commercial canneries would grade No. 2 and pay half price.

The better deliveries brought prices considerably higher than these averages, and therefore in comparing with commercial prices for No. 1 fruit these high grade deliveries must be used to give a basis of comparison fair to the Cooperative Canneries.

In the case of Royal Anne cherries the highest return was 8.44 cents per pound while seven growers received returns of 7½ cents or better. The highest commercial price paid in 1921 was 6 cents in the Santa Clara Valley with an average of not over 5½ cents throughout the state.

On apricots despite the very poor quality of the fruit, owing to the excessive hot weather which prevailed early in the harvesting season, the average price paid by the California Cooperative Canneries in the Santa Clara Valley exceeded the price of $60 generally paid by commercial packers for fruit running 12 to the pound and free from sunburn and other defects. Two deliveries averaged above $70, while the lowest price paid was $52 for very inferior delivery. In Stanislaus County several of the best deliveries of Tilton apricots exceeded $70, one going as high as $79 which compares with a commercial price of $55.

Freestone peaches of No. 1 quality were brought freely at $27.50 and $30 in 1921, comparing with $34.24 average by the Cooperative Canneries. The best deliveries of the variety brought a return of slightly over $40. Deliveries containing a large proportion of No. 2 fruit averaged below $30 or about the price paid for No. 1 fruit on commercial contracts.

Cling peaches opened in 1921 at $35, and this price was paid for a large part of the crop. As the season advanced some canners, finding themselves short of fruit, bid the price up to higher figures, but the average paid was not over $40 for No. 1 peaches, 2¼ inches in diameter. The average of $48.50 returned on all of the fruit both No. 1 and No. 2 shows a handsome profit to the cooperative growers. One grower in the Visalia district who delivered exceptionally fine fruit received $65.48 per ton while many returns were in excess of $50.

The pear growers of the Cooperative Canneries were particularly fortunate. The pack made last year was of exceptionally high quality and the average price for the entire delivery including the No. 2 pears delivered was $75.86. The deliveries of No. 1 pears averaged generally over $80 and one grower reached the high figure of $91.

Altogether the growers who delivered their fruit to the California Cooperative Canneries were well repaid for their cooperative effort.

The coming season of the California Cooperative Canneries promises to be one of increased activity with all plants running at full capacity. A heavy pack of apricots, cling peaches and pears, will be made and several new lines will be added to the products packed. The success of the California Cooperative Canneries during the past three years during two of which general conditions have been very adverse to the canning industry as a whole proves that properly organized the growers of California can successfully engage in the canning and marketing of their own fruit.

### SOUTHERN CALIFORNIA CITRUS INSTITUTE AND PEST CONTROL SCHOOL JULY 14-15

Sessions will be held at Pomona in the auditorium, Y. M. C. A. Bldg., North Garey Avenue.

**Citrus Institute, July 14**

The general subject discussed at the institute will be frost protection.

10:00 A. M.—Extension Movement and its Relation to the Citrus Grower, Robert W. Hodgson, farm advisor, Los Angeles County. The Farm Bureau and the Citrus Growers' Department, W. S. Rosecrans, Gardena, president Los Angeles County Farm Bureau. The Conditions which Occasion Injurious Freezes in Southern California Citrus Districts, Floyd D. Young, United States department of agriculture weather bureau. Frost Protection at the Rancho Sespe, Howard F. Pressy, superintendent Rancho Sespe.

1:30 P. M.—Ten Years of Frost Protection in the Pomona Valley, J. E. Adamson, manager, Pomona Valley Protective Association. Frost Protection for the Small Grove, T. R. Woodbridge, Upland. Report, Orchard Heater Committee, Fruit Growers' Supply Co., R. L. Willits, manager, A. F. Call Estate, Corona. New Ideas in Orchard Heating, W. R. Schoonover, citrus extension specialist, University of California.

6:30 P. M.—Banquet, dining room, Y. M. C. A. Bldg. Toastmaster, C. C. Teague, California Fruit Growers' Exchange. R. L. Knox, manager, San Antonio Citrus Exchange. Dr. H. J. Webber, University of California. R. B. Peters, vice-president California Farm Bureau Federation.

**Pest Control School, July 15**

10:00 A. M.—Last Season's Results and This Season's Prospects, H. J. Ryan, horticultural commissioner Los Angeles County. Spraying vs. Fumigation for Scale Control, J. L. Prizer, Bastanchury Rancho. Pot, Cyanofumer or Liquid Gas Discussion: J. R. LaFollette, manager Covina Valley Fumigation Corporation; M. B. Rounds, entomologist, Azusa Foothill Citrus Company; F. G. Wyman, manager, Growers' Fumigation and Supply Co. Fumigation Recommendations, R. S. Woglum, entomologist, field department, California Fruit Growers' Exchange.

1:30 P. M.—Bug Eat Bug, Experiences: J. D. Culbertson, assistant manager Limoneira Company, Santa Paula. C. V. Newman, manager San Joaquin Fruit Co., Tustin; H. M. Armitage, state insectary, Whittier. The County Insectary Plan, D. Eyman Huff, David Hewes Realty Corporation, Orange. Red Spider Control Recommendations, Prof. H. J. Quayle, citrus experiment station, Riverside.

### WHAT OF DRIED APRICOTS?

Though the California apricot crop will be slightly larger than the one grown last year, the dried tonnage will probably be less, according to officials of the California Prune and Apricot Growers Association. Last year's dried tonnage amounted to about 25,000,000 pounds.

The high prices being paid by the canners and green fruit shippers for this year's crop is responsible for the small tonnage of dried fruit expected. A heat wave during the height of the ripening season would result in a much larger production of dried apricots than is now estimated, as hot weather would ripen the fruit so rapidly that it would be impossible for the canners to handle the fruit.

Exceptionally high prices are being paid for future dried apricots owing to the prospects of a small production, according to H. G. Coykendall, general manager of the association. The California Prune and Apricot Growers Association, the growers state wide, non-profit marketing association which handles 75 per cent of the dried apricot production of the state, has temporarily withdrawn from the market after selling a small proportion of the San Joaquin dried apricots which are first to be packed. Opening prices at which the association sold these apricots range from 17½ cents to 27½ cents per pound.


*Built to an ideal and not to a price*

The great quality limitation of the average pump is its price. Before the first casting is made its life usefulness is pre-determined by *price*.

Byron Jackson has become synonymous with quality because it has been the policy of this Company through the years to reverse this procedure.

Every pump, whether special or standard, is built to the ideals of quality, efficiency, dependability and economy. Then, and only then, is price computed.

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Contains 13% Nitrogen Equal to 15.8 Ammonia

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Use NITRATE OF LIME as top-dressing to obtain the best results. Can be applied under all weather conditions.

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**AVOCADO SEEDLINGS**

For orchard and nursery planting. Grown from selected seed from hardy Mexican stock, in open beds and untouched by frost. All first-class stocky plants, 12 to 24 inches in height. Can be taken out with small balls of earth or open root as preferred.

Price $25 per hundred while they last.
Address THE R. M. TEAGUE NURSERIES, SAN DIMAS, CALIFORNIA, or Mr. James Stewart, La Habra, California.

**Bee Hives and Supplies**

Headquarters for everything needed in the care of bees. Send for late price list and free booklet.

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WORKS—LINCOLN, CAL.

De Laval Cream Separators have won 1091 grand and first prizes at all important expositions and fairs in the world during the past 40 years.

De Laval butter has won first prize at every meeting of the National Buttermakers Association, with but one exception.

# 51% ARE DE LAVALS

The overwhelming number of De Laval Cream Separators in use is proved in a striking and forceful way by three recent investigations conducted by disinterested people, covering most of the principal butter-producing states:

(1) From an investigation conducted by the **Purdue Agriculturist** (Indiana), **Iowa Agriculturist, Cornell Countryman** (New York), **Agricultural Student** (Ohio), **Penn State Farmer, Tennessee Farmer,** published by the students of the various agricultural colleges in question, and their readers, who received the questionnaire, are either graduates or former students:

64.8% use cream separators of the following makes:

50.6%—De Laval.
16.8%—Nearest competitor.*

(2) Sixty-two per cent of the cream separators on 388 representative Minnesota dairy farms, selected at random and over a wide area, are De Lavals, according to a survey recently made by **The Farmer,** of St. Paul.

De Laval—62%.
Nearest competitor—6.4%.*

(3) From the Dairy Farm Survey of **Hoard's Dairyman** (the foremost dairy paper in the world, having a circulation of approximately 85,000 at the time of this investigation).

**Have you a cream separator?**
80.00%—Yes.

**What make?**
41.18%—De Laval.
16.74%—Nearest competitor.*

51.26%—average number of De Lavals, based on the foregoing, which confirms the well-known statement that there are about as many De Lavals in use as all the rest combined.

The only reason there are so many more De Lavals in use is that it is the best separator—skims cleaner, lasts longer, and is easier to clean and turn.

*Names of all separators used and percentages given on request.

**De Laval Pacific Company**
**61 Beale Street San Francisco**

**Sooner or later you will use a**
# De Laval
**Cream Separator and Milker**

**Herd Bulls**
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J. H. Cazier & Sons
Wells, Nevada

A government accredited herd. No reactor in 16 years. A herd whose record in the show and sale ring is only surpassed by the esteem accorded its productions by cattlemen. We can furnish bulls or females to fill any need—and at sound prices. Visit our herd or write for information.

## S. M. S. RANCH, STAMFORD, TEXAS

California cowmen who wish to improve their cow herds have a rare opportunity to draw from the 1,000 bred twos S. M. S. heifers and unbred yearling heifers in lots of one or more cars. Write for particulars.

S. M. S. RANCH, SWENSON BROS., OWNERS
Frank S. Hastings, Manager Stamford, Texas

**Italian Vineyard Company**
**GUERNSEY CATTLE**
Herd Headed by the King of Hollow Hill
BERKSHIRE HOGS
Stock of Both Breeds For Sale
Alex. Wilson, Supt. Guasti, Cal.

## GUERNSEY BULLS

Service Age
Have a couple crackerjack sons of the $10,000 bull, Pencoyd's Golden May Secret, ready for service.
Priced reasonably.
G. T. DRINKWATER
Lakeside, San Diego Co., Calif.

## GUERNSEY COWS

produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

**ROSEMOOR FARM**
W. H. Dupee, Owner Riverside, Calif.

Your appreciation of the California Cultivator can be shown best by writing to and buying from Cultivator advertisers.


# Feeding Dairy Cows---No. 3

By E. J. Sturgis

## ADVANCED REGISTER TESTING

(Continued from last week)

AS soon as the cow shows signs of having an appetite begin with small feeds of the regular test ration which is composed of 200 pounds coarse ground oats, 200 pounds coarse ground barley, 200 pounds bran, 100 pounds corn meal, and 100 pounds linseed oil meal. Weighing the milk should begin the third or fourth day, but the official test does not begin until the morning of the seventh day at the milking nearest 6 a. m. The first seven days on test it is the general rule to make the cow produce as much butter fat as she can regardless of the amount of milk. It is the ability to feed a cow so that she does not increase in milk too fast and holds her high test that has made a success as short time testers for many men.

When the cow reaches the point of beginning test she should be on a fairly heavy feed of the test ration, and to it should be added soy bean meal and cotton seed meal acording to the amount she can handle. These last two ingredients are not incorporated in the regular ration but are added when the feed is weighed out, and the amounts may be changed at each feeding. Soy bean meal tends to make milk and should be used with care so that she does not increase in milk too fast and thus bring her test down. Cotton seed meal tends to hold the test nearly constant but is a powerful feed and should be used carefully.

### Seven Day Test

If the cow is naturally a big milker and is capable of producing over 100 pounds a day when on full feed she will probably be giving 75 to 85 pounds a day when put on test. If the average of this milk for the day is around 4.5 per cent, feed eight pounds of the test ration with not to exceed three pounds of soy bean meal and one and a half pounds of cotton seed meal a day. If she is milking 100 pounds and testing 4 per cent give her 10 pounds of the test ration with four of soy bean and two of cotton seed meal. With these rations feed 10 to 20 pounds soaked beet pulp a day and plenty of alfalfa.

Watch the average per cent of the test for the day very carefully. Do not worry about the separate milkings as they vary considerably and it is the average for the day that tells the tale. Be careful not to throw the cow off feed and especially if she is to be continued on year test. If she begins to increase rapidly in milk and of course go down in fat per cent within 36 hours of the end of her seven days you can discontinue the regular ration and feed a small amount of bran and oil meal and as much cotton seed meal as is safe to give, which is not more than eight pounds a day. This will tend to hold the test up until the seven days are completed. It is not safe to keep her on this kind of feed for more than 48 hours.

### Thirty Day Test

If it is desired to continue the cow for a 30 day record, keep her on the test ration with soy bean and cotton seed meals, increasing slowly at the rate of one-fourth pound of feed to one pound of milk gained. At the end of the 30 days if she is milking 100 pounds a day she should be getting from 20 to 24 pounds of grain. One often hears stories of cows which eat from 30 to 40 pounds of grain a day on tes but it is seldom that cows fed that way have made large year tests. Be conservative in your feeding and the results in the long run will more than justify your restraint.

Cows which have finished seven and 30 day records should be in condition to go ahead and make year records. Use the regular test ration, feeding one pound to four or four and a half of milk, according to the condition of the cow, easy feeders getting the smaller amount. Carrots, beets and silage may be fed to cows on test with good results, but my experience has been that it is better to rely entirely on soaked beet pulp and green alfalfa for succulence. Do not feed cotton seed after the end of the 30 day test.

### Care of Test Cows

A cow on seven day test should be in a box stall with a small paddock for exercise if possible. She is allowed a light blanket to guard her against sudden changes of temperature. Heavy blanketing and sweating is against the rules and should not be attempted. The cow is not to be given medicine unless she is sick and then only by a veterinarian who supplies a statement of its contents. It is allowable to give salts to a cow suffering from the binding effects of the cotton seed, until action is again established.

The year test is a long grind for the cow and a change of ration occasionally helps to keep her appetite keen and condition good. Now and then cut out the test ration for one feed and give a feed of oats and bran or whole oats in its place. If she slows up at any time reduce the amount of her feed until she is hungry again and then increase slowly until she is on full feed again.

### 305 Day Test

Because it takes in a period much the same as the lactation period of the ordinary dairy cow the 305 day test is highly favored by many breeders. This test is not complete until the cow has dropped her second sound calf within 14 months of the birth of the one with which she began test. Breeders figure that the 305 day test allows them to get a maximum production from the cow and still have the offspring at the regular time. One of the chief objections to the 365 day test is that in order to have the cow continue with her high production, many are not bred until late in their lactation periods and so do not have the second calf until 18 to 20 months after the first one. For 305 day records the cow should be bred the first heat before the middle of the fourth month after calving. If she fails to conceive at this breeding you will have two or three further chances which will still bring her within the 14 months. Cows on yearly test should be bred first in their fifth month.

## PACIFIC SLOPE DAIRY PRODUCTS SHOW AT FRESNO

The plans for the Pacific Slope Dairy Products Show started with a bang on Thursday of last week, when representatives of the dairy industry, including California Dairy Council, dairy supply men, newspaper men, and the college of agriculture, met at the Commercial Club in San Francisco to make final arrangements for the holding of this show. Great enthusiasm was shown and pledges of support offered by all present with a view to making this show a rousing success. Every branch of the industry will be called upon to give its support.

Fresno has been selected as the place for holding the next show, and because of its location near the center of population in the state, it is believed that it is the logical place for the show this year. Fresno is a convention city, and the great city auditorium is admirably arranged for holding this show and for the meetings of the various dairy organizations.

All branches of the dairy industry will be represented. The butter manufacturers expect to have a moving exhibit of the modern process of manufacturing butter; the milk distributors will show the complete process of milk handling from the dairy farm to the package for city delivery; the ice cream manufacturers will have a moving exhibit showing modern methods of manufacturing ice cream, and the cheese industry will be expected to show the complete process of cheese manufacture. The dairy industry division of the University of California has started plans for showing the progress of dairying in the past 50 years. Arrangements have already been made for collecting a

large supply of equipment which was used on dairy farms in California 50 years ago. Every dairyman in the state will be interested in this exhibit.

The machinery interests have already agreed to fill the exhibit space with equipment of every description that is used in dairying. The milk powder manufacturers, condensed milk manufacturers, milk sugar manufacturers, and all other dairy institutions will be represented.

By means of committees offering their services to assist with the organization, dairy interests of the state will be given an opportunity to join the ranks of the workers who have pledged themselves to make ths show the greatest of its kind that has ever been held west of the Rocky Mountains.

The California Dairy Council has accepted the resposibility of putting on a "Dairy Week" at Fresno during the show. The various features will be of interest to all dairymen. Special literary and musical programs will be arranged on different days, detailed announcement of which will be given later.

The dairy producers and manufacturers of the state should set aside the dates of November 13 to 18 and offer every aid in support of the industry.—C. L. Roadhouse, Manager Pacific Slope Dairy Products Show.

# Dairying in California

By A. M. Robinson, Dairyman, Davis

THE outlook at the present time presents to the farmer of moderate means a splendid opportunity to break into the dairy business as the price of dairy cows at present is lower than it has been in years and lower than it probably ever will be again.

The dairy farmer is weathering the financial gale better than the promoter of any other line of agricultural endeavor for the reason that there is a ready market for his products and he receives his returns on a cash basis semi-monthly. This gives him the advantage of having cash on hand to carry on his business.

There is no state in the Union which offers a greater inducement to the man of small capital than California. From every standpoint the conditions are ideal and unexcelled. It is a grass state and this, combined with the highly favorable weather conditions, makes it possible to raise feed of every kind abundantly and at the lowest cost as compared with other states in the Union. Our mild weather proves to be another abvantage as it is not necesary to keep the dairy herd housed during the winter months.

### Provides Good Investment

There is no other business that gives to the investor a better guarantee of interest on the investment than does the dairy cow. Every time she produces a calf it is worth from $10 to $15 at from two to four weeks of age, making a return of 10 per cent on a $100 investment, the value of the mother. If it is a wellbred heifer calf of high grade it would be a conservative estimate to state that it would be worth at two years of age all the way from $75 to $100, according to her breeding, allowing a reason able sum for milk, pasture, and hay. It can be readily seen that there is a good profit above the expense of her raising. There is also another advantage, namely: that of keeping the original investment replenished from the heifer crop. If at any time the investor desires to quit the business he can always sell out for more than the cost of his original purchase. The difference of profit largely depends on the quality of his cows. If he has used good bulls upon his herd, the offspring naturally bring more money. It is to the advantage of every dairyman to use the highest record purebred bull he can afford and at the present time wonderful young bulls can be bought for a comparatively small price.

### Land Necessary

The average amount of land necessary for the maintenance of a one-man dairy is from 30 to 40 acres. This will allow him feed to maintain a herd of from 15 to 25 cows, as well as providing feed for his heifer crop. If he desires he may increase that herd to 30 cows, but this would all depend upon the character of the land and its ability to produce feed. By the addition of a silo more cows can be kept, due principally to the fact that larger quantity of feed can be produced on the same given amount of acreage than could otherwise be produced without it. There is nothing connected with the dairy business that renders a greater return than does the silo, as it furnishes a succulent feed at that period of the year when it is most needed, increasing the yield when the prices are high. This factor alone makes it the greatest asset in the whole dairy equipment.

### Cooperative Marketing

There is another feature that is all important, the marketing of the product, California, being the pioneer state in cooperative organization, has seen to it, through its state market director under the supervision of the director of agriculture, that the dairymen of this state became organized for the purpose of eliminating waste, manufacturing by-products and selling directly from the producer to the consumer, thus destroying cutthroat competition and speculation. By being rightly organized the dairymen have been able to properly standardize their product, improving the quality, and by proper methods of marketing and distribution, have been able to increase the demand for all kinds of dairy products. The method under which these organizations operate is through the cooperative non-profit system under which the actual cost of manufacture and distribution only is deducted, returning to the dairymen the remaining proceeds from the sale of all products. By perfected methods of distribution they have been able to keep the markets of the state free from glut, thereby increasing the demand to such an extent that the prices of dairy products in California the past year have been higher than in many other states. Under these conditions the dairy farmer has no marketing problem to solve individually, and besides the marketing end of the business we have one of the greatest educational institutions in the United States, the University of California, which works out many problems of vital importance to the dairy industry. Any information that the dairymen need as regards proper feeding or the husbandry of dairy cattle will be fnrnished for the asking.

### State Help

Information relative to all contagious or infectious diseases of dairy cattle is supplied to the dairymen by both the division of animal industry of the state department of agriculure and the University of California. The enforcement of the various dairy laws is delegated to the state department of agriculture at Sacramento, and the prospective dairyman is urged to thoroughly inform himself of these various regulations. Strict compliance with these laws is most essential to the production of high class dairy products. California is lending every assistance through the different departments to help the dairy farmer solve his problems. It is protecting him against failure, stabilizing his business to the extent that for the amount of money and labor invested there is no other investment that is as secure and will guarantee a better return than the dairy business.

## GUERNSEYS AUCTIONED AT RIVERSIDE

There will be a sale of 46 head of registered Guernsey cattle: 36 cows, six heifer calves and four bulls, at the fair grounds, Riverside, on the afternoon of August 4. This is a cerefully selected draft from the well known Claremont herd, owned by L. D. Smith of Hydeville, but formerly of Berkeley, where the herd was founded 11

PAPEC seemed most practical"

COMPARISON of the Papec Ensilage Cutter with other cutters is invited. Before you purchase a Papec we hope you will look at as many cutters as possible, just as the rancher did who made the above statement.

Comparing the Papec Ensilage Cutter with others brings out the following practical features:

One-piece, solid, semi-steel frame;
Elevates to the height of any silo at 600 r. p. m.;
Cuts 3 to 30 tons per hour;
Perfect knife clearance;
Six fans on the cutting wheel instead of three or four;
Ensilage cannot clog the pipe.

Simplex Silos have advantages over other silos, that are as important as the advantages of the Papec Ensilage Cutter over other cutters.

SANTA FE LUMBER CO.

16 California Street, San Francisco, California

*Fill out and send in the coupon.*

In the meanwhile compare both of these products with others in the same line.

Tear Here

Santa Fe Lumber Co.,
16 California St., San Francisco.

I have about_____head of stock to which I would feed silage for about_____months each year. Please tell me how large a silo I should have, and send me complete information about Papec Ensilage Cutters and Simplex Silos.

*Name* _____

*Address* _____

S-01:7-3

## You Should Not Buy a Bull Unless:

You have seen his dam and know that she is the type you want his daughters to be.
Or you have seen a good picture of her with a close-up picture of her udder.
She is a big producer of milk with a high percentage of fat.

Our cows are the tops of all the big sales in the state for the past three years.
Practically all of them have high 7 day and yearly records. They hold 4 world's records. Our herd bull is Sir Aaggie De Kol Mead, whose five nearest dams average 1130.66 pounds of butter in a year testing over 4%.
You should have one of his sons out of a high record dam.
Call or write for our long-time, easy payment plan.

Lankershim, Cal. Fred Hartsook Ranch

Visitors always welcome.

## DIAMOND G HEREFORDS

13 choice yearling heifers, sired by a son of an International Champion, well grown and just the sort for starting a profitable herd. Also 10 yearling bulls. Come and see them; the price is right.

H. H. Gable Esparto, Cal.

**The California Cultivator is only One Dollar Per Year.**

## Big Money Boring Wells

Have water on your own farm. In spare time make wells for your neighbors. It means $1000 extra in ordinary years, double that in dry years. No risk—no experience needed.

**Outfits for Getting Water Anywhere**

Earth augers, rock drills and combined machines. Engine or horse power. *Write for easy terms and free catalog.*

LISLE MFG. COMPANY
Box 716 Clarinda, Iowa

years ago. At the present time the herd numbers 150. On account of a fire that destroyed the main barn and a large quantity of feed it becomes necessary to reduce the herd, hence this offering. Much of the cream of the herd is being offered, every animal has recently stood the tuberculin test and they come from a herd that is absolutely clean. These cattle are bred as good as the best, are in fine breeding condition and will creditably account for themselves in the future.

Sale is under the management of the Pacific Pure Bred Sales Company, C. R. Thomas, sales manager, 808 Santa Fe Building, San Francisco. Catalogs will be ready July 20.

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The bureau of markets will close its office today, July 15.


# Give Your Cows a Chance

## Help Them Make Money for You

Don't handicap them by giving them dry, withered feed that has no milk possibilities in it.

Give them nourishing, juicy, milk-producing silage, the kind that comes from an

# Ideal Green Feed Silo

By the use of the Ideal Green Feed Silo you have the advantage of green pasturage during the winter months—the time when dairy produce is at its highest price.

The Ideal Green Feed Silo will pay for itself every season, and possibly twice a season. It is the most economical investment you can make on your dairy. Built of clear, dry redwood—the everlasting wood—and held together with hoops of steel. Fitted with refrigerator doors.

Let us tell you about this wonderful silo. You need our booklet on silage. We'll send it FREE for the asking.

## PACIFIC TANK & PIPE CO.

312 Market St. San Francisco

4812 Santa Fe Ave. Los Angeles



46—REGISTERED—46

# SHORTHORNS

## at Public Auction

### Carruthers Farms, Live Oak, Calif.

### Wednesday, August 9, at 1 P.M.

In this offering the owner, Mr. W. M. Carruthers, comes close to realizing a long cherished ambition—to make a public sale offering of high class Shorthorns of his own breeding. With a very few exceptions the choice cattle in this sale were all calved on Carruthers Farms.

**31 Heifers in the Sale**

Mr. Carruthers is selling all of his heifers older than calves at foot, practically all of Scotch pedigree and including some real show ring prospects. Both bred and open heifers make up the group, presenting a most attractive selection of foundation material.

**Some Choice Cows Will Sell**

A limited number of choice cows will round out the female offering, some with calves at foot, others well along with calf.

**11 Choice Bulls in the Offering**

Of the eleven choice bulls to sell, about half are ready for service, the balance well grown calves. Some show prospcts among them.

This is conservatively one of the most attractive Shorthorn offerings made in California. Guaranteed breeders and tuberculin tested.

TERMS OF SALE—The sale managers will extend the usual terms of one-half cash, balance in six months, to responsible parties who arrange for credit before sale.

WRITE FOR CATALOG TO MANAGEMENT

**California Breeders Sales and Pedigree Co.**

C. L. Hughes, Sales Manager, Sacramento, Calif.

Auctioneer—COL. BEN A. RHOADES, Los Angeles


### AGRICULTURAL FAIRS

**By Prof. E. H. Hughes, Davis**

The livestock producers of our state at this time of the year are looking forward to the time when their livestock will be exhibited at the various agricultural fairs. It is a time when men are looking over their herds rather carefully and selecting the individuals that will make up their show herds. They are paying a little more attention to the feeding operations; they are exercising their animals and are generally shaping things up in such a way as to make a creditable showing when they meet the competition of the other fellow.

Our agricultural fairs are places where the state livestock and other products are on exhibition. Fair time is when men can compete in a free fashion for the blue ribbon; where type is set. Before and after the animal has been taken into the ring they discuss ways and means of producing better livestock, developing better markets, setting new and higher standards for the future. It affords the public an opportunity of seeing approved types of livestock and of learning more about livestock products. It affords an opportunity for the producer to sell, and for the public to buy. In other words, the producer who exhibits at the state and other agricultural fairs has an excellent opportunity of placing before the public the stuff he has for sale, and it is one of the best means of advertising we know of. It means a lot of extra effort in the way of feeding and care before the show, and while on the circuit it means long hours cleaning up, caring for the stock, loading on trains, going without meals and moving to the fair grounds and back to the car again. However, it is a time when men can swap ideas, gain inspiration and develop higher standards of attainment for the future.

## Livestock News Notes

The Berkshire Breeders of the Pacific coast will be interested in the results of E. J. Barker's sale held at Thornton, Indiana, June 15. Forty head sold for an average of $144, with a top of $240, which indicates that good foundation animals can be purchased at very reasonable figures and can be sold by the breeder at a very good margin of profit. The results of this sale should be an inspiration to the breeders on the coast to do likewise.

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Most of the swine breeders that will show this fall have their show herds in preparation. The excessive heat of the summer months must be guarded against, and some of the best fitters of show herds recommend sand baths. This is accomplished by placing sand under a shade and keeping it moist with water but never letting it get into a mud mole. Mud holes are never healthy and should be avoided.

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What the hog has accomplished for the corn grower of the Middle West the past winter he would have accomplished for the barley raiser of this state, if given the opportunity. With cash corn at about 25 cents per bushel fed to hogs it was worth from 75 cents to $1.00 per bushel. With barley at a dollar to a dollar fifteen it would have brought double fed to hogs. For 50 years hogs have been the backbone of Midwest farming; let it be the same in California.

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On August 9 W. M. Carruthers will hold a sale of Shorthorn cattle at which time he will offer about 50 head, most of which have been bred and raised on his farm. The sale will be held on the farm just north of Live Oak, under the management of the California Breeders Sales and Pedigree Company. Ben A. Rhoades of Los Angeles will be the auctioneer.

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In a statement made by R. V. Wright, farm management specialist of the University of California's agricultural extension service, dairy farmers made the best showing, making 7.7 per cent interest on their investment.

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Many farmers who make livestock part of their operations are awakening to the fact that good females are just as essential as good sires. Often the remark is heard that the sire is half the herd, and with many this is a deliberate attempt to overcome the shortcomings of the females in the herd. The sire may have the same defects as the female and the mating of the two only tends to intensify the defects. There is no question that a good sire will improve any herd, but the better the females the greater the improvement.

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The records of the United State department of agriculture which conducts the Better Sires-Better Stock campaigns, show that the interest in pure bred sires is more than double that of last year. There is increasing evidence, declares Dr. J. R. Mohler, chief of the bureau of animal industry, that raising scrub livestock is an unnecessary waste of time and feed. Any livestock owner can improve the quality of his stock by the better sire route. Purebred sires permit the raising of grades, crossbreds or purebreds, whichever is preferred, depending on the kind of females used. According to reports from more than 500 livestock owners who have used purebred sires for several years, the greater returns derived greatly exceed the initial outlay and the benefits accumulate with each generation of animals raised.

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An Illinois farmer who operates a quarter section farm on the share basis raised 2200 bushels of corn last year. He fed his half to purebred hogs, sold $1208 worth of hogs and has seven sows, 25 fall pigs and two bears left. By feeding his corn to purebred hogs he realized about $1.17 per bushel while the landlord sold his share for 45 cents a bushel. What will purebred hogs do for the grain raisers of California?

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Now is the time of times to cull and improve farm herds and increase the holdings of good stock on the farm, says Dean C. F. Curtiss of the Iowa state agricultural college. There have been abundant and conclusive demonstrations showing increased returns of 25 and 50 and even 100 per cent over selling grain or inferior animals. Present economic conditions make it imperative that the farmer take advantage of every method that will increase profits.

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County agents, bankers and farm bureaus should join in campaigns to help farmers stock their farms with better stock. Unless agriculture gets the full import of this lesson out of present depression the great basic industry will not fully recover or enjoy the full measure of prosperity.


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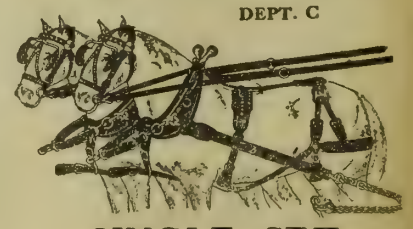

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## BEE LOCATIONS AND HONEY PLANTS OF CALIFORNIA

(Continued from Page 53.)

So comes the migratory beekeeper who moves his bees from place to place following up the flow. The coast belt makes a good starting point. The willow, eucalyptus, alfilaria, mustard and other early vegetation start off early brood rearing. The orange belt furnishes the first chance of the season for surplus honey. The next hop is into the sage, then back to the beanfields for the summer and fall. Many Utah and Idaho beemen ship by rail to and from Southern California to take advantage of the early spring for increasing, also to avoid the heavy losses of their vigorous highland winter. The auto truck is the favorite means of transportation of our local migratory beekeepers. It must not be inferred from the above that migratory beekeeping is universally practiced. Many yards are permanently located in the foothills. Their owners prefer to take their chance of a crop in one place thereby avoiding the expense and labor of frequent moves, which is no small item.

Summing up I want to emphasize a few points. In selecting a wild range give preference to the north slope; other things being equal it will not dry out so quickly. Water should be reasonably near, say within a half mile or closer. Precautions should be taken against fire after the grass becomes dry.

In selecting an alfalfa range bear in mind that you must get over the coast range away from the salt air.

## STRICT COTTON QUARANTINE

A program of strict enforcement of the quarantine against cotton or cotton seed from states infested with boll weevil was decided upon at the special meeting held at Riverside by the state department of agriculture.

Imperial valley was represented at the meeting by Secretary R. B. Corcoran of the chamber of commerce, County Horticultural Commissioner Waite, Argyle McLachlin and O. A. Pratt, federal inspector at Calexico.

Under an agreement reached at the meeting, Riverside and Imperial Counties will share with the state the expense of stationing inspectors at Yuma bridge, Blythe and Daggett, the three gateway points into Southern California from the east.

These inspectors will be charged with the duty of inspecting every vehicle that enters the state to prevent the introducing of the boll weevil or worm into California.

Daggett was selected as a station so that the inspector could cover the three routes converging at that point; the Parker route, the Santa Fe trail, and the road from Nevada.

Other measures to be taken include strict supervision over seed brought into California from Arizona for milling purposes. All box cars carrying this seed must be disinfected immediately after unloading at the Los Angeles mills.

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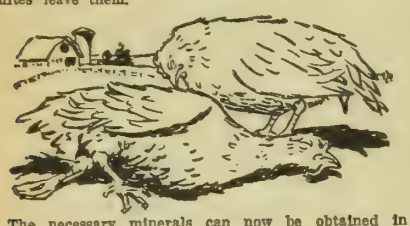
If your chickens are sickly, won't lay and are dying off in hot weather, lice and mites are probably the cause. Dr. B. F. Kaupp, famous poultry authority, says: "Lice are most common in July and August. During these months conditions are more favorable for their propagation." To easily get rid of these pests and prevent losses, add minerals to the fowls' drinking water. This does away with greasing, dusting, spraying and dipping. Soon after the fowls drink the mineralized water all lice and mites leave them.



The necessary minerals can now be obtained in convenient tablets, known as Paratabs. They are scientifically prepared, perfectly safe, and dissolve readily. The tablets also act as a tonic conditioner and are warranted to impart no odor or flavor to eggs or meat. They are equally beneficial to young chicks and grown fowls. The health of the fowls improves, they grow faster, stand hot weather better, and the egg yield frequently is doubled. Mrs. M. N., Pulaski, Ky., says: "I am giving Paratab water to my chickens and am having better luck this year than ever before."

Any reader of this paper may try Paratabs without risk. They cost only a trifle and are sold under an absolute guarantee. Furthermore, the laboratories producing Paratabs are so confident of good results that to introduce them, they offer two big $1 packages for only $1. Send no money, just your name and address to the Paratab Laboratories, Dept. 959, 1100 Coca Cola Bldg., Kansas City, Mo., and the two $1 packages, enough for 100 gallons of water, will be mailed. On delivery pay the postman only $1 and postage. If not delighted with the results in 10 days, notify the laboratories and your money will be refunded in full. Don't hesitate to accept this test offer, as it is fully guaranteed.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# Speeding Up Production

By M. A. Schofield

THE speed with which food passes through the digestive tract of growing chicks is the determining factor of failure or success. Any time that partially digested food lies in the digestive tract for a few hours more than the normal period, such chicks are in danger of a setback, if not a serious attack of disease. There is little danger of serious loss as long as the food stream is kept moving rapidly, but when the food stream moves slowly, all the parasites and harmful bacteria which affiict our growing poultry begin their ravages with a ten-fold virulence, and it can be said that chicks with a slow digestion are almost sure of an early grave. Many of them at least.

### Overfeeding

From the beginning of things we have been taught that we must not overfeed our chicks. This is good advice and aims at the same idea expressed above. The difficulty is that overfeeding is a relative term; therefore, what might be proper feeding with one lot of chicks or the proper amount of feed on some one day might be entirely too much for another lot of chicks fed on some other day. The ability of chicks to digest food rapidly varies under the influence of environment; but in any event, even though the chicks are fed but half the usual amount, we must maintain rapid digestion if we expect to raise a profitable percentage. The muscles of the gizzard and intestines may become so weakened from over distention and from unnatural fermentation that in extreme cases it is utterly impossible to restore normal strength and elasticity to these and other organs. Chicks in good health and growing rapidly digest their food at great speed. We say they are always hungry, which means that in three or four hours after feeding their crops are empty once more. Chicks fed practically all they will eat at 5 o'clock are empty or nearly so by midnight. It is not necessary for them to have the entire night to digest their evening meal, but they have largely disposed of it before the night is one-half over. Growing chicks digesting their feed with such speed are in little danger from harmful bacteria and parasites.

### Favorable Environment

As a foundation for all brooding the successful poultryman realizes that comfort is the prime essential. That is, the heat must be at the proper degree; there must be sufficient fresh air; the brooder must be kept reasonably clean; and the drinking water fresh and uncontaminated; the food sound and free from mustiness or taint. Given good comfortable surroundings, we will then discuss how to maintain a rapid movement of food.

### How to Induce Rapid Digestion

As a general classification we believe that such agents may be divided into three: First—those food products which build up the muscular system of the chicks so that the foundation is properly laid. Among these agencies might be mentioned exercises and the proper use of milk solids. Possibly green feed should be mentioned at this time, because the benefit of green feed is probably two fold. One, to supply the necessary vitamines; and second, mechanically, its use starts a free movement of the chick's bowels. No argument is needed to prove that natural conditions of health can only be maintained where the chicks have strong muscles, hard and compact, not only externally, but also internally. In other words, the machinery itself must be in good running order, if the food is to pass through in record time. A great deal has been written warning us to keep the chicks from getting chilled or overheated, and for this reason the average poultryman understands what a bad effect either extreme might have on digestion.

### Two Ways of Speeding Up Digestion

The first of these is mechanically; the second, by the use of drugs. Mechanically speaking there are at least two agents which tend to speed up the digestion of the chick. They are fine sand and crude fiber. As a rule it pays to wash the sand before we feed it to the chicks although this is not absolutely necessary. The sand is mixed in the dry mash. Some authorities say that in extreme cases 25 per cent of the chick mash may be fine sand. Five or ten per cent is usually sufficient. Those who have never tried the use of sand will be surprised to note the acceleration it will give the movement of the mash feed with chicks that are still in a normal condition. One of the best chick starters that ever came to the Pacific coast was composed of 25 per cent of very fine sand; the remaining 75 per cent, however, was of very high grade material.

You will note that the second of our mechanical agents is crude fiber. A great deal depends upon the fineness to which the fiber is reduced. Large pieces of fiber are very apt to be detrimental because they injure the delicate membranes inside the chick. The hulls of oats and barley, for example, must be fine ground to serve their purpose properly. As a laboratory experiment, 10 per cent of blotting paper has been ground to a powder and added to the chick's ration to accomplish the same end. Those writers on poultry feeding who teach that chicks should be fed a ration very low in fiber, are going off on a tangent in the opinion of a great many of those most successful in brooding their chicks. We mention a second time, that fiber should be finely ground. This also stimulates the muscles of the digestive tract, to hurry the food forward. Flaky bran has also been recommended by many. However, the bran has at best 10 per cent fiber, whereas the ground hulls are from 30 to 40 per cent fiber. The bran, of course, has valuable nutrient property not possessed by the ground oat and barley hulls. As a source of crude fiber to induce rapid digestion, flaky bran is not equal to the others.

### Green Feed

We suggested above that green feed among its many advantages has two which are outstanding: In the first place, it supplies those growth elements which we call vitamines; and in the next place it has a mechanical use which increases the forward movement of the food. It is not only a laxative, but the fiber which is not in a harsh condition like the ground hulls, also tends to produce a progressive movement. We all realize, if we have attempted to raise baby chicks, that green feed is one of the most important on the chick's menu.

### Epsom Salts and Lactic Acid

To secure a rapid movement, many poultrymen resort to giving the chicks at intervals a more or less severe physic. Some use epsom salts and some a high percentage of lactic acid. Both of these agencies are used with success. Unless followed by rational feeding, the effect is only temporary and things soon revert to the condition which prevailed at first. Used to excess, any physic tends to derange the healthy action of the digestive machinery.

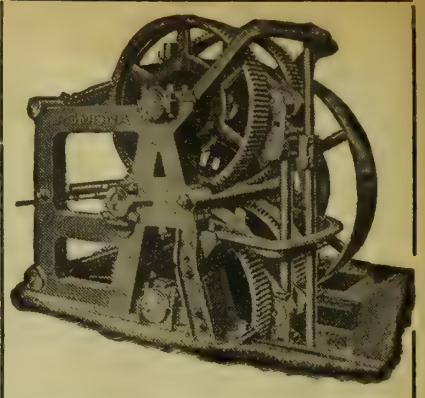
# Poultry Queries

Conducted by Jean A. Koethen

### Lame Hens

Apparently healthy hens commence to limp and never get any better. They usually have bowel trouble and die after a time.—Subscriber, Potter Valley.

Limping is sometimes rheumatic, but if it is accompanied by emaciation, "going light" it is often called, tuberculosis may be suspected. If a number in the same flock are affected in the same way, becoming lame and gradually losing flesh till they finally die, tuberculosis may be almost certainly diagnosed, though a bacterial examination is the only absolutely

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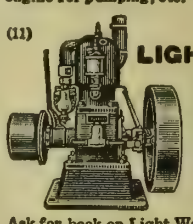

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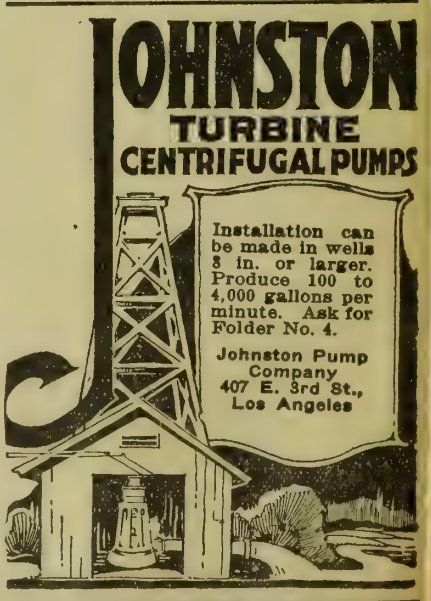

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certain proof. There is no cure for tuberculosis. The only treatment is to kill and bury or burn every affected bird as soon as its condition is noticed, to clean and disinfect every part of the premises thoroughly, or, if possible, to move to new ground.

### Cholera

What is the cause of a yellow bowel discharge? Hens are sick for several days before dying.—Subscriber, Potter Valley.

That yellow excrement is characteristic of cholera. Dr. Salmon says: "The earliest indication of the disease is a yellow coloration of the urates or that part of the excrement which is secreted by the kidneys. This in health is pure white, though it is frequently tinted with yellow as a result of other disorders than cholera. Generally diarrhea is a prominent symptom. Excrement is voided frequently and has a deep yellow color, which in the later stages of the disease may change to greenish or even a deep green. Very soon after these symptoms appear the bird separates itself from the flock, it no longer stands erect, the feathers are roughened or stand on end, the wings droop, the head is drawn down toward the body and the general outline of the bird becomes spherical. At this period there is great weakness; the bird becomes drowsy; the crop is nearly always distended with food and apparently paralyzed. There is in most cases intense thirst." Genuine fowl cholera is considered incurable, though Dr. Beach has found that a tablet of bichloride of mercury dissolved in the drinking water helps, at least, to control infection, and may be of some relief to the affected bird. The solution should not be stronger than 1-5000, and I should not like to use more than one tablet to two or three quarts of water. Dr. Salmon recommends either bichloride of mercury or a few drops of creolin in the drinking water. It is generally safer to kill all affected birds and burn the carcasses or bury them deep. Premises should be thoroughly disinfected with creolin or sulphuric acid.

### Fattening Chickens

How can I feed young chickens to fatten them? Should they have exercise or green feed? If they do not grow fat what is the reason?—Reader.

There are two ways of fattening cockerels for market. Poultrymen who have a great many to market find it worth while to build crates just large enough to hold six or eight birds apiece and to confine them in these crates while fattening. The advantage of crate feeding is that the birds are not able to move around at all and hence put on flesh rapidly. The crates have a slatted bottom, and must be kept in a cool, shady place. The ration consists entirely of mash moistened with sour milk if possible; if sour milk is not available water is used. When sour milk is used, the mash may consist of 50 pounds corn meal, 20 pounds middlings and 10 pounds ground oats. When the mash must be mixed with water add 10 pounds beef scrap to the ground grain. The other way of fattening, which is in more general use, is to confine the birds in a small pen, and feed moist mash twice a day, with cracked corn for the third feeding. A little green may be given. Crate feeding cannot be continued over two weeks, for the birds are apt to get off their feed if confined longer. The other method may be followed from the time cockerels are separated from pullets till they are ready for market, and is easier for both birds and feeder. If birds do not put on weight it is because the ration is not right or they have been confined too long.

### Mites Perhaps

Our six weeks' old chickens did well till a week ago. Now many of them stand around hunched up, drowsy and with rough feathers. Our feed is the best, yards and houses clean.—Subscriber, Garden Grove.

From the symptoms you give I suspect mites are at work on these chicks at night. Have you sprayed their coop regularly or painted with crude carbolic acid and kerosene? It is possible, of course, that coccidiosis is in the flock. In that case there would be bloody droppings. If you see such droppings, put the whole flock at once on a diet of sour milk, with a little grain night and morning. If you can put them on clean ground, so much the better. But look for mites and paint or spray whether you find them or not.

### Peafowls

I wish to keep a pair of peafowls on our eight acre ranch, and would like to know how to manage them. I thought of making an aviary covered with two inch wire and confining them for a time. Are they hardy, or do they have to have a house to roost in? Are they delicate or do they live a good many years? Can I keep grouse and prairie chickens in an aviary, and do they easily become domesticated? Can you suggest a nice aviary pet after the order of pheasants or ducks? —Subscriber, Fillmore.

I took this question to a Los Angeles aviary and learned that some of the nicest aviary pets are the Australian Crested dove, the Crown pigeon, the South American guinea, pheasants, which become very tame with proper care and the California Mountain quail. Peafowl are cared for exactly as chickens are in all respects, requiring the same feed and shelter and are very hardy. Grouse and quail may be caught and domesticated, but are not easily obtained otherwise.

### Fall Hatching

I am new in the poultry game and would like to know whether a fall hatch of White Leghorns will do as well as a spring hatch. What are the objections, if any, and why do not more poultry people prefer the fall hatch?—Subscriber, Arcadia.

The objection to fall hatching is a commercial one entirely. Chicks hatched in September grow splendidly and command the highest price for fryers and roasters in February, but the pullets are not as profitable for the simple reason that they begin laying in the decline of the season instead of at its height and must be fed longer before they pay for their feed. Pullets hatched in March begin laying when prices are near the top and begin to pay their way immediately. Pullets hatched in September begin laying in March when eggs are cheap and go into the molt just when they ought to be most profitable. This, I believe, is the objection in a nutshell. If one is short of pullets and anxious to save time he will do well to set all the eggs he can in August and bring off a lot of September chicks. If he has birds enough for the coming season he will do better to wait till February, which is, all things considered, the best hatching month in the year.

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The Oregon Public Service Commission has fixed standards for hay. Alfalfa grades are: Choice, No. 1, Standard, No. 2, No. 3, no grade.

### STORRS EGG LAYING CONTEST

Storrs, Connecticut, June 27, 1922.—The hens in the laying contest at Storrs are easing off a little as compared with the excellent performance of a few weeks ago. In the thirty-fourth week the total lay for all pens was 3,660 eggs or a little more than 52 per cent. White Leghorns are expected to forge to the front at this season, and this is exactly what is happening. A pen of Leghorns owned by George B. Ferris from Grand Rapids, Michigan, was in first place for the week with a score of 55 eggs.

With the approach of summer, the poultryman's problem is not so much to get more eggs this week than he did last but rather to recognize the fact that hens will lay less eggs from this time on to the end of the laying season next October. Good management must be practiced during the summer months in order that the inevitable slump in egg production shall take place gradually instead of abruptly. The maximum number of eggs can not be laid by hens unless they are supplied with abundance of green food, suitable shade, cool and comfortable sleeping quarters and houses that are free from mites. These are some of the factors that every poultryman must keep well in mind during the summer season.

The four leading pens in each of the principal breeds are as follows:

**Plymouth Rocks**

Harry G. Culver, (Barred), 1427; W. H. B. Kent (Barred), 1346; Purdue University (Barred), 1296; Ontario Agricultural College (Barred) 1276.

**White Wyandottes**

Frank P. Matteson, 1526; Woodbridge Orchards, 1494; Walter Bradbury, 1358; Clemens J. Diemand, 1297.

**Rhode Island Reds**

The Orchards, 1336; John Z. Labelle, 1302; F. H. Sampson, 1265; Applecrest Farm, 1256.

**White Leghorns**

J. Frank Dubois, 1365; Hollywood Farm, 1358; Goshen Poultry Club, 1335; L. E. Ingoldsby, 1292.

---

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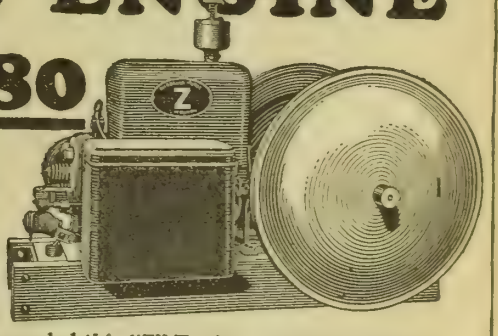


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# Los Angeles Markets

Los Angeles, July 12, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 44 cents.

Prices extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 5 | 6 | 7 | 8 | 10 | 11 |
| | 43 | 43½ | 42½ | 42½ | 42 | 43 |

### CHEESE

Brokers' prices:
California flats, 19@21.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 24; case count, 27; pullets, 24.

Prices extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 5 | 6 | 7 | 8 | 10 | 11 |
| | 32½ | 32½ | 32 | 32 | 29½ | 28 |

### POULTRY

Price to producers: Hens, 20; colored, 30; broilers, 26@30; roasters, 35; old roosters, 12; fryers, 30; ducks, old, 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 11@13; old, 8.

### LIVESTOCK

Los Angeles, July 11.—Weighed and delivered off cars without food or water.

Hogs (hard grain fed) 125 to 150 pounds, 10.25; 175 to 225 pounds, 10.50.

Cattle (on foot, gross weight): Steers, good, 6.50@7.00; medium, 5.25@625; cows, good, 4.75@5.25; medium, 4.00@4.50; bulls and stags, 3.00@3.50; calves, 125 to 175 pounds, 8.00@9.00; 175 to 250 pounds, 6.50@7.50.

Sheep, ewes, 4.00@5.00; lambs, 9.00@11.00.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, July 11, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Shipments from Southern California July 10, 24 cars, 15 going to El Paso for diversion, 3 to points in California, others Eastern. Shipments from state to July 10, old 200,006 bu., new 28,168. July 1 estimate for U. S. 428,607,000 bu., California 11,335,000. Movement slow, market weak. New stock. Best locals, sk. cwt., 1.25@1.45.

Onions: Shipments from California July 10, 17 cars. Demand moderate, market dull. Quality fair. Coachella and Imperial Valleys: Crates No. 1, Whites, 1.25@1.50; Yellows, 1.00@1.25; Stocktons: Reds, 1.25@1.50; Yellows, 1.50@1.65 per cwt.

Garlic: Mex. best, 10@12.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, July 11, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Asparagus: Per lb.: Northern, 10@12.

Beans: Market dull. San Pedro Ky. Wonder 4@5; few, 6.

Bunched Vegetables: Per doz. bunches: Turnips, 35@40. Beets and Carrots, 30@35. Radishes and Parsley, 15. Spinach, 20@25c. Parsnips, 35.

Cabbage: Market steady, quality ordinary. Field cr., best mostly 1.75.

Cucumbers: Local, lug, 75@80.

Celery: Movement moderate, market steady. Wide range in quality and prices; quality, generally ordinary. Locals, best, 5.50@6.00; poorer, 5.00@5.25.

Corn: Green, Imp., best, 25@40.

Eggplant: 10@15 lb. Coachella.

Lettuce: Shipments from Southern California July 10, 49 cars, 47 to N. Y. Market steady. Locals' 1.00@1.10 per cr.

Okra: Lb., best, small, 8.

Peas: Best Northern, lb., mostly 8@10. firm. Bell, local, 25@30; small, 15@22; Chili, 14@15.

Peppers: Demand moderate, market firm. Bell, local, 25@30; chili, 15.

Rhubarb: Local, best, Crimson, 75@1.00; mostly, 75@85.

Squash: Market steady. Locals: Summer, lugs, 60; Italian, lugs, 75.

Tomatoes: Northern, 3@5 lb. Imperial Valley, a best most 3 lb. San Pedro, lugs, best, 2.50@2.75. Texas, crates, 75@1.00

11 by Los Angeles wholesalers from their

### FRESH FRUIT

These are actual prices obtained July 3 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: New, White Astrachans, loose, 5@7 lb. Packed, 3½@4; tier, 3.25; 4½ tier, 3 per box.

Apricots: Lb., Northern Royal, best, 3@5; poorer, 1@2; local, lug, 75@1.00.

Blackberries: Cr., 2.25@2.50; fy., 3.25@3.50.

Cantaloupes: Haulings light, decreasing. Demand light. Market slightly stronger for good stock. Carloads f. o. b. cash track. Few sales Standards. Mostly Standards 36's. Salmon Tints, 90@1.00. Estimate 110 cars to be shipped July 11. Shipments July 10, 165 cars. Total this season to date, 11,505 cars. Arizona: Shipments July 10, 185 cars. Estimates for July 11, 200 cars. Phoenix, Ariz.: Past 24 hours, minimum 76 degrees, maximum 102 degrees; today at 8 a. m. 76 degrees, clear. Imperial Valley: Standards mostly, 1.35@1.50; poorer, low as 1.

Casabas: 2½@3 per lb.

Cherries: Per lb.: Bings, 17@20; Black Republicans, 12@16; Royal Annes, 10@12.

Currants: Cr. 2.50.

Figs: Black, 10@13; White, 8@12.

Loganberries: 2.00@2.25 per cr.

Grapes: Coachella Valley. Thompson Seedless, 7@10 per lb.

Peaches: Per lb: Best, 4@5; poorer low as 2. Redbirds, fancy, 2.25@2.50 lug. Homegrowns, 75@1.00 per lug.

Plums: Per lb.: Santa Rosas, 3@4. Climax, 2@3 lb.

Raspberries: No. 1, 3.00.

Strawberries: No. 1, 2.75@3.25.

Watermelons: Imperials, Chilean, Klondike and Angeleno 1@1½ per lb.

### CITRUS FRUITS

These are actual prices obtained between 7 and 8 o'clock July 11, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms, cash on the walk. There may be slight fluctuations during the day's trading. Higher prices are frequently obtained where credit is given or goods are delivered.

Grapefruit: Market steady. Californias: Northern, packed box, 3.50@4.00; market pack, 3.00@3.50; small, 2.25@2.50.

Lemons: Demand and movement light, market firm. Special brands, fancy, 6.75@7.50; choice, 5.50@5.75.

Oranges: Demand moderate, market steady. Valencias, special brands, 9.00@10.50.

### HONEY

The orange crop is estimated at ¼ to ⅔ of normal, according to locality. The sage crop is reported generally good, and above average in quality. Perhaps one-half of the crop in the southern part of the state was made by the first of June.

Demand for carlots is reported light, the movement is slow, and the market unsettled. Dealers are said to be buying from beekeepers only on orders. A few carlot sales are reported on usual terms basis as follows: White Orange Blossom, 8½@9, some fancy high as 10. Light Amber Alfalfa, 5½@6 per lb. Beekeepers said to be disposed to hold for higher prices. Beeswax, cash to beekeepers, selling at 22c per lb.

### BEANS

F. o. b. Cal.:

| | |
|---|---|
| Lima, Standard | 9.00@9.15 |
| Lima, Henderson Bush | 9.00@9.15 |

Cal. Lima Bean Growers Assoc. reports some sales made in June for Oct. delivery of 1922 Limas and Baby Limas at around $6.25@6.40 f. o. b. Coast. Demand for futures now quiet. Assoc. has been sold out of 1921 crop for several months.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 20.00@26.00 |
| Barley | 18.00@22.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@22.00 |
| No. 1 Alfalfa | 16.00@18.00 |
| Standard Alfalfa | 12.00@14.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 20.00 |
| No. 1 Dairy | 15.00 |
| No. 1 Alfalfa | 12.00 |

### GRAIN

Prices L. A. Grain Exchange, July 11.

Barley: 100 ton lots July Del., 123¾.

Milo: 100 ton lots July Del. 1.95.

Grain Department California Farm Bureau Exchange: Little wheat has yet come into Los Angeles markets. In fact, less wheat has been coming in for three weeks than is needed for consumption. Reserves, which are very light, are being exhausted. Present prices probably are as high as we will see for a few months as Eastern and Northern wheat will soon be coming in competition as Eastern growers figure they can sell on the Los Angeles market at a profit at present prices. Barley is not yet in export demand. There is a big crop and harvest is just commencing. In the Imperial Valley the exchange has 70 per cent of the acreage and is able to hold back shipments and keep up prices. Imperial is selling well in San Diego and Arizona markets, not so well in Los Angeles.

Prices to grower delivered in L. A.:

| | |
|---|---|
| Wheat No. 1 | 1.90 |
| Barley No. 1 | 1.25 |

# San Francisco Markets

San Francisco, July 11, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 42½ |

Prices Extras last week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 5 | 6 | 7 | 8 | 10 | 11 |
| | 42½ | 42½ | 42 | .... | 42 | 42½ |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 25½ |
| California Flats, fancy | 18@21 |
| Oregon Trips | 23 |
| Oregon Young America | 25 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 28 |
| Extra Pullets | 23½ |
| Undersized Pullets | 17 |

Prices Extras last week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 5 | 6 | 7 | 8 | 10 | 11 |
| | 31½ | 31 | 31½ | .... | 30 | 28 |

### POULTRY

Prices furnished by state department of agriculture division of markets. Sales to retailers:

Broilers: 1 to 1¼ lbs. 27@29 per lb.; 1½ to 1¾ lbs., 28@30 per lb. Colored, 33@35 per lb.; 2 to 2¼ lbs., 32@33 per lb. Colored, 35@38 per lb.

Fryers: 2½ lbs., 33@35 per lb. Colored, 38@40 per lb.

Young Roosters: Colored, 3 lbs. and up, 43@47 per lb.

Colored Old Roosters: 17@18 per lb.

Leghorn Old Roosters: 14@15 per lb.

Leghorn Hens: 2½ to 3 lbs., 14@16 per lb.; 3 lbs. and over, 20@23 per lb.

Large Colored Hens: 28@31. Off stock, 26@27.

Ducks: Young, 20@22. Off stock, 10@15.

Geese: Young, 20@22.

Live Turkeys: 32@35.

Dressed Turkeys: Young, 36@40. Off stock, 26@32.

Belgian Hare: Live, 13@15. Dressed 18@23.

Squabs: Live, fancy, 50@52 lb.; common, 3.00@3.50 doz.

Old Pigeons: 2.50@3.50 per doz.

Guineas: Young, 9.00@10.00 doz.

Jackrabbits: 2.00@2.50 doz.

### LIVESTOCK

Western Meat Company quotes:

Weighed off cars at our yards in South San Francisco:

Cattle: Steers, first quality, 6½@7 per lb.; second quality, 5¼@6¼; cows and heifers, No. 1, 4¼@5; second quality, 4@4½; bulls and stags, 3@4 per lb.

Calves: Light weight, 8@10 per lb.; heavy, 5@7 per lb.

Sheep: Wethers, 6½@7 per lb.; ewes and stags, 3@4 per lb.

Lambs: 10½@11½ per lb.

Hogs: Hard, fat, grain-fed, weighing 125 to 200 lbs., 12 per lb.; 200 to 250 lbs., 11 per lb.; 250 to 300 lbs., 10 per lb.; light sows, 10 per lb.; heavy, 9 per lb.

California Farm Bureau Marketing Association reports:

| No. Hogs | Av. Wt | Dock | Price |
|---|---|---|---|
| **Wasco, July 1** | | | |
| 5 | 386 | 70 | 7.50 |
| 82 | 154 | .... | 10.85 |
| 55 | 180 | .... | 10.85 |
| 4 | 220 | .... | 10.35 |
| 20 | 115 | .... | 10.00 |
| 166 hogs | | | |
| 2 cars, 14 consignors, $2,907.25. | | | |
| **Modesto, July 5** | | | |
| 71 | 168 | .... | 11.05 |
| 16 | 120 | .... | 10.75 |
| 1 | 220 | .... | 10.55 |
| 2 | 300 | .... | 9.55 |
| 7 | 380 | 90 | 8.05 |
| 97 hogs | | | |
| 1 car, 14 consignors, $1,810.95. | | | |
| **Fresno, July 7** | | | |
| 8 | 156 | .... | 10.25 |
| 56 | 99 | .... | 10.25 |
| 4 | 232 | .... | 9.25 |
| 1 | 500 | 20 | 7.25 |
| 4 | 362 | 70 | 7.25 |
| 73 hogs | | | |
| 1 car, 9 consignors, $866.12. | | | |

Total: 336 hogs, 4 cars, 37 consignors, $5,584.32.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: River, fancy, 1.60@2.00; Idaho netted gems, 2.00@2.25; off grades, lower; Salinas, 2.25@2.75 per cwt; new, 2@2¾ lb.

Sweets: Merced, 7½@9; La., Nancy Hall, sk., 2.00.

Onions: Shipments Northern California July 10: 31 cars. Green, 1.25@1.50 box; Stockton Red, 1.25; Yellow, 1.00@1.25. extra large and fy., 3.00@9.00.

Garlic: 2@3 per lb. for medium grades; poorer quality, less.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, July 3, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per large cr., 4.00@6.00; extra large, 8.00.

Asparagus: Green, 5@6 lb., white, 7@9 per lb.; graded, 10@12½ per lb.

Beans: Ky. Wonder, 2@3; Wax, 4@5; Italian, 5@7.

Bunched Vegetables: Carrots, 60@75 per dozen; turnips, 55@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Corn: New, doz., 25@40.

Cucumbers: Southern, 70@1.00 crate; 1.00@1.25 lug; English, 2.50@2.75 doz.

Eggplant: Southern, 8@10 per lb.

Lettuce: Local, 50@75 c.

Parsnips: 3.00@3.25 per sack.

Peas: Half-moon, 3@4½.

Peppers: Cal. Bells, 15@20; Chili, 15@20.

Rhubarb: Box, 1.50@1.75.

Sacked Vegetables: Carrots, 1.75@2.25; turnips, 1.10@1.25; parsnips, 3.00@3.25; beets, 1.00@2.00.

Spinach: Lb., 3@4.

Squash: Summer, lug, 1.00@1.25; Italian. cr., 45@65.

Tomatoes: Shipments from No. Cal. July 10, 6 cars. Imperial nominal, Merced, 1.75@2.00 lug. Few higher, 75@1.00 crate. River, fancy, 3.00@3.50 large lug.

### FRESH FRUIT

Apples: New crop apples, Green, 1.25@2.00 lug box. White Astrachans, 1.50@2.00 box.

Apricots: 4@7 lb.; 1.25@2.00 lug; 1.00@1.50 crate.

Bananas: Hawaiian and eastern, 7½@8 per lb.

Blackberries: Dr., 25@30.

Cantaloupes: Imperial Valley, best standard crates 1.75@2.00, few higher. Pony crates, 1.25@1.50; flats, 75. Soft, lower. Honey Dew and Casabas, flats 1@1.25.

Cherries: Royal Annes, 10@13 lb. Black Rep. 10@12 lb. Bings, 12@18 lb.

Currants: Dr., 90@1.00.

Figs: Single layer box, 60@75.

Gooseberries: 10@15 lb.

Loganberries: Dr., 30.

Pineapples: 5.50@6.00 per doz.

Peaches: U. S. D. A. estimates July 10 Cal crop 16,863,000 bu., U. S. A. 54,302,000 bu. 75c@1.00 crate; basket, 50@75; lugs, 1.25@1.65; large, 1.75.

Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.

Plums: 75@1.75 per cr.

Raspberries: 60@75 dr.

Strawberries: Watsonville and Salinas, cr., 90@1.20; local, 45@60 dr.

Watermelons Imp., 1¾@2.

### CITRUS

Grapefruit: Southern Cal., fancy, spec. pack, 4.50@5.50 choice, 3.00@4.00.

Lemons: Spec. pack, 6.00@6.75; choice, 4.50@5.50; Lemonettes, 2.00@3.50.

Oranges: Valencias, fancy boxes, 126s, 10; 150s,-200s, 8.50@9.50; 216s-250s, 7.50@8.00; smaller, 6@7; choice, 5.50@8.50.

Apples, 1922

### DRIED FRUITS

Packers' Quotations f. o. b. Cal.:

| | —In 50s— |
|---|---|
| Choice | @12¼ |
| Extra choice | @12½ |
| Fancy | @13½ |

Apricots, 1922, Packers' prices f. o. b. Cal.:

| | —In 25s— |
|---|---|
| San Joaquins | |
| Standard | 19 @19¼ |
| Slabs | 20 @20½ |
| Choice | 23½@24 |
| Extra choice | 25 @25½ |
| Fancy | 27 @27½ |
| Southern | |
| Standard | 19½@19¾ |
| Slabs | 20½@21 |
| Choice | 24 @24½ |
| Extra choice | 25½@26 |
| Fancy | 27½@28 |

Prunes, 1922, Packers' prices f. o. b. Cal.:

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11½@11¾ | 15¼@15½ |
| 40-50s | 9 @ 9¼ | 12¼@12½ |
| 50-60s | 8 @ 8¼ | 10¾@11 |
| 60-70s | 7½@ 7¾ | 9¾@10 |
| 70-80s | 7¼@ 7½ | 9 @ 9¼ |
| 80-90s | 6¾@ 7 | 8 @ 8¼ |
| 90-100s | 6¾@ 7 | 7½@ 7¾ |

Apricots, 1922. California Prune and Apricot Growers' prices, in 25-lb. boxes

Prunes, 1922. California Prune and Apricot Growers' prices, in 25-lb. boxes:

Peaches, 1922, Packers' prices f. o. b. Cal.:

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | 11¼@11½ | 11½@11⅝ |
| Slabs | @11½ | @11¾ |
| Choice | @12 | @12¼ |
| Extra choice | @12¾ | @13 |
| Fancy | @13¾ | @14¼ |

Peaches, 1922, California Peach and Fig Growers' Assoc. prices :

Opening quotations for the 1922 dried peach fruit pack announced by the California Peach and Fig Growers, Inc., show an irregular advance over the opening prices of last year in keeping with the general upward movement of California fruit values. The growers anticipate an increase in the export demand and expect that the domestic trade will hoard their early holdings. Following is the list of prices issued by the Peach Growers' Association quoted, f. o. b. Fresno for August and September delivery:

Yellow—Standards, 9¾c per pound, choice, 10½c; extra choice, 12c; fancy, 14½c; extra fancy, 16c. Muirs—Standard, 10c; choice, 10¾c; fancy, 15½c; extra fancy, 17c. These are basic prices for unpeeled peaches. Peeled are quoted one cent per pound higher and packing charges are one cent per pound in 50, one and a quarter cents in 25 and two cents in ten-pound boxes. Blue Ribbon cartons are quoted as follows: $7 per box of sixty eleven ounce packages , $8.25 for twenty-four two pound packages and $6.50 for ten five pound packages.

Pears, 1922, Packers' prices f. o. b. Cal.:

| | —In 25s— |
|---|---|
| Standard | 12½@12¾ |
| Choice | 15 @15½ |
| Extra choice | 16½@17 |
| Fancy | @18½ |

Raisins, Sun Maid Raisin Growers' prices, for shipping to August 1:

Seeded—Sun-Maid, 15-oz., 15⅛. Bakers (in 25s and 30s) 13⅜. 1-crown (in 25s and 30s), 13⅜.

Loose Muscatels—4-crown (in 25s), 15⅜. 3-crown (in 25s), 14⅛. 2-crown (in 25s), 13⅛. 1-crown, recleaned (in 25s), 13⅞. 1-crown, not Sun-Maid (in 25s), 13⅜.

Seedless—Thompsons, bulk (in 25s), 15¾. Thompsons, bakers (in 25s), 15⅛. Sultanas, bulk (in 25s), 14¾.

Bleached Thompsons—Choice, sulfur (in 25s), 18⅜. Fancy, sulfur (in 25s), 19⅜. Extra fancy, sulfur (in 25s), 22⅜. Soda dipped, 15-oz., 17¼. Soda dipped, 8-oz., 9⅛. Soda dipped, bulk, 15⅜.

Thompsons, 5c pkgs., six 24s, per case, f. o. b. jobbing points, 3.65. Valencias, bulk (in 25s), 12⅝. Feherzagos, loose (in 25s), 12⅝. Malagas, loose (in 25s), 12⅝. Zante Currants (in 25s), 15⅜. Black grapes, 1920 crop (in 25s), 16⅞.

Layers—All grades, withdrawn.

### BEANS

California Bean Growers f. o. b. Cal

| | c. r. c. |
|---|---|
| Large Whites | 8.00 |
| Small Whites | 7.50 |
| Pinks | 5.40 |
| Mexican Reds | 4.35 |
| Red Kidney | 8.00 |
| Cranberries | 7.75 |
| Bayos | 5.75 |
| Blackeyes | 4.25 |
| Henderson Bush Limas | 9.00 |

### RICE

California Rice Growers Assoc. report: No. 1 Paddy, 2.77.

### HAY AND FEEDSTUFF

A. W. Scott Co. reports under date July 8:

Receipts past week 723 tons as compared with 725 previous week. The San Francisco market continues very quiet with quotations unchanged. The first two days of the week we observed as holidays and the resulting accumulation has clogged live demand and held trading in buyer's favor with prices weak

Export in better volume and coast shipping picked up. Interior trading still light. Baling is going on actively and dealers are inspecting and estimating the crops, but farmers in many sections are holding at prices two or three dollars higher than consumers are willing to consider. Alfalfa is moving steadily but in light volume—prices are unchanged. The quality of the second crop generally is very good excepting that coming from the Sacramento Valley sections where grasshoppers have inflicted considerable damage.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions).

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 16.00@18.00 |
| Wheat Hay, Fair Grade | 14.00@16.00 |
| Tame Oat Hay | 15.00@18.00 |
| Wild Oat Hay | 11.00@13.00 |
| Alfalfa Hay, 1st and 2nd Cutting | 13.00@15.00 |
| Stock Hay | 10.00@12.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 28.00@29.00 |
| Oats, Rolled Feed | 38.00@40.00 |
| Bran | 33.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 55.00@60.00 |
| Coconut Meal | 33.00@35.00 |
| Alfalfa Meal | 22.00@24.00 |
| Cottonseed Meal | 50.00@55.00 |
| Sugar Beet Pulp | 32.00@34.00 |
| Molasses, tanks | 17.00 Barr 25.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices S. F. Grain Exchange, July 10, f. o. b. S. F. warehouse and storage charges paid.

Barley Feed, 1.17½@1.22½; shipping, 1.27½@1.35.

Wheat Mill, 1.90@1.95; Feed, 1.85@1.90. Milo, 1.90@1.95; No. 2 bulk, 1.90@1.95; Middlings, 41@43.

Grain Department California Farm Bureau Exchange:

Export shipments of California grain from San Francisco have pushed up prices. Japan and Central America are now taking California wheat as it comes in a month earlier than Eastern wheat and therefore commands the market at this time. Northwest wheat will come in a month later so that we do not expect prices to go higher. When the exchange controls as much acreage in the Sacramento and San Joaquin Valleys as it now does in the Salinas and Imperial Valleys the market will be in the farmers hands. It now has 360,000 acres in the state and more is coming in every day.

Prices to grower delivered in S. F.:

Wheat No. 1 ..... 1.95@2.00
Barley, No. 1 ..... (about) 1.25

## Cirrus Markets

Los Angeles, July 12, 1922.

Average shipments of Valencias from the state 40 cars daily; less than 5,000 yet to go. Prices exceptionally strong on eastern markets. Returns on this season's crop because of good prices will about equal last year's. Set of fruit this spring was light and heavy June drop has still further reduced it. Many orchards will have good crop, but it is yet too early for estimates.

Generally cool and rainy weather in East has depressed lemon market. Foreigns available for sale in next 30 days, 163,000 boxes.

### Citrus Shipments

Shipments of citrus fruits to date since November 1, 1921. Southern California: Oranges, 19,877 cars lemons, 7,552; total, 27,429. To same date last season: Oranges, 30,396; lemons, 8,329; total, 38,725. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 19,877 cars; lemons, 7,552; total, From Northern California to date this season: Oranges, 372; lemons, 8; total, 380. To same date last season: Oranges, 305; lemons, 5; total, 310.

### AT THE AUCTIONS

**July 5**

Boston: 14 or., 1 lem. Val. 4.35@9.45, lem., 1.70@5.10.

New York: 33 or., 15 lem., 1 grapefruit, 4 mix. Val 3.50@11.50, lem. 1.60@5.00, grapefruit 3.05@5.70.

**July 6**

Boston: 7 or., 5 lem. Val. 4.90@9.30, lem. 1.70@4.60.

Pittsburg: 2 or., 3 lem. Val. 4.10@4.75, lem. 1.30@2.45.

**July 7**

New York: 14 Val., 1 grapefruit, 5 lem. Val. 3.45@11.25, lem. 2.40@4.35.

St. Louis: 2 or., 5 lem. Val. 2.20@6.05, lem. 1.70@2.60.

**July 10**

Boston: 10 or., 8 lem. Val. 4.45@10.90, lem. 1.50@5.30, grapefruit 6.85.

Cleveland: 2 or., 5 lem. Val. 5:30@7.15, lem. 1.00@4.45.

St. Louis: 3 or., 5 lem. Val. 3.64@7.25, lem. 65@3.65.

**July 11**

New York: 10 Val., 3 mix. 4 lem. Val. 4.35@11.30, lem. 2.45@5.60, St. Mike half 2.10@2.30, grapefruit half 3.20@4.40.

### CALIFORNIA CATTEMEN'S MARKET REPORT

San Francisco, July 10.—The Chicago market showed a considerable decrease in receipts probably due to the holiday, while prices remained steady.

The San Francisco market remains steady with a rather strong undertone. Dressed beef of number one steer quality is bringing 14½ to 14¾ cents, with a few sales as high as 15 cents. As high as 7⅛ cents has been offered f. o. b. ranch for very prime steers. Because of the fact that 75 per cent of the cattle being killed are only half fat, the bulk of recent sales will probably average between $6.50 and $6.85 f. o. b. ranch for choice steers, with $5.00 to $5.25 f. o. b. ranch for cows.

The Los Angeles market also seems to show some improvement in tone, and sales are reported at 6½ cents f. o. b. ranch in Santa Barbara County for steers and 5½ cents f. o. b. ranch for cows. Sales are also reported at 7½ cents for steers and 6½ cents for cows, delivered in Los Angeles. Buyers have paid 6½ cents f. o. b. Phoenix, for twelve cars of grass steers for delivery August 1. This is equal to at least 7½ cents in Los Angeles.

Information from Nevada that buyers are offering 6½ cents f. o. b. ranch for beef to be delivered this fall, but all offers declined. Utah steers selling for 7¾ cents in yards at Ogden.

Indications of fairly good feeder market in California this fall, and cattlemen are urged to hold half fat cattle for sale as feeders and not force them onto the market for immediate slaughter.

Remember that this market report quotes only actual sales made, all of which can be proven to be correct. Also remember that only the higher sales are quoted, since buyers will keep you informed of lower sales. R. M. Hagen, secretary.

### IS THE THIRD HORSEMAN RIDING?

(Continued on Page 51)

Livestock in this locality may offer a way out for small farm production when a definite market is established here next winter. Farmers who have feed will be able to buy on time, and a definite market will exist for sale. In the past, with local butchers operating at gift prices for small lots, large men contracting and small men coming in at any old price, livestock was out of the question for the ordinary small farmer.

Nero fiddled and Rome burnt. Our politicians fiddle and increase our taxes but little has been done to safeguard the first producer. A united will would force justice to production in a few months, but the majority care nothing for the one man who is producing, and will do nothing until a lack of food brings the lesson home. The organized commodity producers do make a living profit. There is the lesson.

### EARLY SALES OF LIMAS

**By R. L. Churchill, Manager California Lima Bean Growers Association**

Both the association and independent dealers and shippers have sold some quantity of 1922 crop Limas and Baby Limas as futures, but, as we understand, mostly for October rather than either September or November shipment. Of course, any that have been booked for September or for that shipment, if available, commanded higher price than October shipment. Believe most of the October shipment orders, particularly for first half, were booked at around $6.25 to $6.40 f.o.b. Coast.

On account of the high prices now prevailing and which have ruled during the last three months because of a combination of scarcity and manipulation, the wholesale distributors seemed to feel that a price between two and three cents per pound lower than the current market would be a good gamble, so those who were speculatively inclined announced that they had determined to purchase some quantities of new crop stock now, and in turn would try to resell futures to their retail customers. This resulted in some activity during a part of June, but did not last long, since which time inquiry for futures has been quiet.

The weather up to this time has been favorable for the growing crops of beans, and Limas and Baby Limas are generally looking and promising well.

There has been considerable damage from wire and cut worms in certain districts, particularly in the section south and west of Santa Ana, between Saticoy and Santa Paula and over a small area above Santa Barbara.

With this exception, the prospect now favors a considerably better quality and per acre yield of regular Limas than last year. Of course, the critical period is between now and the 10th or 15th of August, which is the blooming and setting time, when favorable weather is most needed and when unfavorable weather, particularly a spell of very warm weather, would do great damage through causing the bloom and small pods to drop.

### AVOCADO DIRECTORS MEET

A very interesting meeting of the board of directors of the California Avocado Association was held at the Van Nuys Hotel on Saturday, July 1. In addition to the directors, there were present representatives from the University of California, the United States department of agriculture, the county farm adviser's office and the Los Angeles Chamber of Commerce.

The different problems and difficulties confronting the commercial growers of avocados were discussed, and it was the general feeling that in as much as the culture of avocados and other tropical fruits is attracting the attention of many horticulturists in Southern California and promises to become an important addition to our horticultural enterprises, that an earnest effort be made to get the department of agriculture to establish an experiment station somewhere in the vicinity of Los Angeles for the purpose of carrying on experiments in the growing of avocados and other tropical fruits, and that a compentent man be assigned to take full charge of this work. The representatives of the different organizations agreed to lend their assistance in helping to bring about the establishment of such an experiment station, and it is hoped that some definite action will be taken on the matter at an early date.

The avocado and tropical fruit growers feel that they must have help of this kind from the government in order to solve the many perplexing problems confronting them and place these new industries on safe commercial basis. Without it they must grope in darkness, so to speak, for an indefinite time, and possibly never solve all of the problems or get the industry firmly established, whereas, with competent government men in charge of such experimental work, whose sole business it would be to make experiments and study the different problems, they could be worked out in a much shorter time and in a very much more definite way, and thus save the future planters the painful and costly experiences suffered by the pioneers of the industry.

### WEATHER REPORT

San Francisco, July 8, 1922.

| Stations | Rainfall: Week | Season | Norm. | Temp.: Max. | Min |
|---|---|---|---|---|---|
| Eureka | 0 | 0 | 91 | 66 | 50 |
| Red Bluff | 0 | 0 | 0 | 112 | 66 |
| Sacramento | T | T | 0 | 104 | 56 |
| San Francisco | T | T | 0 | 68 | 54 |
| San Jose | 0 | 0 | 0 | 88 | 50 |
| Fresno | 0 | 0 | 0 | 108 | 66 |
| San Luis Obispo | 0 | 0 | 91 | 84 | 54 |
| Los Angeles | 0 | 0 | 0 | 82 | 60 |
| San Diego | 0 | T | 0 | 72 | 62 |


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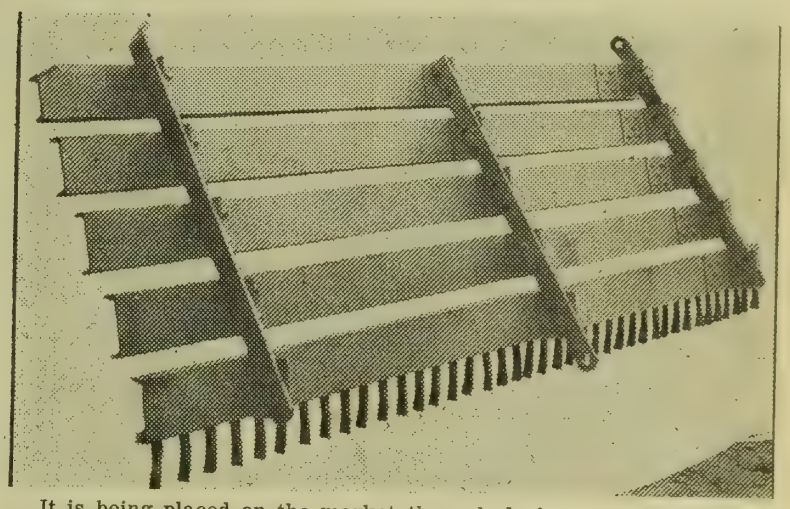

It is being placed on the market through dealers, and if your dealer cannot supply you write direct to

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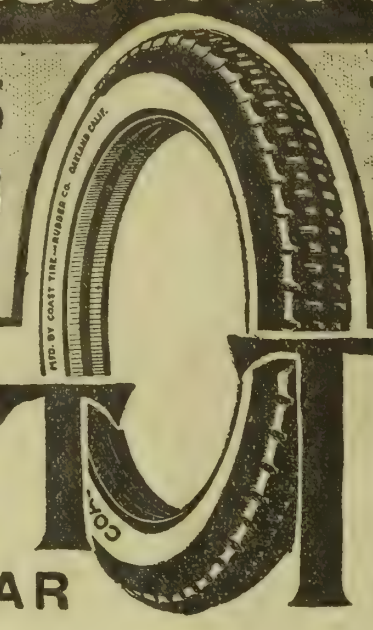


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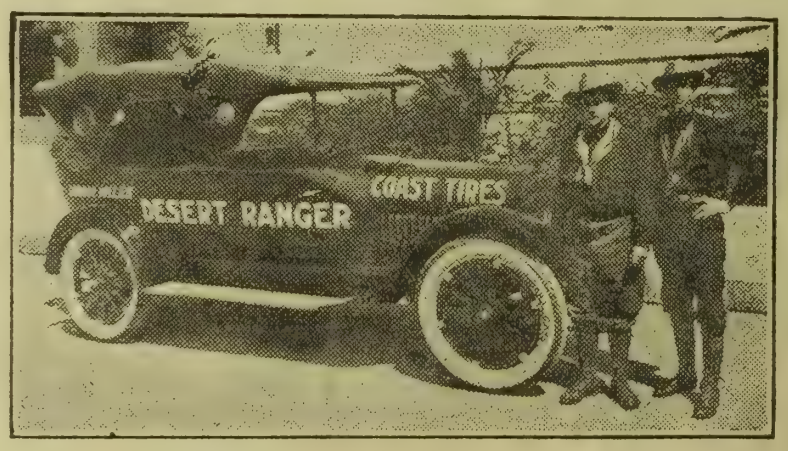


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# CALIFORNIA CULTIVATOR

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Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — July 22, 1922 — No. 4


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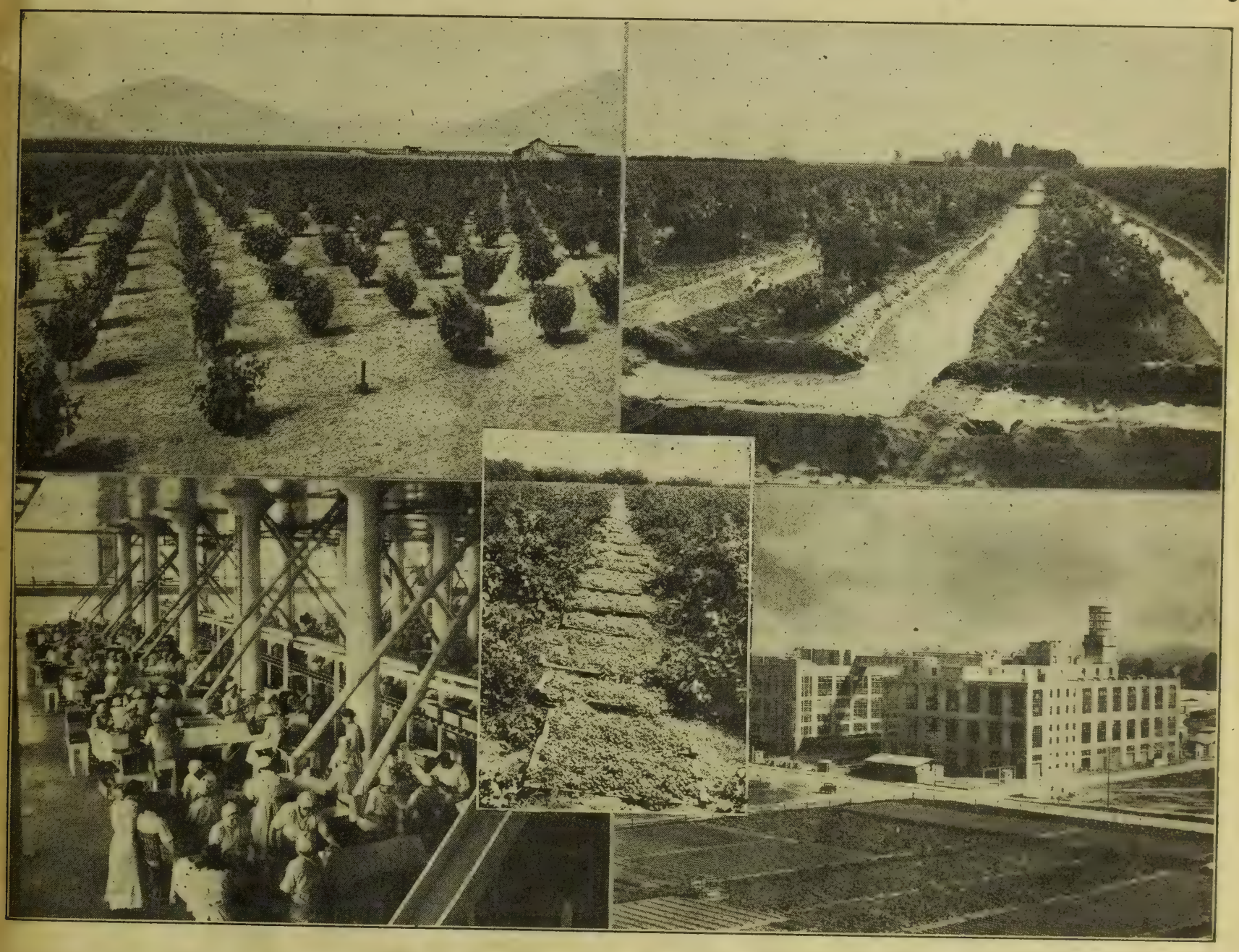
# Sun-Maid Raisins in the San Joaquin Valley



Upper left: A typical San Joaquin Valley Sun-Maid vineyard. Upper right: A scene in a Sun-Maid neyard in the San Joaquin Valley, showing the furrow method of irrigation. Lower left: Sun-Maids acking the famous Sun-Maid raisins in Plant No. 4 of the Sun-Maid Raisin Growers in Sun-Maid City, resno. Lower right: Plant No. 4 of the Sun-Maid Raisin Growers, located in Sun-Maid City, Fresno. his establishment, the largest raisin packing plant in the world today, together with its shipping receiv- g and storage facilities, covers an area of 20 acres. Center: Sun-Maid raisins drying in the sun in one the viney valleys of California.

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and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877, Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## EDITORIALETTES

On this week's cover are shown scenes from the great raisin growing sections of California. We think it can be truthfully said that the raisin industry's phenomenal growth is largely, if not entirely, due to cooperation. From an annual production of less than 75,000 tons of raisins which, before the organization of the raisin growers, it was impossible to market in one season. the production has steadily increased, and the present year's crop is estimated at 225,000 tons. Proper handling and uniform packing, together with a national advertising campaign, made possible by the volume of business handled, has created a demand for this vast production at prices that make raisin growing an attractive and profitable industry again. There is no question but that advertising is the greatest present day medium for increasing the demand for farm, as well as all other products, and only through cooperation is it possible for the farmer to advertise his product in a way that will attract the great mass of consumers. Realizing this the Sun-Maid Raisin Growers are planning to expend $2,520,000 in advertising their 1922-23 crop. This is the largest amount of advertising ever done by the raisin growers and is also the largest sum ever expended in any food products campaign in the world.

* * *

And backing this up is another great campaign of advertising and selling cooperation to the growers. This goes steadily on among new members and old through the growers service department. Through its field men it is in constant touch with the grower; at a day's notice can be in his vineyard consulting on some problem of pruning or irrigating or curing. Fertilizer tests are now being made on 200 separate plots representing all soil types found in grape growing districts. A simplified form of bookkeeping has been adapted to vineyardists' use—the first step in that direction taken by a cooperative association. Knowing that a field man will be at Jones' vineyard at 10 o'clock to show him how to test the sugar in his grapes, Brown may drop over, or maybe Smith and Russell come in their cars, and then the whole bunch go over to Green's place to see how his grapes weigh up. Those field men are a busy lot, sometimes their cars show 1500 to 2000 miles a month. They keep in touch with farm center meetings too, and are ready to answer cultural questions there or to explain the work at the big packing plants, what it costs to market raisins in New York, where the advertising funds go—in general help to maintain the cooperative spirit by keeping the 14,000-odd grower members informed of what their brother members are doing to put out a better raisin, what the men in the packing plants are doing to get the raisins to the consumers in attractive shape, what the salesmen in Chicago and Dallas and Copenhagen and Shanghai are doing to sell raisins.

* * *

Sounds like a big and busy business, doesn't it? And it keeps right on growing bigger and busier. We started asking questions about this field service work of the Sun-Maid Growers the other day when Fred Howard dropped into the office, for we happened to remember that it was his idea and that he had put a lot of work and enthusiasm into it. From what he told us we should say that the enthusiasm was striking deeper every day, while the work was broadening out. To the direction of the field service he has added supervision of the growers' organ. To this, the "raisin" education of a sales force scattered from China to Canada—another chance for cooperation. Many of these salesmen had never even seen California, so to them Mr. Howard wrote the "Dear Al" letters in a jolly, personal way, telling how the sugar gets in the raisins, how the grower irrigates day and night when he gets the "run," how the sun cures the luscious clusters they are to sell, etc. These letters, by the way, have been given the name of "the salesman's bible" and 38,000 copies have been issued in pamphlet form to wholesale grocers. They are good reading for anybody—a world of information conveyed in a few friendly words. Our copy has a place on our ready reference shelf and we are thinking of suggesting it as an inspirational textbook in our schools. We believe somebody told us it had been translated into Chinese. Then, of course, there are films showing growing and packing of raisins. Twenty copies are now being distributed, some under Japanese and Spanish titles. It looks as if Sun-Maids were following the sun into every corner of the world.

* * *

We note in the daily news columns that this broadening work has gained for Mr. Howard a new title, that of Director of Educational Activities, which certainly sounds inclusive enough to cover the field for awhile. But there is no doubt as to the greatness of the field in this and other cooperative organizations. We are only getting started here in California. More acres are coming under cultivation, more intensive care is being given them, better fruits are being produced, more and more is the necessity of cooperation realized. Here is the great field of such educational work as we have hinted at above.

* * *

Plant Quarantine Conference decides that no material changes are necessary with regard to the enforcement of Quarantine No. 37. We are pleased to note that at the recent plant quarantine conference at Washington, D. C., it was decided unnecessary to make any changes either in Quarantine 37 or in the regulations of the Federal Horticultural Board for its enforcement. We print the full report made to Secretary Wallace, covering the findings of the committee.

## SMUDGE POTS

None of us living in the citrus belt enjoy breathing the fumes and soot from the lighted smudge pots, least of all the men employed in attending to them while they are in operation, but until it is clearly demonstrated that some better method of frost prevention has become available, we think that the good of the citrus industry demands that we tolerate them. After all we only have to endure them at most a week or two each year, and with the other 50 weeks of ideal California weather we are vastly better off that many of our Eastern and Northern friends who have to remain housed up for a goodly portion of the winter. We venture to say that a lot of these people would like to trade places with those of us who object to inconveniences we have to endure while the citrus grower is trying to save his crop from the freezing weather such as we experienced last winter. We do not doubt but that some better method will be worked out, but until it is we trust that the good people of Covina will not do away with the smudge pots as might be indicated by the following resolutions unanimously adopted by the Frost Prevention Committee of the Covina Chamber of Commerce at a special meeting held on Saturday, July 8.

"Resolved, by the Covina Chamber of Commerce special committee on frost prevention, that we reiterate our opposition to smudge pots and to the theory that they are the only resource for orchard protection during freezing weather; and

"Resolved further, that we are satisfied, from the evidence presented, that frost protection was obtained successfully last winter, at a temperature of approximately 21 degrees, in the Warren Towt 12 acre orchard at Lindsay, without smudge pots and without heat of any kind, but wholly through the operation of the experimental Cobb tower device; and

"Resolved finally, that we are encouraged by this fact to believe that with some practical solution of the problem of cost of installation, financially adjusted to the requirements of orchardists of small means, the Cobb device, or one similar in character with or without a central heating auxiliary, is preferable in nearly every respect to the smudge pot."

## AFIELD

The principal feature of a trip from Chicago to Buffalo in late June and early July is the odor of new mown hay. Through Illinois, Indiana and a part of Ohio the cutting was principally of clover, but after a fore night in Ohio timothy added to the fragrance. Self binders are busy in wheat fields (the first week of July) and in another month oats of which there is a big crop will be in the binding. Speaking of grain I note that Babson comments on the recent report of the U. S. D. A. crop reporting service:

"The outstanding feature of the June government report is that acreage of all wheat, oats, and rye is 2 per cent less than a year ago, but the estimated yield is 17.1 per cent greater. This means that growing conditions are comparatively favorable. I have yet to witness a year where crop scares and marked price fluctuations did not materialize. Weather and insect ravages cannot be forecast, but as conditions now stand the total grain output showed about equal normal proportions. The winter wheat crop is now being harvested, the yield estimated at 3.4 per cent over 1921.

"Spring wheat figures are placed at 18.8 per cent more than a year ago with the total considerably in excess of the ten-year average. Nevertheless, wheat is statistically strong. The exportable surplus for the current year was placed at 255,000,000 bushels. Actual exports for the season approached 265,000,000 bushels. The relatively large crop is entirely offset by the limited carry over. Australian and Argentine stocks are also limited. True, the price level of wheat is high compared with corn and oats. Wheat, however, is the natural leader and would make one point clear; namely that until Russia is again in a position to feed a great portion of Europe, the price of wheat in this country will remain high."

Babson does not think barley worth quoting, or at least the papers which quote him do not include any comment on barley, but on cotton he says:

"I am particularly interested in cotton. The condition is now estimated around 70, which compares with a ten year average of 75. Last year's crop was the smallest in modern history yet the record carry over constituted a total figure that successfully coped with the curtailed European and domestic demand. This year the carry over is nearly back to normal proportions and a crop in excess of 11,500,000 bales is now indicated. This means that the total supply is about equal last year's figure but the potential demand is greater.

"Europe has been taking between 5,000,000 and 6,000,000 bales annually since 1913," concluded Mr. Babson. "The pre war figure was between 7,000,000 and 9,000,000 bales. Europe must buy raw cotton in greater quantity if she is to maintain supremacy in the finished product. With the settlement of the present textile strife domestic consumption will be higher not lower. Theoretically there is a world shortage of cotton and until the statistical position is corrected this condition that cannot materialize for at least another year, the average price will remain as high, if not higher, than the present level."

All of which reminds me that I visited the grain pit in Chicago.

As to that, next week.

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Acreage planted to cotton this year in the United States is estimated by the U. S. department of agriculture at 34,852,000. This is an increase of nearly 3,000,000 over last year's planting. The big carry over from last year has been cut in half.

# California Cultivator

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# Southern California Citrus Institute

By Ernest Braunton

THE opening session of the institute was attended by 350 "citrusites" from all parts of the south end of the state, delegates being resent from Santa Barbara and San iego Counties, and from all interme- iate territory. The opinion was ex- ressed by many that it was the most epresentative gathering of citrus men et held. The "big bugs" were nearly ll there.

J. B. Vaile of Claremont presided nd introduced Farm Advisor Hodg- on, who delivered the opening ad- ress by explaining the agricultural xtension movement and its relation the citrus grower, the keynote of is talk being: "The function of the xtension movement in essence, is to ring the college of agriculture to the dividual rather than forcing the in- vidual to go to the institution in the uest of knowledge. In an important nse the agricultural extension ser- ce is the sales agency for the state llege of agriculture. In addition it so represents the United States de- rtment of agriculture in a similar pacity. It is therefore the function the agricultural extension service to ake available to the farmers of the unty what information has been de- loped by the two above mentioned encies and which is directly applic- le to the solution of the agricultural oblems of the county."

The second speaker was W. S. Rose- ans, president of the Los Angeles unty farm bureau, who made an rnest plea for greater membership all departments. In regard to the rus department he said: "In this unty the citrus grower has always ceived more consideration than any ier type of farmer from the farm reau and agricultural extension ser- e. There has been from the very beginning of the movement in this county a tremendous amount of work done for and with the citrus grower. The citrus grower has also had an advantage over all other farmers in this county in that there are many centers in the farm bureau that are made up largely and in some instances almost entirely of citrus growers."

The conditions which occasion injurious freezes in Southern California citrus districts was the subject treated by Floyd D. Young of the United States department of agriculture weather bureau. Mr. Young has been stationed here for several years, engaged in observation along the lines of his address. He said the weather in California was determined largely by that prevailing over the whole country, but that citriculture is carried on in the valleys, and the mountains largely cut off the general weather conditions prevailing elsewhere. Therefore the general weather forecasts are not wholly applicable. The extreme local conditions are also peculiar. One night in 1918 the temperature at one citrus station was 21 degrees Fahrenheit, while 225 feet higher, and less than a half mile distant, the temperature was 49 degrees. At the lower point the trees were seriously damaged; at the upper point and above there was no damage. The work in the Pomona Valley was commenced by the government in 1917. Weather forecasts are made up from readings of barometers in different parts and telegraphed twice daily. The forenoon's program ended with a paper of unusual value to the citrus grower, by Howard F. Pressy, superintendent of the Rancho Sespe, which appears elsewhere in this issue.

### Friday Afternoon Session

At 1:30 p.m., W. S. Rosecrans was in the chair and introduced J. E. Adamson, manager of the Pomona Valley Protection Association, whose paper on "Ten Years of Frost Protection" appears on another page of this issue. T. R. Woodbridge spoke on frost protection for the small orchard and told how it paid, even if one has to "go it alone," but scored heavily the small orchardist who would not cooperate, in the hope that neighbor's fires and smudges would protect him from serious loss. R. L. Willits, manager of the Call estate at Corona and chairman of the orchard heater committee, rendered his report and had one of the recommended heaters on the platform. This is a nine gallon pot with a louvre stack, with additional sleeve which slips down inside when not in use, making a stovepipe of 40 inches height. Warren R. Schoonover, citrus specialist from the university, closed the day's program with an explanation of the new ideas quite recently launched regarding orchard heating. He said: "No matter what may come after, the orchard oil burner is a success, and all should use it for the present. If something better presents we will then change, but the prospects are for a continuance of the pots now in use for perhaps years to come." In the closing remarks he said that certain citrus districts in this state will lose ten millions of dollars this year because of the fact that there is strenuous objection to the smoke of the smudge pots; an objection which arose from the housewife's horror of housecleaning after a particularly smudgy spell. "You can do a lot of house cleaning for ten million dollars."

The resolutions committee reported, among others of lesser moment, the following of vital importance to all present:

"Whereas, at periodic intervals the citrus districts of California are visited by disastrous freezes, the most recent of which occurred in January, 1922, and

"Whereas, the injury resulting from these freezes has amounted to millions of dollars, affecting the general prosperity of large areas of Southern California, and

"Whereas, our present information concerning the many problems connected with the occurrence of freezes and methods of satisfactorily protecting orchards against injury is far from satisfactory.

"Now therefore be it resolved, that the citrus growers of Southern California assembled on the occasion of the Southern California Citrus Institute at Pomona, July 14, 1922, do respectfully urge the United States department of agriculture, the weather bureau and allied bureaus to continue the valuable investigational work which has been under way during recent years, and to considerably enlarge and augment the same, and

"Be it further resolved, that it would be greatly appreciated if it might be possible for the University of California to participate in work along this line supplementing that carried on by the federal department of agriculture, and

Be it further resolved, that it is our feeling and desire that it is necessary to carry on such work that financial cooperation of the great marketing organizations, such as the California Fruit Growers' Exchange, the Mutual Orange Distributors and others be solicited."

In the evening the citrus growers' annual banquet was held in the Y. M. C. A. dining room, 150 being present. C. C. Teague, president of the California Fruit Growers' Exchange, was toastmaster, and the speakers numerous, not all respondents having their names on the printed program.

# Citrus Pest Control School

Editorial Correspondence

THE fifth annual pest control school of Southern California under the joint auspices of five county farm bureaus, was held at Po- na, July 15. The school dealt with rus pests only, the forenoon session fumigation and spraying and the ernoon devoted to biological control 'bug eat bug."

. W. Hodgson, farm advisor, held chair and the "first at bat" was J. Ryan, horticultural commission- both from Los Angeles County. Ryan presented a number of charts how the records of past year's ac- plishments in control of the black le. Though 1922 figures were also en, the record keeping was much in- fered with through defoliation by January freeze. In Whittier and southwest parts of the county, ugh, the results with liquid gas e uniformly good. In some of the hards uninjured by the freeze, the provement in condition over the vious year, by the three more com- n methods was shown by chart to be per cent for liquid gas, 14 per cent for cyanofumers and ten per cent for pots. In the upkeep of condition of orchards previously in poor condition the liquid gas registered 78 per cent, cyanofumer 68 per cent, and the pot 66 per cent. Mr. Ryan said that owing to the freeze he feared many would not fumigate or spray this year, but that it was really more important this year by reason of weather conditions favorable to scale and the great amount of soft succulent growth made because of the freeze, ideal food and shelter for the scale insects. He said fumigation would start in San Fernando Valley next (now this) week, the first work of the season in the county. During the past year orchards neither fumigated or sprayed showed a deterioration of 45 per cent.

The next paper, by J. L. Prizer, superintendent Bastanchury Ranch, Fullerton, was on the relative merits of fumigation and spraying for scale control. Mr. Prizer recommends fumigation for scale and reservation of sprays for red spider and other like pests and the tree diseases.

### Liquid Gas, Cyanofumer or Pot?

Next came a triangular discussion of the effectiveness of liquid gas, cyanofumer and pot methods of fumigation. The first speaker, J. R. LaFollette, manager of the Covina Valley Fumigation Corporation, said that a careful examination of 1750 acres under his control showed little difference between pot and cyanofumer, but liquid gas was fully as effective as either and the cheapest of the three methods. Liquid gas is easier, therefore suits labor better and is not so hard on clothes. It is also simpler to handle and he considers it decidedly superior to either of the other methods.

M. B. Rounds, entomologist for the Azusa Foothill Citrus Company, said that eight trees were set aside for trial. Upon four liquid gas was used and on the other four the pot method. One thousand insects from each tree were examined, or a total of 8000. Those subjected to liquid gas showed 1.3 per cent alive; those treated by pot showed 2.1 per cent living. In a liquid gas-cyanofumer trial under ideal conditions, liquid gas killed 93 per cent, cyanofumer 83 per cent. He is certain that in many sections scale insects are becoming more resistant to gas. F. G. Wyman, manager of the Growers' Fumigation and Supply Company, disagreed with the two former speakers by saying cyanofumers are superior to pots and both are superior to liquid gas.

R. S. Woglum, entomologist of the field department, California Fruit Growers' Exchange, gave a talk on "Fumigation Recommendations," which we expect to publish in our next issue.

### Bug Eat Bug

Before the bug eating observations were related a resolutions committee recommended that the United States department of agriculture be asked to resume its work carried on for many years at Alhambra. This station was abandoned and special entomological work on citrus pests is no longer on the federal program in California.

The bug watchers who told of battles for possession of the trees were three in number, the first, J. D. Culbertson, of the Limoneira Company, Santa Paula, will tell our readers his story next week.

C. V. Newman, manager of the San

(Continued on Page 83)

# Agricultural News Notes of the Pacific Coast

## Northern California

Marysville has adopted the city manager plan of government.

Forty per cent of California's 1921 rice crop was exported to Japan.

Tree spraying outfits have been pressed into service as fire extinguishers.

Placer County planted 40,000 acres to peach trees this season, 55,000 to grapes.

A half million bags of rice has been sold by the California Rice Growers since June 15.

Vineyardists of Yolo County say they have refused offers of $125 a ton for their grapes.

The fourth annual Eden Township Show opens at Hayward August 9 continuing four days.

Work has begun on the packing plant of the California Prune and Apricot Growers at Colusa.

A disastrous fire northwest of Willows, Glenn County, destroyed 6,000 acres of pasture and standing grain.

Fourteen berry growers were fined in the Oakland courts last week for violating the weights and measures act.

The California Rice Growers Association estimates the 1922 crop at 105,000 tons. Last year's crop was 100,000.

These are busy days in the harvest fields of Livermore Valley. The crops are good and the machines will have a long run.

Practically all canning peaches of Sutter County are reported sold by the Peach Growers Exchange at around $60 a ton.

Bids will be open July 31 by the state highway commission for paving and grading of the roads between Colusa and Long Bridge.

San Francisco is planning its second annual California Industries Exposition, October 27-28. It will be held in the exposition auditorium.

Nevada County fruit growers are getting together this year in the use of a "Grown in Nevada County" label on all fruits shipped to Eastern markets.

California produced in 1921 $15,704,822 worth of gold. Yuba was the banner county with production of $4,738,248. Nevada County produced $2,570,162 worth of gold. Amador came next with $2,267,443.

Gravenstein apple growers of Sonoma County are propping their trees to care for a record crop. Heretofore the picking and packing has been handled by local people but this year several hundred laborers will have to be brought in.

Seven counties of the Sacramento Valley are getting together in a "Hands across the Sacramento River" campaign to start program of development. Butte, Colusa, Sutter, Glenn, Tehama, Yolo and Yuba Counties are joining in the movement.

The Mills Orchards in Colusa County are adopting the tying down system on lemon trees. This spreads the limbs of the trees horizontally, admitting maximum of warmth and light and bringing trees into bearing early. The system, originated by W. A. Caldwell of Camino, has been successfully demonstrated on pears.

## Central California

The Turlock melon carnival will be held September 1-3.

The Hume cannery at Turlock started off with crew of 450.

The Turlock Melon Growers Association has installed a strict inspection.

Tipton, Pixley and Delano sections will ship out 1,000 carloads of cantaloupes.

The cannery at Hilmar is experimenting this year in bottling blackberry juice.

Members of the Sun Maid Raisin Growers have planted 50,000 acres to new vineyards this year.

Friends of California's water and power act are oganizing in the Fresno and San Joaquin Valleys.

Sun-Maid growers will use the packing house of the Turlock Melon Growers Association as a receiving station for raisins.

An inspection is being made of farms in Stanislaus County preparatory to declaring certain sections "weed free areas."

Poultry culling demonstrations are being held throughout Merced County by R. B. Easson of the university extension service.

The first carload shipment of melons from the Turlock district went out July 12. Four cars were shipped, two going to Canada.

The Turlock fig cannery opened July 10. New machinery has been installed and the management expects to make a long run.

Plans for the Oakdale, Stanislaus County, district fair are well under way. The management has on hand $1800 from the last fair.

Modesto has shipped out 39 carloads of apricots the past two weeks. First shipment of peaches will probably go out the first of August.

The Sun Maid Raisin Growers has adopted an advertising budget for next year that will call for an expenditure of two and a half million dollars.

The Cooperative Canning Company at Modesto made a sale of last season's apricots of 57 carlots to an English firm. It declared they were the best canned fruits it had ever handled.

The Cooperative Canning Company at Modesto has a force of 350 women and 100 men busy on apricots. The cannery is paying $92.50 per ton for Tiltons and $87.50 for Blenheims and Royals.

Victiculurist Nougaret of the state department of agriculture has been investigating reported occurrence of phylloxera in vineyards near Oakdale, Stanislaus County. He reports no phylloxera found.

The California Grape Growers Exchange estimates this season's shipments of grapes from Stanislaus County to be 1500 cars. This does not include grapes carried out by truck or shipped to canneries.

Mrs. M. Zumwalt who is in charge of the women's department of the Tulare County fair is asking the women of the county, now that they are beginning the canning season, to keep the fair in mind and prepare their finest specimens for display at the fair.

## Southern California

Walnut growers field day at Santa Barbara, September 2.

R. S. Vaile has returned from a year's special study at Harvard.

Yucaipa Valley has had the most successful cherry season in its history.

Two carloads of grapes were sent from Holtville and one from El Centro on July 12.

The Highland chamber of commerce has been in charge of a cleanup campaign on puncture weed.

The U. S. bureau of markets estimates cantaloupe plantings in the state this year at 31,200 acres.

Canneries at Ontario employ more than 2,500 people and expect to double the number within a few days.

The Orange County Fertilizer Laboratory is now in operation at West Anaheim. D. D. Waynick is in charge.

Horticultural Commissioner F. W. Waite of Imperial County has been authorized to establish a branch office in Brawley.

The San Diego Milk Producers Association met at the Ballantyne dairy farm at Santee, June 28 with an attendance of 100.

The Imperial Valley Associated Chambers of Commerce has petitioned supervisors for an appropriation to aid the county fair.

W. R. Chrisman of Ventura has been selected to head the newly organized Ventura County Vegetable Growers Association.

The Claremont Pomological Club is asking for state appropriations for scientific investigation of methods of frost prevention in citrus groves.

San Luis Obispo County reports high temperatures in eastern part of the county maturing grain, and fog along the coast helping bean crop.

Ontario, San Bernardino County, has such a big fruit crop that the problem of housing orchard and cannery workers is becoming rather serious.

Ventura County fair, October 5-8, will stage a big horse show as Santa Barbara County—which usually makes this a feature—has decided not to hold a fair.

The annual meeting of the California Lima Bean Growers Association was held at Oxnard, July 11. A noon barbecue was held on the sugar factory grounds.

J. M. Paige of Pomona has been elected president of the Associated Chambers of Commerce of the San Gabriel Valley. Twenty cities are represented in the association.

W. B. Hooper of Carpinteria has been appointed extension specialist to conduct walnut field studies. His present headquarters are at the citrus experiment station at Riverside.

A special meeting for poultry raisers of Southern California will be held at Ganesha Park, Pomona, Friday, August 4. The directors of the farm bureau egg laying contest will present plans for experimental feeding work.

Farm bureau meetings will be held in Los Angeles County at Burbank, July 24; Little Rock, 25; Del Sur, 26; Owensmouth, 27; Pomona and Tierra Bonita, 28; Alhambra, August 1; Zelzah, 2; Lankershim, 3; Whittier and San Fernando, 4.

## The Coast and General

Cotton crop is good in both New Mexico and Arizona.

Prune growers of southwestern Idaho are contracting at $60 per ton.

The Southern Pacific will establish motor car service from Tucson to Nogales.

Cherry growers of Idaho have contracted Bings and Lamberts at ten cents a pound, Royal Anns at six and a half.

Heavy showers have fallen in Santa Cruz County, Arizona, Nogales reporting 1.56 inches for the week ending July 12.

Growers of peaches are being warned by Georgia state authorities to dispose quickly of cull peaches to minimize danger of reinfection by brown rot.

James P. Britt, who has been in charge of the division of markets of the state department of agriculture has resigned.

The Hawaiian Sugar Planters Association, in its work of reforesting mountainous areas, will use an airplane to drop tree seed on inaccessible points.

The U. S. department of agriculture is working out color standards for extracted honey so that buyers and sellers can do business without inspecting the honey.

Over 1,000 acres have been signed up by Gadsden, Arizona, farmers for lettuce planting. Somerton, Yuma and Bard are also going into lettuce growing extensively.

Quarantine inspectors will be stationed at Yuma Bridge, Blythe and Daggett to strictly enforce quarantine against cotton and cotton seed boll weevil infested sections.

Once a desert but now fertile and cultivated, the Yaqui River Valley in Mexico this year has over 34,000 acres planted in wheat, corn, barley, alfalfa, cotton, garbanzos, and rice, besides acres of orchards and gardens.

The motor truck is of great value to flower growers supplying the New York City market. By means of the truck they get their flowers on the market with a minimum of handling.

Many beekeepers of the Northwest are said to be experimenting this season with bulk comb honey, such as is sold in Texas, as a result of the lack of demand for comb honey in sections. Some inquiry already for new crop honey.

Arizona's cantaloupe harvest was greatly favored by break in the hot weather the second week in June. Shortage of labor added to the cantaloupe growers difficulties. Arizona cantaloupes are now going out at the rate of 150 carloads a day.

Associate Forester E. A. Sherman of the U. S. service is making a two months inspection tour through the 20,000,000 acre national forests of Alaska. He will make special study of road construction for which congress has appropriated $1,000,000.

Livestock is generally reported in good condition and doing well in the corn belt, the Northwest and the mountain states, with the exception of a few outbreaks of cholera in Illinois and Wisconsin and parts of New Mexico, where cattle have suffered from drouth.

# Uniform Grades for Arizona Cotton

By M. E. Bemis

EDUCATING a boy by beginning with his grandfather is somewhat analogous to raising American Egyptian cotton, to this extent, at least, that there are still some lessons that can be learned from studying the very crude ways of the Egyptian farmers or "fellaheen." We can raise just as good or maybe a little better cotton than is raised in Egypt but the average, which has to be taken into consideration when making the market, is down in the scale and leads us to suspect that we have got to go back and sit at the feet of these slow moving, ox driving, poorly paid ignorant (?) Egyptians and learn that haste sometimes makes waste.

Pima Cotton Gin In Salt River Valley of Arizona.

The British government—in spite of some internal and external opposition in Egypt, that might appear serious if the unpleasantness in Ireland were not so much closer to the footlights, and if the Irish chorus didn't make so much more noise—still controls the waters of the Nile that are held back by the great Assuan dam and released for the use of the farmers in Egypt as needed. The British government still controls the acreage of cotton that may be planted, and in consequence has more influence over methods of grading and marketing cotton than any government or association has in America over cotton, or any other crop.

It is true that the British government has concerned itself but little with the introduction of improved machinery, possibly realizing that to a plodding patient race, there should be allowed the prerogative of taking three times as long to do a job as is necessary, provided that the pay is less than one-third what it is where improved. time saving machinery is used and the standard of living higher.

The purpose of this article is to discuss the methods of handling the cotton after it is grown, but in passing it might not be entirely foreign to the subject to mention the fact that in spite of the slow hand labor of the Egyptian farmers in planting and cultivating there is some advantage that compensates in some measure for the extra time spent.

### No Clods Left

Plowing is with an ox drawn stick, said to be similar to the plows of Bible times. One would have to be optimistic to see where there is any special advantage in that method. Making the ground ready with wooden hoes is little better except that, instead of a certain number of times over a field with harrows and drags, these plodding laborers that earn but a few cents a day beat up the clods until they have made every part of the field as fine as it can possibly be worked. The next step in making the crop is planting, a hand job entirely. This results in a more even stand, first because there are no skips as with a machine and second, because the seed is used liberally so that there are almost sure to be enough plants come up to make an even stand after thinning. If a handful of seed is put at exactly the right distances apart in the row there is pretty sure to be one good plant that will stand right where it is needed. While we have made a great deal of progress in the matter of preparing the ground and planting there are very few fields of a perfect stand. A maximum crop cannot be raised without a perfect stand. It seems obvious that cotton cannot be planted on a large scale by hand, but still I should not be surprised if some one makes the biggest crop yet by hand planting a small field, and possibly a big one. Who

(Continued on Page 95)

Boll of Arizona Long Staple Cotton

# Conservation of Moisture

By Leonard Coates

A DISCUSSION of the best methods to retain moisture in the soil is as pertinent and interesting as ever. A very large proportion of irrigation water is lost by evaporation before it is able to benefit the trees or vines. This loss could be reduced if after cultivation were more prompt, more thorough and deeper.

### "Drawing the Moisture Up"

My first lesson in moisture conservation. (I did not know it by that name then) was in the summer of 1876 when I was given the job of cultivating a 35 acre field of corn. The foreman of the ranch showed me the cultivator, an old fashioned "double shovel," told me to change the shovels frequently, keeping them snarp, and impressed it on me that I was to bear my weight on the handles so that I reached moist earth all the time. I noticed that this became more strenuous as the season advanced. This, in the farmer's parlance, was "drawing the moisture up." In reality, it was "holding it down." Having been early taught the importance of obedience, I bore upon those shovel handles literally throughout the greater part of that summer,—in fact, I rode upon them. The corn was planted in hills 3½ feet apart each way, so the ground was cultivated and cross cultivated. I dug into moist earth from the time that corn was a few inches high until it was above my horse's head—and he was a big animal, too. Never a drop of rain had fallen upon that field of corn, and I gazed in wonder at the results. The neighbors also; but they gave the credit, of course, to "that fine piece of corn land."

Later I grew nursery stock on the same land and by the same method of deep and continuous cultivation. Never were any better or finer trees raised under irrigation.

Still later I watched the growth of the A. T. Hatch orchards in Solano County where he cultivated among the young trees almost up to the time the fall rains began.

### Lowering Water Table

Mr. Hatch had many adherents, but, as individual orchards grew in extent, so methods for handling more rapidly became popular. The result was a clean, smooth surface, two or three inches of loose earth and a hard plow sole. Weeds became scarcer, trees less vigorous. Breaking up that plow sole, and the planting of cover crops to increase humus were much discussed topics, until now the prime, if not the only desideratum, seems to be the application, or the means to apply, water, rather than the conservation of moisture already in the soil.

I have thus sketched, very briefly and hastily, the "rise and fall" of water in our orchards during almost half a century. Everywhere, except in a few temporarily overirrigated sections, complaint is made of lowering of the water level. Why is this? The rainfall averages the same, and rivers of water are used for irrigation. It cannot be otherwise than in improper methods of conservation of water naturally in the soil, or when applied artificially.

I do not take into consideration exceptional instances, as, for instance, the cropping of new land, whether to peaches or wheat, neither do I believe much in the doctrine of soil impoverishment any more than if it had continued to be cropped by nature with oaks and prairie grass.

The fault lies in the improper handling of the soil, just as the failure of fruit trees long before they are old results from continuous mutilation.

### Cultivation Pays

I might go back farther than in my corn growing experience, for, as a child I remember watching and helping an uncle, who, as an amateur, grew flowers for exhibition purposes; a thorough watering at night was always followed in the morning by as thorough loosening of the soil deeply, with a trowel. The same principle applies in a 6 by 4 foot flower bed, a 35 acre corn field, or a 500 acre orchard.

A long article by a scientist has recently gone the rounds of the papers, explaining why the ground was drier after a heavy rain. Sounds paradoxical, but my own experience during the last three years, when I have made experiments for my own satisfaction, shows conclusively that a soil stirred deeply and very frequently retains moisture much better and promotes a much greater tree growth than the same soil watered frequently but with but poor cultivation.

To say "it does not pay" to do the work thoroughly, is but an excuse, and a very flimsy one: it is all a question of results. Application does not keep pace with theory.

# Ten Years of Cooperative Frost Fighting

By J. E. Adamson, Manager Pomona Valley Orchard Protection Association, Before Citrus Institute

THE Pomona Valley Orchard Protection Association began its career as a cooperative frost fighting organization, May 15, 1912, but like all other movements whose purpose is worth while, its real history began several years earlier. It was born of necessity, its purpose being two fold. Many of its two hundred or more members lived in town at a considerable distance from their groves and required some means of information on the weather conditions without being called upon to maintain a constant watch on each separate property. Also, there was a frank acknowledgement of the fact that with the sooty heaters then in use any considerable increase in the number of heaters would create a condition, at least disagreeable, and that there should be a constant effort put forth to produce greater efficiency and cleanliness in the practice of orchard heating.

In the season of 1908-09 a small group of growers made the beginning, and with an increase each year, both in number of growers and acreage, we entered the season of 1911-12 with about 750 acres equipped with three or four different designs of heaters, but all of the open type. The calling system was of a neighborhood group type. That was soon found to be too cumbersome and had a tendency to work a hardship on the few who were wiling to take the trouble of calling ten to 20 other growers.

The remarkable success of the work that season brought on a great increase of interest in orchard heating, and many who looked with doubt on any plan to "heat up the whole outside" were ready to follow the lead of those who had been bold enough to risk money and time in the effort to show that citrus fruit could be saved by artificial heat.

### Many Plans Offered

So great was the interest that the plan of a cooperative organization was launched, and the Pomona Valley Orchard Protection Association was formed. An effort was made at once to secure better heaters, and one was developed and contracts made for its manufacture, but a compromise heater was brought in by the Fruit Growers' Supply Co., known as the California three gallon, which was accepted by our Pomona people. We found before the year was out that the designers knew little about making a heater that would burn clean, and at the same time keep going, on the oils furnished for fuel.

Many and various were the schemes offered us from that time to the present for the improvement of heaters and heating, some having points of value and others being absolutely without any element of practical value.

We have been criticized by some of the inventors for being too conservative in our reception of new propositions, but our effort has been and will be for the protection of our growers rather than for the assistance of the producers of new theories.

### Rules for Heater Demonstrations

As an example of this we offer for present consideration a set of rules formulated in 1913 for the conduct of heater demonstrations:

1. Each demonstrator will be required to burn two grades of oil. No other oil will be allowed in enclosure. One grade will be 28 gravity, less than 6 per cent pitch. The other to be standard fuel oil purchased from the Pomona Valley Ice Company.

2. Each demonstrator will be allowed to use not to exceed six pots. One-half filled with each kind of oil. Pots to be filled full.

3. Three gallon heaters to be lighted at 3 p. m. Larger than three gallons will be lighted at 4 p. m.

4. Will allow regulation of heaters every two hours, otherwise demonstrators and others must stay out of enclosure. Five minutes will be allowed for regulating of heaters.

5. All heaters will be extinguished at 10 o'clock and weighed to determine residuum.

If these were followed, many claims for good points in heater construction would have been placed in the discard, as in fact was the case in the demonstration for which the rules were originally made. Several heaters showed themselves utterly unfit to be left alone in an orchard with no kind friend handy to shake the soot free from some vital part of the draft or of the combustion features of the heater.

### Studied Conditions

In addition to the activities outlined in the foregoing, we have been always busy assisting in every way possible, with the efforts of the U. S. weather bureau, in the detailed study of conditions in any way responsible for the success or failure of frost fighting. Something over $2,000 has been spent in the past ten years for the advancement of the science and the betterment of conditions of orchard heating.

In 1912 we made efforts to have the weather bureau take a more active interest in the detail of frost prevention, the first definite result being the establishment of a local station with records beginning January 1, 1913, which after a somewhat stormy time for a period of years, under the criticism of many misinformed persons, has been developed into the "key" station for some of the finest forecast work the industry has ever seen.

The season of 1917-18 brought to us a group of trained men of the weather bureau, among whom was Floyd D. Young, who has since been given charge of the work for Southern California.

### Be Everlastingly Prepared

Lessons of importance have come to us in the past ten years, of which it seems there is none more important than this: Be everlastingly prepared. Five times in ten years we have had dangerous to damaging temperatures in November at a time when the trees are the least able to withstand freezing conditions.

The mornings of November 18-19, 1921, found many growers unprepared, and more damage occurred than many realize. This applies to both trees and fruit.

The improved heaters of today cannot be lighted with the speed and certainty possible with the simple forms of 1911-12-13, and more time must be allowed for getting under way.

Also, we have allowed ourselves to change in the spirit of our attack. While in 1912-13 many of the growers were new to the game and ready to go at the slightest alarm, 1921-22 found them just a little too much at ease. The days of winter passed by, and there had come a feeling that there was no more danger, when like thunder from the blue sky came the forecast of a possible minimum of 22 for the morning of January 20, with the further forecast that the low temperatures would be reached at the upper levels first.

### Call Fighters by Telephone

Telephones were busy with the calls before 8 p. m. of the 19th, but the temperature fell faster than the wires could work. Calls before 10 p. m. are always slow, due to the other business on the lines. Then after calls were made, many delayed lighting for fear the heaters would burn empty before morning.

The present system of calling the growers by telephone was started in 1912, and after the experience of that season, was modified at times to correct deficiencies as they developed in practice. The district was divided into zones of influence on the basis of an old but false theory that the elevation above the sea level indicated the degree of frost danger.

This is seen in the arrangement of our call map even today, but we modified our arrangement of names on the sheets used by telephone operators to correct the error to some extent. Further modification will be made the coming year by using a code number, indicating the thermometer station which dominates any grove or group of groves. By this means it will be possible to call a portion of a sheet earlier than the rest.

### Cold Air Flows Into Depressions

As a matter of fact the zones of influence affecting the frost danger lie in line with the old washes and intervening ridges, spreading out fan like from the mouths of the various canyons of the mountains to the north. Also, as we get away from the mountains, by the valleys formed by the various low ranges of hills to the west and south.

The cold air simply flows by gravity down the slopes, diverted here and there by some local topography, but always down, to take the place of the warm air that is ever rising on account of its lower density. On the steeper slopes the rate of flow is more rapid than in the lower and more level valleys and the cold air forms a thinner stratum than in the valleys. This is the reason for some of the freaky conditions found in the hilly country to the west of us. There are places where you can see the slow but sure filling up of the vallley floor with the cold air until, when the spell was past, only the extreme upper parts of the slopes were untouched.

### Many Small Heaters

Recognition of these facts should enter to a large extent into the layout of the heating system. Heaters should be placed at right angles to the slope in close set rows and every heater in the row fired to heat the cold air as it reaches the barrier and force it to divert upwards and sideways from the grove.

These rows should be as close together as is found to give the desired

(Continued on Page 83)

FROM a mountainous section of Colorado, especially hard on tires because "the roads are always full of rocks," comes the following testimony:

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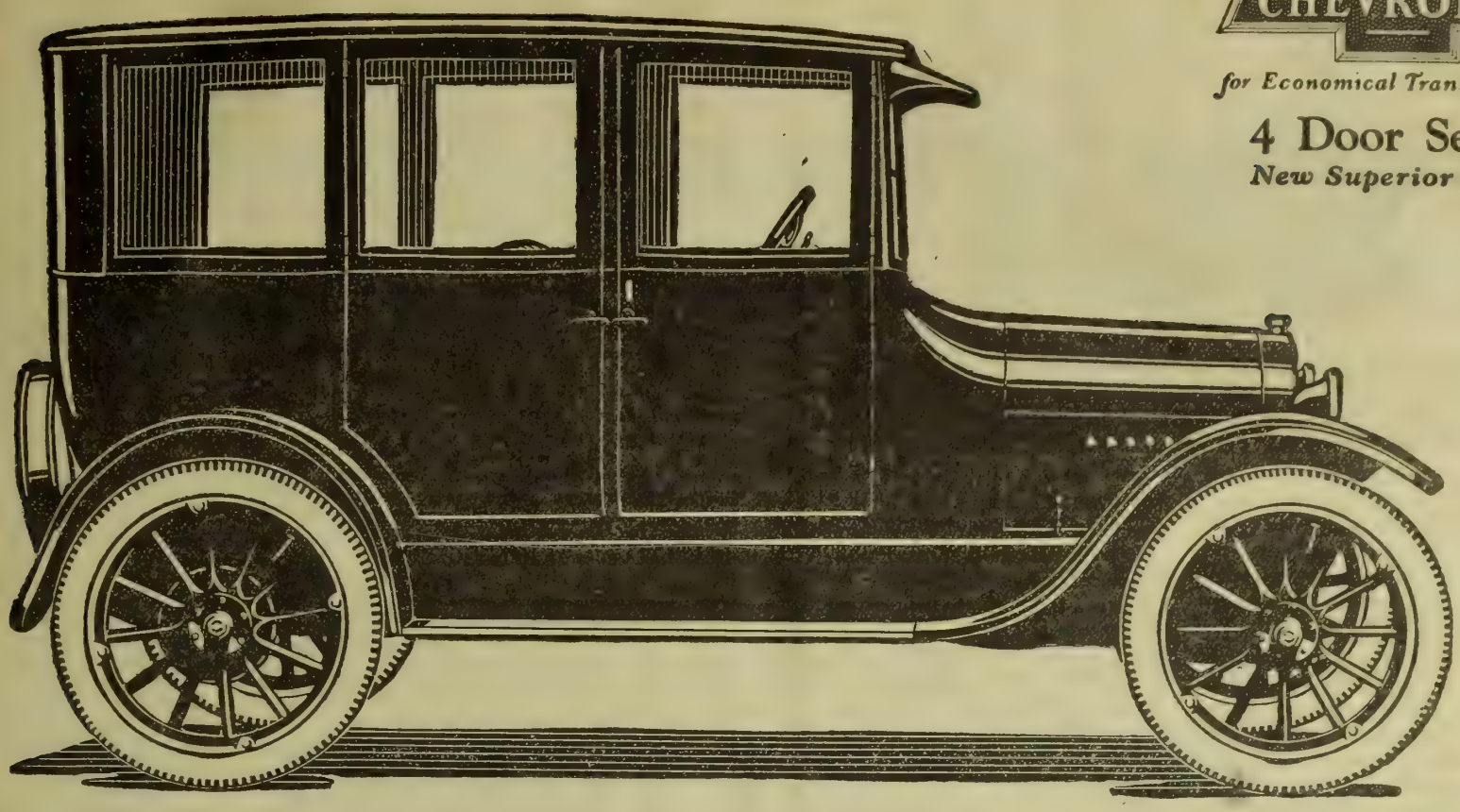

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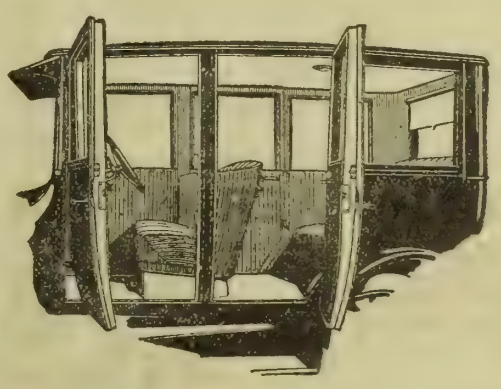

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*They are sold by* Goodyear Dealers everywhere and by many progressive hardware merchants. For further information about them, write to Goodyear, Akron, Ohio, or Los Angeles, California.

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# Legal Queries

Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.

### Deeding Separate Property

Can a husband sell real or personal property which he owned prior to marriage, without the signature of his wife? Can he sell community property without her signature?—Subscriber, Glendora.

The separate property of the husband or wife, can be sold or conveyed or willed without the consent or signature of the other. The husband has the management of the community personal property with like absolute power of disposition other than testamentary as he has of his separate estate, provided that he cannot dispose of it without a valuable consideration, nor sell, encumber or convey the furnishings of the home or wearing apparel without written consent of the wife. The husband also has the management and control of the community real property but the wife must join with him in executing any instrument by which it is leased for a longer period than one year or sold, conveyed or encumbered. As a practical proposition the searchers of titles never wish to ascertain or adjudge the sometimes complicated legal proposition as to whether or not the property is separate or community and for their own protection they almost invariably require the signature of the wife on conveyance even of separate real property. If the wife refused absolutely to do so it is probable however, that this might be arranged.

### Delinquent Taxes

Kindly explain the matter of delinquent taxes on real estate.—Subscriber, East Bakersfield.

The matter of county and state taxes is regulated by the political code and is the same throughout the state. Taxes on personal property, even though assessed against real estate, become delinquent on the first Monday in December of each year. Taxes upon real property may be paid in two equal payments, the first on or before the first Monday in December of each year and the second on or before the last Monday in April of each year. If such taxes are not paid and so become delinquent the county tax collector makes up what is known as the delinquent tax list which must be published on or before the 5th day of June of each year, setting forth the description of property and amount of taxes, penalties and costs due. Five years from the date of such publication the state of California becomes entitled to a deed for this property upon which taxes are thus delinquent. In fact, all property upon which taxes are delinquent is marked, "Sold to the state," after the date upon which the last payment should be made. After the period of such delinquent taxes no person has any right to remove or destroy any building or improvement on the land or in anywise impair their value. During this period of five years the property may be redeemed from tax sale by the owner or any party, in interest by paying to the county the full amount of the taxes, costs and interest to date. If the property is not redeemed within that period then the tax collector makes a deed of the property to the state of California and thereafter at a sale of all properties for which deeds to the state have been made, the state conveys title by what is known as the tax deed to the highest bidder, and the title of the original owner to the property is thereupon terminated. There are, indeed, various other provisions with respect to the collection of taxes, but the above stated is the general procedure followed. By no means is the property taken away from the person who has not paid the taxes during the interim of the five years.

### Failure to Meet Contract

I bought land from a party on an installment time contract which provided that in the event of any failure to comply with the terms of the agreement the vendor should be released from all obligation to convey the property and time is the essence of the contract. The interest became due on a certain date but not having the money I tendered the vendor a check five days later, but he says he is going to foreclose. Would his action be upheld if the matter comes to the court?—Subscriber, Terra Bella.

Undoubtedly the vendor has a right to require strict compliance with the terms of a contract containing provisions such as are above stated, and in case the vendee fails to live up to the terms of his agreement his interest may be cancelled. If the contract is recorded an action would be necessary upon the part of the vendor to quiet the title to the property. It has sometimes been provided in judgments of this character that the vendee was given a certain specified time, say thirty or sixty days, in which to pay up the whole amount of principal and delinquent interest, but this is not invariable.

### Using Company Property

I am a stockholder of a mutual water company. Can the general manager use for his own purposes the equipment of the water company? Are the directors responsible if they permit him so to do? Is such action lawful, even though the use of the equipment is subsequently paid for?—Subscriber, Rannels.

The actions complained of on the part of both the manager and directors are illegal, and action can be taken against each of them both for the costs of the use of the equipment of the company and for a breach of the trust which is reposed in them. Just exactly what action could be taken would depend very largely upon the terms of the bylaws and charter of the company. The fact that payment is subsequently made does not change the legal phase of the matter except that the action of the manager may be construed to have been ratified by the board of directors. But whether they had the power so to ratify such a contract would again depend upon the bylaws.

### Diverting River

Flood control board has diverted the waters of a river so that many of our fields are drowned out. What redress have we for such diversion from the natural course? Can the board be compelled to turn the water back into its natural channels?—Subscriber, Artesia.

Generally speaking, waters cannot be diverted from their natural courses and in case of such diversion damages may be recovered against the party, corporation or division of the government which makes such diversion. Injunction would also lie to restrain such diversion or, in fact, any change in the natural course of the river. To apply this rule, however, to any individual case, especially in the matter of California rivers, which so frequently have changed their course so that it is difficult to ascertain what in fact is the natural course of the river, would require a thorough investigation of the particular situation. It must be remembered that these concerns, particularly governmental corporations, do not usually take such action without careful investigation. It is, of course, well established that no man's property can be taken or damaged for public use without compensation being first paid. These questions present very complex situations, upon which the writer would hesitate to give an answer without thorough investigation.

### Making Will

Is a will made by husband and wife and not witnessed, valid? Can an administrator be chosen from any part of the state? What fee could he require?—Subscriber, Redlands.

It is difficult to see how a will could be made by two persons, as a will takes effect at the death of one person, and, therefore, it is a very individual matter. It can be changed at any time prior to death. There are two usually adopted forms of will. One, called an olographic will, must be wholly written, signed and dated in the handwriting of the testator.

This does not need witnesses. The other form, known as the written will, may be typewritten or partly written and partly printed. This requires two witnesses in California. The requirements as to witnesses vary in the different states. A person who takes under the will cannot act as a witness. That is, if they do act as a witness they cannot take under the will. These witnesses must sign in the presence of the testator and in the presence of each other, and to them the testator must have declared the will to be his last will and testament. If a will is executed in any other manner than those stated it is invalid. An executor may be chosen from any part of the state. The code provides that the fees of an executor or administrator are 7 per cent on the first $1,000 and 4 per cent on the next $9,000, with decreasing percentages as the amount grows larger.

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Former residents of Illinois will picnic at Long Beach today, July 22.

# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Kadota Figs on Adobe

Noting question as to success of Kadota figs on adobe soil, a Los Angeles reader informs us that Kadota figs on his place most emphatically are a success. His soil is the blackest and stickiest kind of adobe. The figs fruit abundantly, are large and fine flavored. One tree cut off level with the ground a year ago is now up four feet high and bearing.

### Beans and Cucumbers Ailing

Kentucky Wonder beans and cucumber plants, both healthy, suddenly begin to turn yellow and bean leaves are soft when they fall. Plants are now bare. Cucumber leaves get stiff and hard. I can see no insects on them. What can I do for them?—Subscriber, Reedley.

Though not plainly in evidence we believe minute insects are present as symptoms are those of red spider. Kentucky Wonder beans are favorites with the spider, over other beans. Look on under side of leaves very closely or use a microscope—the reddish brown insects may still be present, surely their eggs. A daily spray with cold water before sun is up would have banished the insects. It is doubtful if any remedial measures will now help, for crop may be ruined and insects gone.

### Blackberries Dying

Kindly tell me what ails my blackberry vines. They are the Mammoth and were planted last season. This year they made good growth and were loaded with fruit. When fruit was in midseason vines began to turn yellow and finally die, root and branch. Now the entire field is infested. What should I do?—Subscriber, Snelling.

Correspondents having such troubles should give all possible information and send sample of affected vines. The cause of death we cannot determine; there are so many, any one of which might produce results described. A heavy crop alone would not kill but, combined with some trouble just as plants are making their greatest effort, would cause death more quickly than at other seasons. So sudden a collapse could result from a rise of alkaline water about the roots, due to local irrigation, perhaps a field on higher ground. It may come from antharcnose—a sample of diseased vine might make easy such determination. Look on roots for crown gall, large wartlike growths. As any


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In it are seventeen features of design and inbuilt strength that appeal particularly to motorists who travel country roads; making a remarkable tire with

Extra heavy construction throughout;

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A scientifically efficient non-skid tread, so soft that it does not "cut" or "chip" and yet so tough that it wears extremely well—a rare combination.

The Savage Cord will pound out thousands upon thousands of miles of good, hard service, and in doing so, eliminate to a large extent, tire trouble, needless expense and delay. You'll find it a paying investment.

Other good makes of tires may use one or more of the seventeen constructional features we have incorporated into the Savage Cord but no other tire that we know of begins to embody them all.

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of these could cause death quite suddenly, and possibly a few other troubles, we are quite at sea regarding advice, as a page could be filled with generalities.

### Pink Beans

Are bees a benefit in pollenizing pink beans? How many years should pink beans be planted on the same ground? Do they build up the ground or not? What would be the best to plant after pink beans?—Subscriber, King City.

This question was referred to the California Bean Growers Association and Manager Robert H. Fraser answers:

"Naturally bees would be of benefit in pollenizing any plant that can be fertilized by pollen, but the actual fact is that they are not absolutely necessary, as the pollen sacs of the beans burst when sufficiently ripe and the temperature is about 85 degrees, and the pollen is scattered by means of the wind, etc., so that as far as we have any information a field would be thoroughly pollenized without bees. Regarding the number of years that pink beans can be planted on the same ground, will state that the longer beans are planted, the more profitable and bigger crops can be raised, as they, being a leguminous plant, increase the fertility of the soil. This has been particularly worked out in the Lima bean sections, where 20 years ago they used to get an average of 10 sacks per acre, and after these beans have been planted continuously for 20 years on the same ground, they are now getting 20 sacks per acre. They most certainly do build up the ground, as beans have the ability to take nitrogen from the air and store it in the soil, and that is one of the most costly fertilizing elements that there are. After beans, any grain crops, such as barley, wheat, oats, or corn crops, such as field corn or gyp corn, or maize, could be profitably planted."

---

Although California has established a quarantine against importation of cotton seed, it will still be admitted from Arizona under permit for mill and seed purposes.


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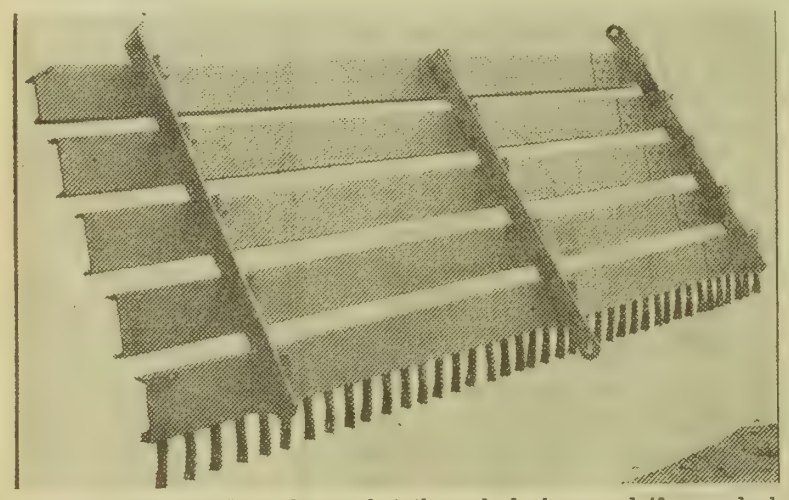

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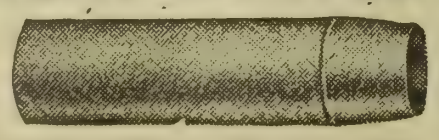


# Plant Quarantine Conference

NEED for safeguarding the United States against the entry of foreign plant pests and diseases is emphasized in the report made to Secretary of Agriculture Wallace by the special advisory committee appointed by him to follow the proceedings of the plant quarantine conference held here in May. The belief was expressed that no material changes are necessary either in Quarantine 37 or in the regulations of the Federal Horticultural Board for its enforcement.

The report commends the idea of committees representing the various interests affected by the quarantine regulations. Frequent conferences between the committees and the board, the committee said, would bring about a clearer understanding on the part of all and secure the beneficial results sought by the act.

The committee pointed out the losses now suffered by American agriculture from pests accidentally imported before Quarantine 37 went into effect. In view of the danger of other destructive pests being brought here much greater care than formerly must be exercised to keep them out. The difficulties complained of in the administration of the quarantine are due to the unknown factors that have to be dealt with.

The report is signed by the late Prof. J. C. Whitten, horticulturist of the University of California, Dr. A. F. Woods, president of the University of Maryland, and M. R. Cashman, president of the American Association of Nurserymen. The conference was attended by leading florists and nurserymen from practically all parts of the country, as well as many state officials and other interested persons, including representatives of foreign countries.

The text of the report is as follows:

"In response to your request of May 12, 1922, we attended on May 15 and 16 the plant quarantine conference called by you to consider particularly the classes of plants which should be permitted unlimited entry under Regulation 3 of Quarantine 37 and other questions connected with the administration of this quarantine.

"The conference was well attended by representatives of the various interests involved and each and every one was given a full and impartial hearing. The subject was discussed from every angle both by representatives of groups, such as the nurserymen, florists and ornamental horticulturists, orchid growers, rose growers, etc. and by individuals. Everyone was encouraged to make constructive criticism and suggestions. After every one who desired to be heard had spoken, often several times, including the representatives of foreign countries, each group was asked to form a committee to submit further recommendations and hold further conference. We are impressed all through with the effort made by the secretary of agriculture and the Horticultural Board, to give a full, fair and unprejudiced hearing to every one.

"In our opinion the board is properly constituted as to membership and exercises unusual care to get expert opinion and advice. There is every evidence that the board intends to render every possible assistance to the trade and to individuals in making introductions.

"To those familiar with the losses now being suffered by the United States from pests accidentally imported before Quarantine 37 was effective, and knowing the dangers of further introductions, it must be clear to any unprejudiced mind that much greater care than formerly must be exercised to prevent introduction of organisms that may become pests. We believe that the measures adopted by the board are wisely directed to this end. It is clearly apparent to us that the difficulties complained of in the administration of the act (Quarantine 37) are due to the necessity inherent in the work of dealing frequently with unknown factors. As the difficulties and dangers become clearer adjustments will be made to more perfectly meet the situations.

"It is evident that the board wishes to do everything in its power consistent with safety to assist in securing desired importations.

"We commend the idea of committees representing the various interests involved. Frequent conferences between such committees and the board will bring about a clear understanding on the part of all and secure the beneficial results that the act was intended to give.

"With reference to the act (Quarantine 37) itself and the regulations under it, we believe no material changes are necessary."

# California Fruit Crop Report, July 1

By California Cooperative Crop Reporting Service

### Apples

The apple crop is estimated 85 per cent normal as compared with 59 last year and a 10 year average of 80. Gravensteins in Sonoma County will probably show 50 per cent increase over last year. Late apples shy. In the Watsonville district late crop reported better than early. Present conditions indicate about 7,490,000 boxes.

### Apricots

Now estimated 59 per cent normal as compared with 46 last year and a 10 year average of 69.

### Cherries

Cherry production estimated 70 per cent normal, about 12,000 tons as compared with 13,000 tons in 1921.

### Peaches

Peach crop 98 per cent normal, as compared with 72 last year and a 10 year average of 82. About 420,000 tons estimated, against 320,000 last year.

### Pears

Pears 80 per cent normal, compared with 59 last year and a 10 year average of 77. While the reports of blight continued throughout the month indications point toward a crop of close to 100,000 tons for 1922.

### Plums

Plum crop spotted, some varieties only half crop, others practically normal. Few reports of sunburn. Estimated 79 per cent normal as compared with 68 last year and a 3 year average of 73.

### Prunes

Should present condition be maintained next two months total production of prunes will be about the same as last year, right around 100,000 tons.

### Figs

Crop estimated 91 per cent normal as compared with 84 last year. With new bearing acreage and older trees this year's production should amount to about 12,000 tons.

### Olives

In Los Angeles, Tulare, Sacramento and Butte Counties there has been a very light set of fruit, and the condition for the state as a whole is only 60 per cent normal as compared with 63 last year and a 10 year average of 81.

### Oranges

High temperatures the latter part of June caused a heavy drop in practically all orange growing districts. The drop will doubtless continue during part of July, making it exceedingly difficult to estimate the condition of the crop at the present time. Tabulation of reports shows a condition of only 63 per cent normal, as compared with 75 last month, 88 one year ago and a 10 year average of 81.

### Lemons

Bloom has been very late and irregular owing to lateness of season, and the high temperatures the latter part of June caused a heavy drop which is not yet over. The condition is estimated at only 56 per cent normal as compared with 63 last month,

85 one year ago and a 10 year average of 83.

### Almonds

Crop is 79 per cent normal as compared with 62 last year and a 10 year average of 70. With new bearing acreage and older trees a crop of between 9,000 and 10,000 tons for 1922 is indicated.

### Walnuts

Walnuts reported 85 per cent normal. Last year the condition on July 1 yas 75, and the 10 year average, 85. Crop spotted, good in Orange County but rather poor in Ventura. Production will probably be about the same as in 1920.

### Grapes

Wine grapes reported practically normal, indicating production of at least 380,000 tons.

Raisin grapes slightly sunburned in a few localities latter part of June and crop estimated about 98 per cent normal, as compared with 69 last year. Indications for slightly better than 200,000 tons.

Table grapes 92 per cent normal as compared with 69 last year. Malagas in Fresno County are a light crop, and Thompson Seedless show a rather light setting in some districts. With favorable conditions the total crop should amount to about 175,000 tons.

## TEN YEARS OF COOPERATIVE FROST FIGHTING

(Continued from Page 78)

results. But it is our opinion, based on results, that the fires should be numerous and small, placed not over 20 feet apart in the rows and every heater in the row fired, rather than a few large heaters scattered hit and miss through the grove and burning a gallon or more per hour.

If there is one thing that has been shown more than another this year it is that the oil consumed is by no means the measure of the success in fruit saving.

We have instances of oil cost as low as $12 per acre with a salvage of 85 per cent, and others of oil cost of $50 per acre and a salvage of 90 per cent, both in the same locality.

Another with an oil cost of $30 per acre and a salvage of 95 per cent and one of an oil cost of $60 and a salvage of 20 per cent.

The lower cost in both these instances was with small fires and the higher cost in both cases with large fires. The number of fires per acre was not seriously different in the several cases.

Other ways to prevent frost damage have been tried out when there seemed to be any valuable element in sight.

### Other Protection Tried

Air circulation in some form seems to have the greatest number of adherents on account of the beneficial effects so often seen on windy nights.

Three times this association has made definite experiments, and at other times assisted the weather bureau in tests of private owned plants. The results have at all times been so poor, compared to the cost, that we have been discouraged from feeling much interest in this theory until some one can show us something better than anything we have seen.

In 1912-13 we piped a small orchard with steam, using inch pipe exposed and fitted with an adjustable outlet at each tree. The fuel cost was about double that of oil burned direct, and the plant cost was so great as to be out of the question.

In the season of 1913-14 we covered an acre with tobacco cloth and found the mechanical features so difficult to deal with that the slight benefit in temperature, without heaters, would not compensate for the added expense.

### Summing Up

To sum up the results of our experiments, I believe it is safe to say that our committee is a unit in favor of the heater as the only known way of preventing frost damage. Also, that there is not enough advantage in smoky heaters to offset the dirty fruit and the disagreeable effect on the community. The real advantage lies in having a heater that will burn steadily without much attention for a long period.

With this end in view our committee has had developed a simple stack for oil burning heaters, which can be fitted to most of the old types of heaters. It enables the grower to have his heaters operate with a steady fire, requiring little attention and giving combustion that will work a vast difference in the condition of the air during a prolonged period of freezing weather.

## CITRUS PEST SCHOOL

(Continued from Page 75)

Joaquin Fruit Company, Tustin, confined his remarks to red spider. He says that natural enemies keep the pest fairly well in check in his district, though spraying is at times necessary. He advised all in infested districts to have machines and spray material on hand, ready for operation at short notice, and when pest becomes really injurious to spray without delay.

H. M. Armitage, in charge of the state insectary at Whittier, gave an outline of the work carried on to introduce Aphycus Lounsburyi, the now noted black scale parasite. In inland districts the short, even hatch leaves the aphycus without food and it perishes. In coastal districts the hatch is uneven and so prolonged that food is available throughout the active season of the insect. So the eggs are laid in the scale, and though the parent then dies the more numerous progeny emerges at a time when food is again plenty. The parasite cannot live without the insect host—the black scale. Last year the insectary made 1000 shipments of 19 species, a total of about one million, half of which were aphycus. Rhizobius and scutellista are also necessary for control of the scale for the three prey upon black scale at different periods.

D. Eyman Huff of Orange read a paper on the county insectary plan, but as it was based largely on Ventura County work, the same information will be found in the Culbertson paper next week. Orange County has but recently built an insectary, and then only after careful study of its predecessors and Mr. Huff thinks they have the best. In fact, says they have.

### Red Spider Control

Prof. H. J. Quayle, citrus experiment station, Riverside, told of both insects and sprays for control of red spider. The insects are not new to Southern California, but the scientific names are new to the general public and they don't look good in print—too long and too hard to pronounce. But one of them, called brown lace wing "for short" ate 21 to 44 spiders each day until it had consumed a total of 800. Two other species "nameless here forever more," ate 15 a day for 16 and 18 days, respectively. Still another ate 20 each day for 15 days, a short life but a glorious feast.

Red spider control is decidedly a local problem—an individual ranch problem. Insect enemies may hold them in control, but be ready to spray. There are many sprays, of many materials, and what is reported on as most successful in one district is not the best for another. In one district lime-sulphur registered the best kill, but in the Chula Vista section of San Diego County the oil sprays have given better satisfaction. Prof. Quayle recommends as very good a two per cent lime-sulphur but would add to this five to ten pounds of sulphur in each 200 gallons, using a glue or some other carrier in which to dissolve the sulphur. That's all until the 1923 meet.

## WAGE SCHEDULE FOR HAULING TO CANNERY

Temporary permits to trucks to operate in Southern California fruit districts during the coming season have been issued by the railroad commission. Rate schedules fixed are: 1 mile, $1.10 per ton. 1 to 2 miles, $1.20 per ton. 2 to 3 miles, $1.30 per ton. 3 to 4 miles, $1.40 per ton. 4 to 5 miles, $1.50 per ton. 5 to 6 miles, $1.60 per ton. 6 to 7 miles, $1.70 per ton. 7 to 8 miles, $1.80 per ton. 8 to 9 miles, $1.90 per ton. 9 to 10 miles, $2.00 per ton.

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Waves 50 feet in height (trough to crest) and 220 feet in length (crest to crest) were encountered in the North Atlantic Ocean on March 4, 1922 with a wind blowing 100 miles per hour.


PELTON

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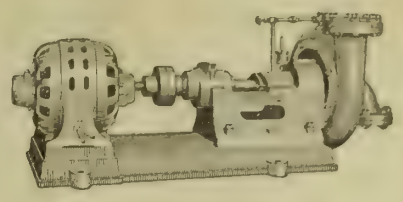

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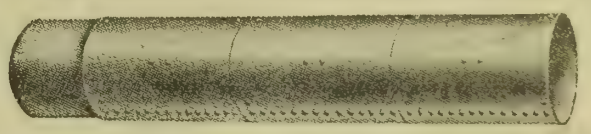

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# Household Department

### GODFORSAKEN

(Dedicated to one met on our travels)

"A godforsaken county! How a guy
Can stand it here is more'n I can see,"
He grunts; his little eyes maliciously
Blink at the fair green country passing by.

At far, round hills within whose placid arms
The weary sun is resting from the day;
At quiet vales enclosing pleasant farms
In all the fair, glad radiance of May.

He stares and blinks .. .. .. ..Of purple now, and gold
Are earth and sky. Now working time is done
And in sequestered farmsteads, one by one,
The lamps are lit; and lifted eyes behold

The dawn of stars .... .... .... ....He stares, inert, unshaken,
And blinks, and grunts, and mumbles, "Godforsaken!"

R. L. in Extension Service News.

### THE FAIRY CHILD

By Marianne Gauss in Youth's Companion

IT was in the dusk of a fall day that the fairy child came to Faith, to be dressed in Bunny's clothes and laid in the little bed with the brass knobs that Bunny loved so much.

The afternoon before the coming of the changeling, Faith went to ride, alone. As she mounted her pony, she saw the river dimpling merrily in a breath of wind—just as if it had not drowned Bunny. She looked away from the water to Jim's face.

Bunny had been very much like Jim, strong and quick, with the same eager brown eyes; but instead of dark hair like Jim's he had tight yellow rings—like his mother's.

"Where are you going to ride, Fay?" Jim had shortened her name to Fay, because she was slight and small, and because until Bunny had gone she had always been as merry as a fairy. "Don't you want to ride into town and see Minnie?"

He thought that his sister's new baby might comfort her; but Faith wanted to ride where she would be in no danger of seeing a child. Turning her horse quickly, she went down the river trail, under the cottonwood trees, past the quicksands. At the turn into the canon she waved her hand; and when Jim could no longer see her, she paused to look at the treacherous river.

The water had gone down in those few days since Bunny was lost: that hillock where they found his little red shoe had been right at the brink—it was now far inland. No one had seen him the day he slipped away; but Fay knew how he had looked in his blue rompers, with the rings of hair dancing, as he scrambled over the sand to the river. He could not walk; but put him on all fours, Jim used to say, and he would get to the coast very quickly.

"I ought to have known," she said to herself. "I ought to have frightened him about the river."

As she rode, everything reminded her of Bunny. On one of the riverside cottonwoods Jim had cut the letters "J. B. T., Jr.," for James Bunson Tucker, Junior. She entered the canon, and meadow larks were blowing their silver trumpets. Bunny had loved that happy call.

And now—farther in the canon—she was reminded of the dark days after Bunny was lost. Because of the swollen condition of the river it was not possible to recover the drowned child. So they had kept on searching, kept on faintly hoping until hope died. It lived longest with Fay. And in one sense hope was not yet dead—she would see Bunny sometime, somewhere. But her heart was sore; she could not go near other people's babies.

The trail wound higher up the canon. Cedars dropped a rain of bluish berries, on which the birds were feasting. The fresh air and the mountain stillness seemed to comfort her. She thought she would ride on as far as the Indian camp—she could easily go so far and back before dark.

But she rode a long way and did not come to the camp. Finally the trail wound through a grove of evergreens; and when she emerged, the sky, which had been hazy all the afternoon, was overcast. The wind swept raw and chilly from the peaks. And presently she felt moisture against her face. She drew rein and looked about her. Twilight was upon the mountains. Near her, beside the trail, rose a reddish, steeple pointed rock. This, she knew, was beyond the Indian camp—she had come a long way from home.

How had she missed her landmark? She rode rapidly back the way she had come, and finally came to a place near which, she thought, the wikiups had been. Perhaps the Indians could tell her a shorter way home. She dismounted and led her horse across a place that was covered with cat-tails.

The wikiups were gone from their clearing; their occupants had migrated like swallows.

Fay swept the distance with her eyes. This was the place; she recognized an old cabin with its windows gone.

"There is a short way home from here!" she thought. It was rapidly growing dark in the canon. All was still; even the sound of raindrops pattering on the leaves had ceased, for the rain had turned into snow.

Just below the place where the Indians had camped, Fay found a trail that seemed to be the short way home. She had gone some distance on this wild and lonely road before misgivings troubled her. A moment later she found her way blocked by a tract overgrown with cat-tails. So she dismounted to reconnoiter

As she walked, leading her horse, a small brown bear started up from among the trees. He was a good humored creature, stuffing a last meal of pinon nuts before retiring to his winter cave; but Fay's pony reared in terror, plunged forward, kicked out behind, and, as his mistress dropped the bridle, crashed away through the rushes.

Fay ran after him, but only to hear his hoof beats grow fainter and fainter as he ran down the mountain trail. Home was not many miles distant, but she had no idea which way to go. She found herself at the edge of a grove of evergreens. The wet snow was white on the branches.

The faint path that she followed led through the grove, and as she entered it a fairy sound caught her ear.

Jim used to say to Faith that she was the only grown person he had


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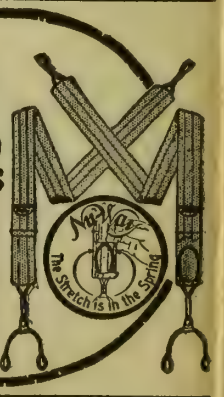


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ever seen who believed in fairy tales. The sound she heard now was strange—like a cry from somewhere among the trees on the mountain side. It was not repeated. If Jim had been with her, he would have said that she imagined it.

Fay went to investigate. The edge of the wood was toward the west. Fay parted the branches of a feathery, dead weed. Under them, waiting like the fairy changelings in the story-books for some one to carry him home, lay a baby. She took him into her arms and, as he was very scantily clad, put him under her plaid cape. He clung to her with his hands like a wild creature. With a rapidly beating heart, Fay looked round for any sign of human beings—cabin, tent or foot-print in the snow. There was nothing.

(Continued Next Week)

## HOUSEHOLD QUERIES

### Jelly from Sweet Fruits

I have enjoyed reading the Cultivator and as you answer so many questions on different subjects I would like to ask, first, about making jelly with sweet fruits that do not jelly well. How much apple juice do you add to make it jelly? To each cup of juice how many cups of apple juice is added—sweet blackberries, apricots, strawberries? I would like to know exact proportions so as to make a good, firm jelly.—Subscriber, Santa Cruz.

With apricot, peach, pear, raspberry, strawberry juice, to one cup add 1 cup crabapple or sour apple juice and ¾ cup sugar to 1 cup of combined juices. If the above sweet fruit juices are to be jellied alone, add only ½ cup sugar to 1 cup juice as they are low both in acid and pectin. Blackberries have more acid and more pectin and may have ¾ cup sugar added. To 1 cup blackberry juice add 1 cup crabapple or sour apple juice and 1 cup sugar to 1 cup of the combined juices. Our inquirer has asked for exact proportions, but of course, the exactness can only be attained by balancing the known pectin, acid and sugar contents. As a practical working rule the above may answer, but only judgment and experience backed by scientific tests will give exact results. The article by A. W. Christie on page 656 of the Cultivator of June 17 gives very definite directions for jelly making with simple test for pectin, also four lists of fruits: (1) rich in pectin and acid; (2) medium acid and pectin; (3) rich pectin, low acid—add acid fruit; (4) low acid, low pectin—add juice rich in pectin and acid. A study of this article will answer nearly every problem of the jelly maker. To judge proper acidity of fruit for jelly making, Mr. Cruess of the food products laboratory gives this simple test: Make lemonade of 1 teaspoon lemon juice, 8 teaspoons water, ½ teaspoon sugar. Taste juice to be jellied, compare with tartness of lemonade, add acid fruit to bring to same tartness.

### Tomato Catsup

Please print directions for making tomato catsup like that you buy in the stores.—Subscriber, Bakersfield.

Following directions are given by W. V. Cruess in "Home and Farm Food Preservation":

Select ripe tomatoes of deep red color. Cook the tomatoes thoroughly and put through colander or sieve to remove seeds and skins. For each gallon of pulp so obtained use: 2 tablespoons salt, 4 tablespoons sugar, 1 tablespoon powdered mustard, 1 tablespoon whole cloves, 1 tablespoon allspice, 1 tablespoon cinnamon, 1 tablespoon pepper, 2 small red peppers cut finely, 1 pint vinegar (preferably cider vinegar), 4 tablespoons ground paprika (not essential but desirable). Tie the whole spices in a bag of cheesecloth and add the other ingredients, except the vinegar. The paprika gives a bright red color and flavor, but may be omitted. Cook until almost thick enough (usually 1½ hours) and add the vinegar. Continue cooking till thick. Pour hot into scalded bottles and cork with corks sterilized in boiling water 10 minutes. The corks are not pressed in at first but left loosely in the necks of the bottles. Put the bottles upright in a washboiler sterilizer with hot water one-half way up the bottles. Heat water to boiling and boil 1 hour with cover on the boiler. Drive corks into the bottles. Allow to cool. Seal with paraffin or wax.

### Hot Weather Milk Drinks

Can you tell me how to make a good old fashioned milk shake.? Also are there other milk drinks that are easy to make?—Subscriber, Fresno.

A fruit jar makes a good shaker. Fill not more than half full, put on rubber, screw top on tight and shake hard. Or a tall jar and a good egg beater will serve very well. Milk should be as cold as possible.

To each glass (¾ glass milk) add about two tablespoons fruit syrup of any flavor desired. Shake thoroughly and sprinkle nutmeg or cinnamon over top. Or add one tablespoon sugar and few drops vanilla.

Milk Shake with Crushed Fruit—Add to milk in addition to syrup or sugar one tablespoon crushed fresh or preserved peaches, pears, figs or other slightly acid fruit.

Chocolate or Coffee Shake—Add strong coffee or melted bitter chocolate, or mocha by combining chocolate and coffee. We do not give proportions because tastes differ so widely and those who like strong coffee flavor usually cannot tolerate a weak mixture.

Macaroon Shake—Make ordinary fruit syrup or vanilla shake and sift crushed macaroons over top.

Egg Nog—Two thirds cup milk, one egg, syrup. Shake and add charged water if available.

## HINTS FROM HOUSEKEEPERS

### Teparies are Good to Eat

Having gotten many helpful recipes and suggestions from your page in years past when we took the Cultivator, I am sending my way of cooking Tepary beans.

Put two cups of Teparies to soak over night, then boil in water to which you have added about one half teaspoon soda. Boil in this water longer than you would ordinary beans, then put into colander and pour boiling water enough over them to rinse thoroughly.

Mix a tablespoon of molasses and a rounding teaspoon of dry mustard; add a medium sized onion (ground), a good sized piece of ground salt pork or fat bacon, (we prefer the bacon flavor), about half a cup of tomato juice. Now put your beans into this mixture. If you have any bacon rinds put over top where they can be removed easily later. Put one half bay leaf, 1 or 2 cloves, 2 or 3 whole allspice, and half a dozen peppercorns into a tea ball and drop into beans; add more water and cook for about two hours with cover tight, then slip cover to one side to let steam escape and cook for another hour.

I cook the beans on top of stove over very low heat, usually putting an asbestos mat under pan the last hour. I use my round aluminum roaster for beans and they seldom stick. Of course, if one is using the oven, one would naturally bake the beans, but I find it much cheaper to cook them on top than to run the oven purposely and no one would know they were not baked.

I hope some of the Cultivator readers will try this method of cooking the Tepary beans and see how delicious they are. I often cook different varieties of beans this same way.

Also, did you know that after using part of an onion one can wrap the remainder in waxed paper and put in cooler or ice chest to use later? The onion stays fresh and does not make anything else taste of it.—A Past Subscriber, Porterville.

### Easy Way to Carry Ice

After reading so many helpful hints from the household department, I must say I find more infornation from the Cultivator than any farm paper I ever read.

Living out in the country too far for deliveries I found it hard to handle ice without tongs until I wrapped it in a large piece of cloth, lifting it by the four corners. In this way it can be laid in the refrigerator without dropping. Wishing the Cultivator success, F C Foster, Burbank.

### Jellied Meat—Jellied Cucumbers

The new recipes for Jell-O in last week's Cultivator made me think of two favorites in our family for company luncheons or hot day suppers. Make lemon Jell-O in regular way, then just as it begins to set add nice bits of lean meat—lamb, veal, chicken or rabbit we like best—highly seasoned with salt, coarsely ground pepper, chopped fresh green or pimento pep-

# Care for your Teeth

In regulating an incubator, running a tractor, or cleaning dairy utensils, great care must be taken to do the work in the *right way*.

It's just as important to clean the teeth the *right way*. A good farmer would no more buy a gritty, soapless dentifrice for his family than he would use a gritty soap to wash the high polish of his car. Nor would he give the children a "druggy" tooth paste with strong chemicals any more than he'd use a spraying material so strong as to burn the foliage of his orchard.

## COLGATE'S

### Cleans Teeth the Right Way

*"Washes"* and Polishes—
Doesn't Scratch or Scour

The U. S. Public Health Service tells us that diseases of the heart, blood, kidneys and joints are often caused by neglect of the teeth. Cleaning the teeth twice a day with Colgate's is a common sense investment in health.

*Colgate's Ribbon Dental Cream has just the combination you need—*

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If your store doesn't carry *all* the Colgate products listed below, send in the coupon.

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Address.....

per—sometimes a bit of cheese and a few drops of Worcestershire or walnut catsup. This is a delicious meat loaf.

Jellied Cucumbers—Instead of meat add chopped or diced cucumbers, green onions and fresh or canned pimentos. Slice, serve on lettuce leaf and add teaspoon mayonnaise to each plate.

### Ripe Tomato Relish

Tomato time is around again, and I am sending a recipe that we think is splendid. I got it years ago out of the Rural Californian, now out of print:

One peck tomatoes (peel and chop), let drain over night in a colander; in the morning chop and add 6 onions of ordinary size, 2 bunches chopped celery, 2 tablespoons mustard seed, 1 tablespoon celery seed, 4 chopped red peppers, ½ cup salt, 6 cups brown sugar, and 6 cups cider vinegar. Mix all together and seal in jars without heating.—Beulah May, Santa Ana.

(It seems good to hear from the Rural Californian again. It was a pleasure to work with our household readers in getting out that little monthly magazine, and we are glad to know that Miss May has been saving this good recipe so that it may make its appearance in the Cultivator.—Edit.)

### TO SET COLORS IN WASH GOODS

"Just because they are faded, many garments with lots of good wear left in them are discarded before the material is worn," says Azalea Linfield, clothing specialist in South Dakota state college.

In homemade garments the colors should be set in cotton and linens before making, in ready made garments set the colors the first time they are laundered.

Directions for setting colors follow:

Blue—One half cup vinegar, one tablespoon powdered alum, a gallon of water cold). Keep material in solution two or three hours.

Pink and black—One cup salt, one gallon cold water. Keep material in solution for two hours.

Lavender, yellow, light green and red—One ounce sugar of lead, one gallon boiling water to dissolve the sugar of lead. Keep material in solution for two or three hours.

Leave the material folded and be sure that it is entirely covered by the solution. Move occasionally so that the material will be entirely soaked through. After leaving in the solution for the required length of time, remove and press water out, but do not wring. Rinse in cold water and hang out as before. Hang to dry in a shady place. Iron on wrong side of material.

## Vitamines in Cooked and Canned Foods

DOES cooking foods at high temperatures in steam pressure cookers and canners destroy vitamins? This question comes frequently to the Cultivator from those who would like to adopt the convenience of steam pressure cooking but are cautious about giving up the old way until assured the new way is better as well as easier and quicker. This same question, it seems, has been coming to the commercial canneries, and in order to answer it conclusively, they have put it before Dr. E. F. Kohman of the Research Laboratory of the National Canners Association at Washington. He has made careful study and consulted authorities on the subject and his research demonstrates that canned foods supply the vitamins as abundantly as the same foods cooked in the ordinary way. The vitamin content is the greatest when foods are at the proper stage of maturity for consumption and decreases when the foods are held for a period of time. The fact that canned foods are prepared in their prime and must be in this condition for canning is in favor of the canned product.

Canned tomatoes are said to be among the richest sources of all vitamins in any product. On the strength of their content of the antiscorbutic vitamin, canned tomatoes have been recommended by physicians to supplement pasteurized milk in infant feeding. Special use was also made of canned tomatoes in army rations because of the vitamins in them. Canned tomatoes have been stored for three years and still found apparently as rich as ever in vitamins. This is longer than the antiscorbutic vitamin, which is the least stable of them all, can be kept by any other known method.

Canned foods are processed in vacuum while foods cooked on the stove are exposed to the air, which is the cause of a considerable loss of vitamin C. From the experimental evidence now available canned foods are found to be practically as rich in vitamin A and B as the corresponding fresh raw products. In acid products, such as tomatoes and fruits, there is only a negligible destruction of vitamin C by ordinary cooking or in the canning process.

### What Are Vitamins?

In view of the popular discussion of vitamins and what they actually are, their function is interesting. Dr. Kohman says:

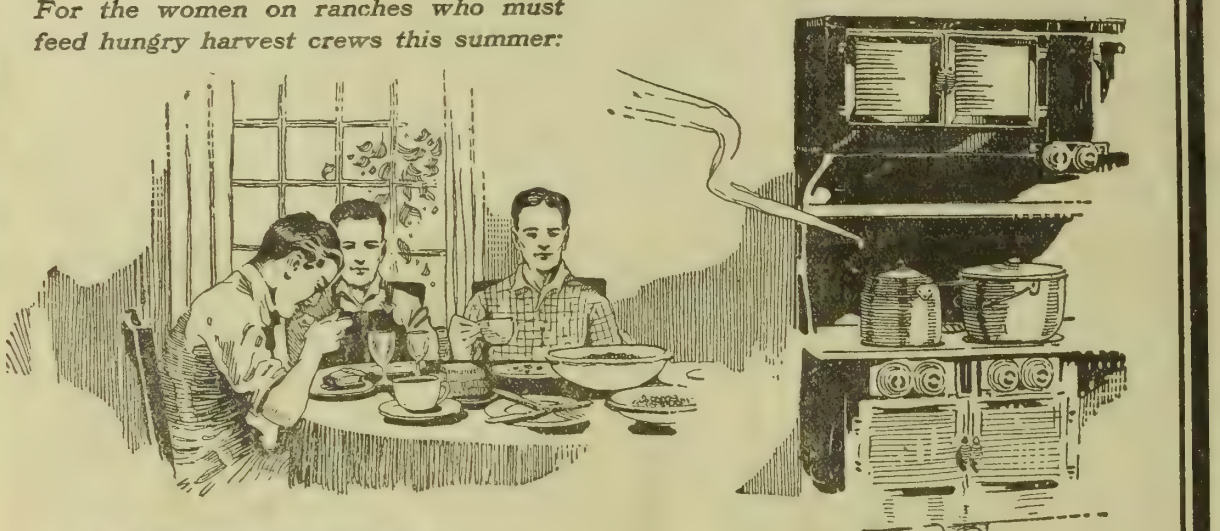
"They supply the body with neither energy nor tissue building substances. They may be likened to a spark plug. The energy produced in the spark plug does not aid in propelling the engine nor is the fuel of any account in running the engine so long as it remains in the form of gasoline. The spark plug, however, ignites it, producing a change whereby it does become useful as a source of energy. By some means, still unknown to us, the vitamins enable the body to utilize the energy producing and tissue building components of our foods which would be useless to us without the vitamins. They play a part in addition to the role of the spark plug in that they have something to do with the construction of the engine; that is, they regulate the assimilation of the tissue building portions of the diet.

"The vitamins are also different in properties, so far as we know their properties, from other food constituents. They are active in extremely minute quantities. In this respect they bear about the same relation to the rest of our food as the energy produced by the spark plug bears to that generated by the gasoline."

At present it is universally agreed that there are at least three vitamins. These have been given a variety of names, but the simplest designation is to call them Vitamins A, B, and C. Vitamin A is found in milk and eggs, largely in their fat, in other animal products, particularly grandular tissues, in animal fats and fish oils, and in vegetables, especially the green leafy varieties. It has been found to play an important part in the growth of bones, although it has other, though less clearly defined functions in the life of both young and old.

Vitamin B is widely distributed in all classes of natural food; in seeds, vegetables, and animal products. Its absence in the diet is concerned in the disease known as beriberi in man and polyneuritis in fowls. It is there-


*For the women on ranches who must feed hungry harvest crews this summer:*



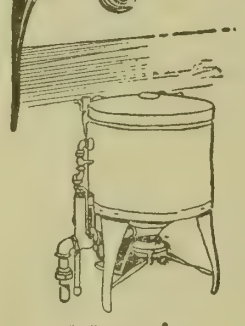
# Electrical Kitchen Appliances are "Labor Savers"

HUNGRY CREWS, coming from the fields, require great quantities and a large variety of food. Before the dishes can be washed and put away, it is time to start preparing the next meal.

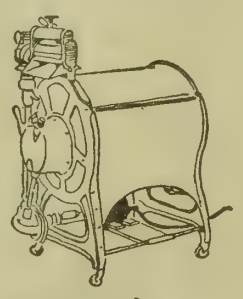
The housewife who faces such a task needs "Pacific Service" back of labor-saving, electrical kitchen appliances. She needs an electric range to enable her to prepare the great quantities and variety of food that the hungry harvest crews must have. She needs an electrical bread mixer to handle that heavy task, while she takes her dishes, all clean and drained, from the electric dish washer. An electric churn should be working, while she feeds clothes rapidly into her electric ironer. The electric water heater, ice box, cream separator, bottle washer, sewing machine and vacuum cleaner are other electrical appliances that are great "labor savers" for housewives on ranches.

All of these appliances and many others can be operated wherever the local distributing lines of the P G and E run. Every farm woman should investigate their labor-saving possibilities.

Call at the P G and E office the next time you are in town and ask for further information.



Electric Dish Washer



Electric Washing Machine

PACIFIC GAS AND ELECTRIC COMPANY

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fore known as th antineuritic vitamin. It may have some function in controlling the appetitie. Vitamin C occurs abundantly in fruits, succulent vegetables and tubers, and in milk. Its absence in the diet results in scurvy, and hence it is called the antiscorbutic vitamin.

### Vitamins in Canned Foods

It is said fruits and vegetables in their prime are richer in vitamins than those which are left to stand around for ripening purposes or are held over for later sale. Therefore, the interesting argument is advanced that canned foods, which must necessarily be packed immediately after ripening, contain considerably more vitamins than the partially ripe fresh foods. For instance, it has been shown that ripe tomatoes are richer in Vitamin C than partially ripe tomatoes.

"No one should infer that raw fresh foods should be dispensed with in the normal human dietary," says Dr. Kohman. "This would be contrary to the universal belief among physiologists and students of nutrition. Those foods which can be eaten raw should always be so eaten as far as possible when they can be obtained in the fresh state, at reasonable cost. When they are out of season, inconvenient, or uneconomical, their place can well be taken by canned products, as evidence shows that canned foods are as nutritious as ordinary cooked foods.

### Man Must Choose His Diet

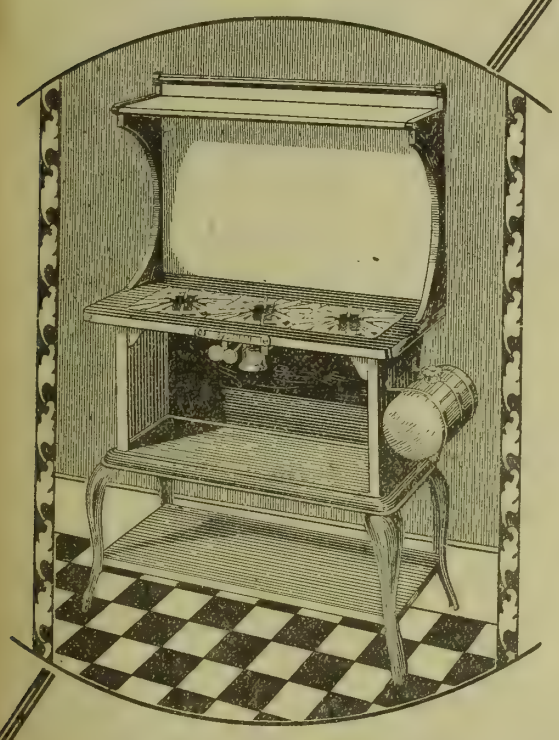
"Animals in the wild state, when the food supply is plentiful, are safely guided by instinct and appetite to choose a diet adequate for all their needs. With civilized man this is not always the case. His instinct and appetite often seem to be sophisticated, and many times his free choice is made impossible by social and economic restrictions. A diet even when composed entirely of raw products, must, therefore, be chosen with intelligence to insure its adequacy.

"A consideration of all the recent experimental evidence convinces one that it is possible to select a diet, entirely of canned foods, which is complete and adequate for long continued nutrition; a diet in which all the known vitamins are represented in sufficient amounts, having such a variety of proteins that no animo acid will be slighted, and supplying all the necessary mineral salts. These more fundamental substances will unavoidably be accompanied by a variety of fats and carbohydrates whose primary function is to supply us with heat and muscular energy.


# Coleman Cookers

*Make their own Gas*

## Just Like Natural Gas



1—The clean convenience of natural gas.

2—Makes its own gas from motor gasoline.

3—Gives you the cleanest, quickest, hottest fire ever produced.

4—Has perfect flame regulation—simple and easy to adjust.

5—No wicks, no cones or chimneys, no smoke, no ashes; clean, safe and economical.

6—Will cook an average meal on about 2c worth of fuel.

7—Sturdily built for lang service;—complete with one gallon fuel tank—or larger if wanted.

8—This is the ideal cook stove for family use in home or mountain cabin.

## COLEMAN COOKERS

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The most advanced achievement in stove engineering for use where natural or artifical gas is not available. Coleman Cookers provide efficient gas service for all cooking and baking purposes in any home. All the bother and trouble common in ordinary oil stoves are eliminated for Coleman Cookers are real gas stoves with all the convenience, cleanliness and comfort found in the city kitchen. There is no reason, now, for any home to continue using smoky, unsatisfactory oil stoves.

Gasoline under pressure gives a hotter fire than gravity gasoline, oil wick or oil vapor stoves. The Coleman burner produces the most heat for the least money. The complete stove is clean, simple to operate, and is built for hard service. You can have all the way from a slow simmering fire to an intense heat that will boil a half-gallon of water in 4 minutes. The flame does not "crawl up" and smoke your cooking utensils. Only one working part—the generator. No valves to fuss with or to clean and replace.

**Ask your nearest hardware dealer about Coleman Cookers. If he can't show you a sample and demonstrate the superior merits of Coleman Cookers, write us at once.**

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## With 2½ Cents Worth of Kerosene and a Superior Oil-Gas Burner

In your cook stove you can have a baking oven for 1 hour. If there is a water coil in the firebox you will have an abundance of HOT water. The entire top of the stove is heated which is ample in size to cook a meal for a large family. In cold weather the whole house will soon be comfortably warm, and in hot weather the fire can be shut off as soon as the meal is cooked.

By making a pure gas from the oil and then burning it in a cast iron container (cook-stove) the highest possible efficiency is obtained. Write us today for our literature. Tell us what you want to heat and we will tell you how to do it.

## SUPERIOR OIL BURNER CO., INC.

259 Market Street, San Francisco


### FOR HOUSEKEEPERS TO TRY

By A. M. H.

Try putting up a few cans of corn in this way without cooking. Take green corn and shave it off with a sharp knife but don't scrape the cob, then put one cup of salt for every two cups of corn, and seal it up in glass jars. Soaking in two waters from breakfast to dinner will bring it out fresh for cooking.

If a bunch of grape leaves is put in the brine in which cucumbers are to be soaked for pickling it will help keep them sound, firm and of good color.

Instead of laboriously scraping carrots, wash them clean and boil with skins on and when done let cold water run into the pot until you can slip the skins off by hand. Young and tender carrots are delicious with a cream sauce, and they are also among the most wholesome of vegetables.

Try putting the thinnest coat of mustard on ham, adding one teaspoon of vinegar to about two slices before frying. It is a great improvement. To make extra good ham sandwiches, make a dressing of half a cup of butter, one tablespoon mixed mustard, a pinch of salt and pepper and the yolk of a hard boiled egg. Rub the butter to a cream, add the other ingredients, then stir in as much chopped ham as will make it spread well between slices of thin bread.

Glass jars and cans that have not been well cleaned and sterilized cause much loss of fruit, and the easiest way to clean them is to put as many in a large dish pan or boiler as it will hold without crowding, cover with warm water and sprinkle enough borax soap chips over them to make a good suds and let boil for half an hour or longer. Rinse with clear hot water and set in the sun to air for a day or two. Boil the caps at the same time, and all bottles that are to be used for catsups and fruit juices are freshened in the same way.

The refrigerator is kept purely clean by scrubbing out once a week with hot soap chip suds, then rinsing with clear hot water and leaving open to cool and air before replacing the contents. The same suds is excellent for cleaning the pantry floor and shelves and for the kitchen floor and tables.

If you have no milk for toast, work a heaping tablespoon of flour into two of butter, add a pint of water and let it boil. Season with salt and pepper and pour over the toasted bread. Milk toast is improved by adding a pinch of pepper and salt to the milk while it is heating.

### FRESH FRUIT—ESPECIALLY IN HOT WEATHER!

Fresh fruit furnishes a valuable part of the meal, stimulates the appetite, cools, refreshes, and is easily assimilated. Especially in hot weather fresh fruit is doubly welcome at meal-time, says the California department of agriculture.

Grapes, for instance, contain blood building constituents such as sugar, potash, salts, phosphoric acid, lime and iron.

Apples and pears contain phosphates, lime, albumen, and malic acid, and act as gentle laxatives.

Cherries and plums furnish phosphates, sugar and nitrogen.

Berries are good tonics for their acids, and salts of lime and iron.

Oranges are blood makers and laxatives.

Melons are largely water in combination with sugar and starch.

Lemon juice taken regularly is a valuable laxative with a pronounced beneficial effect on torpid livers.

In children's diets oranges, berries or acid fruits should not be given along with milk. Continued use of fresh fruits will promote intestinal activity and reduce acidity of the blood.

Fruit has ceased to be a luxury. Even at higher prices for standard grades it is a wise and excellent investment.

We believe that all people were put on earth for some useful purpose, but we also believe that nobody ever will find out what the purpose of some of them is.

## The Cultivator Patterns

**4050. Ladies' Dress**—Cut in 6 sizes: 34, 36, 38, 40, 42, and 44 inches bust measure. A 38 inch size requires 5⅝ yards of 32 inch material. The width of the skirt at the foot is 2⅜ yards. Price 10 cents.

**4063. Boys' Suit**—Cut in 4 sizes: 4, 6, 8 and 10 years. It will require 3⅝ yards of 27 inch material for a 6 year size. Price 10 cents.

**3807. Ladies' House Dress**—Cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 will require 5¼ yards of 36 inch material. The width of the skirt at the foot is 1⅞ yards. Price 10 cents.

**4041. Ladies' "Over" Blouse**—Cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. A 38 inch size requires 2⅜ yards of 32 inch material. Collar and cuffs of contrasting material require ¾ yard 40 inches wide. Price 10 cents.

**3640-4046. A Good "Sports" Costume**—Blouse 3640 cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It will require 3⅛ yards of 36 inch material for a medium size. Skirt 4046 is cut in 7 sizes: 25, 27, 29, 31, 33, 35 and 37 inches waist measure. A 29 inch size will require 4¾ yards of 40 inch material. With plaits extended lower edge of skirt measures 3⅝ yards. Two separate patterns, 10 cents for each pattern.

**4056. Girls' Dress**—Cut in 4 sizes: 6, 8, 10 and 12 years. A 10 year size requires 3 yards of 40 inch material. Price 10 cents.

**4066. Ladies' House Dress**—Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38 inch size requires 5⅜ yards of 32 inch material. The width of the skirt at the foot is 2½ yards. Price 10 cents.

**4045. Ladies' Negligee and Cap**—Cut in 4 sizes: Small, 34-36; Medium, 38-40; Large, 42-44; Extra Large, 46-48 inches bust measure. A medium size requires 2⅝ yards of 32 inch material. The cap alone requires ½ yard. Price 10 cents.

**PRICE OF ANY OF THE ABOVE PATTERNS 10 CENTS EACH**

**HOW TO ORDER PATTERNS**

Write your name and address plainly in full, give correct number and size of each pattern you want, and send 10 cents in coin or (1 or 2 cents) stamps for each number. In order to furnish our readers with the very best NEW YORK styles, all patterns ordered are filled in NEW YORK. Do not expect patterns under **Two Weeks** from date of order.

**CATALOGUE NOTICE**

Send 12c in silver or stamps for our Up To Date Spring and Summer 1922 Catalogue, containing over 500 designs of Ladies', Misses' and Children's Patterns, a concise and comprehensive article on dressmaking, also some points for the needle (illustrating 30 of the various simple stitches) all valuable to the home dressmaker. Also colored plates.

**PATTERN DEPARTMENT**

California Cultivator Los Angeles

# Feeding Dairy Cows---No. 5

By E. J. Sturgis

## FITTING AND SHOWING

AFTER its high production records the next best advertisement for a herd of pure bred cattle is its show ring winnings. There is a tendency on the part of some breeders to overvalue high records and to consider them so important that individuality and conformation is of secondary importance. Individuality and conformation should hold equal place and the sales ring proves that this is so in nine cases out of ten.

In the show ring of course individuality holds the center of the stage as in all but the advanced register classes the conformation of the animal is what counts. The animals are judged purely and simply from the way they appear in the ring so that in picking out a show herd all sentiment and regard for high records must be set aside for the time being and the cold, hard facts of the animal's appearance be the sole guide in its choice. If the breeder does not feel sufficient confidence in his own judgment to pick out his herd he will be able to get assistance from his farm advisor or some one of the men connected with the farm papers.

### Salient Points

There are a few general things that must be watched closely in picking show animals. First of all they must have good top lines and tail sets. These two generally go together, and animals that are straight on top are usually good and straight in the tail. In the females the udder is of wast importance and is judged on size, placement and texture. It should be long and straight, set well forward and hung high behind, with the teats of good size placed squarely on the corners. It should not be meaty. In the males the rudimentaries which correspond to the udder on the cow are given considerable attention by most judges and should be long and well placed as they are an indication of the udders which their daughters will carry.

The females should be feminine in appearance and show dairy temperament as against the easy feeding, show moving temperament of the beef cow. The animals should have prominent shoulders and a long barrel with a good spring of rib, all of which show great capacity. They should have plenty of depth and heart girth in order to have sufficient breathing space. They should be well filled back of the shoulders. With these few points in mind the breeder can pick out the ones he thinks best, and if he is in doubt he can get aid as suggested above.

### Fitting

Show animals should be tied up under cover for at least six weeks before the show. There has been a tendency with some breeders to neglect their show strings until near the time for the first show, which in this state is generally the state fair, and do most of the conditioning and fitting at the fair grounds. If every one did that way it would be all right but some men prefer to show a well fitted herd at the state fair, and after a few sad experiences the lax ones have learned to come prepared.

For putting on the soft fat which rounds, the animal into show condition I use equal parts of ground oats, bran, corn meal and linseed oil meal. I feed about four quarts of this a day to yearlings and up to 20 pounds to the mature animals. For the young animals I like to feed oat hay once a day with alfalfa before them the balance of the time. Calves under a year should have plenty of skim milk which gives them size and quality. A tablespoon of oil meal in the milk will help to make them sleek. Green alfalfa to the entire herd once a day is a good thing.

When they are first tied up they should be washed with some good laundry soap and plenty of water. If the weather is warm, as it usually is at this time of the year, allow them to become nearly dry before blanketing. If a cold wind is blowing, blanket at once. A wool blanket next to the skin with a canvass or burlap blanket over that will provide plenty of covering. For the period of fitting before going to the show, beet pulp sacks sown together make a cheap and sufficient covering for most animals. Do not wash any oftener than is absolutely necessary to keep the animals clean as soap and water tends to dry the hair, take the oil out of the skin and make it hard. Daily brushing and rubbing are much better. About six weeks before the show trim the feet so the animals stand on their toes.

### Training

In most herds there are young animals which have not been broken to lead. This is an important item of show training as there is nothing more annoying in the show ring than an animal which refuses to stand or lead as required. It is an injustice to other breeders to show such an animal as it usually crowds or balks and throws the entire ring into confusion. Wild youngsters can easily be trained if they are tied up and left without water for a period of from 12 to 20 hours and then led to the trough. Being led to water twice a day helps to tame them, and they should be taken out and trained to pose. If at first they refuse to lead to the water they can be tied to a big, gentle cow and she will usually act as a persuader.

Two weeks before the show clip any animals which have not shed sufficiently. The ones that show a good coat of hair should be clipped on the head and neck, taking care to blend the clipped and unclipped portions so that a line does not show along the back bone and tail head and the tail, but be sure to leave plenty of switch, on the udder and under the belly.

A show box should be prepared which will carry the show blankets, halters, brushes, etc. There should be horn scrapers, emery paper and tripoli powder and sweet oil with which to keep the horns in condition. Household ammonia for taking off stains and bluing for using in the rinse water for white cows should be included. There should be a bottle of iodine to use on scratches, plenty of salts, and powdered alum. This last is put in the rinse water used for the switch before braiding and helps to keep the switch in curl when it is combed out.

Carry your own rake, forks, hose, feed buckets and water tub. None of these things are furnished, and you will be more popular with your fellow show men if you do not have to borrow. Paint them some distinctive color so that they will not be easily lost or carried off.

### Registrations and Entries

Be sure that all of your show animals are registered and tuberculin tested. Carry the papers for both with you at all times. Make your entries early and help the fair secretaries to be ready for you when you arrive. You can ship your stock to the state fair and back home again free of charge. If you go to the other fairs you have to pay half fare. Be sure to route your stock back to the place from which it started.

Keep the stock blanketed until time for the show. After the judging it is courtesy to blanket them only at night. The spectators come to see the animals, not the blankets.

The night before the judging feed plenty of salt and do not give much water. The animals will be ready to drink their fill the next morning. Lead them out to drink about 20 minutes before time to take them into the ring. This allows them to recover from the effects of the cold water and they will not go into the ring shivering. Do not let them drink too much water. They should be just well filled.

Cows in milk should show with from 25 to 30 pounds of milk in the udder, and one can easily judge when to milk them out in order to have that amount.

46 REGISTERED 46
SHORTHORNS
At Public Auction
Carruthers Farms, Live Oak, Calif.
Wednesday, August 9, at 1 P.M.
In this offering Mr. W. M. Carruthers will sell all of his heifers above weaning age, some choice cows, and a group of good bulls, mostly all of attractive Scotch breeding.
31 HEIFERS—4 COWS—11 BULLS
Guaranteed breeders, tuberculin tested, and sold on terms of one-half cash, balance in six months to all who make arrangements for such credit with sale managers prior to sale.
Write to Sale Managers for Catalog
California Breeders Sales and Pedigree Co.
C. L. Hughes, Sales Manager, Sacramento, Calif.
Auctioneer—COL. BEN A. RHOADES, Los Angeles

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California cowmen who wish to improve their cow herds have a rare opportunity to draw from the 1,000 bred twos S. M. S. heifers and unbred yearling heifers in lots of one or more cars. Write for particulars.
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Sterilize pails, milker, cans, strainer and separator with B-K in rinse water. Kills germs that sour milk and cream—makes utensils sweet. Helps protect stock. *Very cheap—one gallon B-K makes 400 gallons sterilizer.* Write for bulletin 320-B. Money back if not satisfied—at your dealer. *None genuine without our big blue label and trade mark.*
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All Livestock and Poultry Healthy
Effective. Uniform. Economical.
Kills Lice, Mites and Fleas.
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HELPS PREVENT HOG CHOLERA
Experiments on live hogs prove that a 2 1/2 per cent dilution of Kreso Dip No. 1 will kill virulent hog-cholera virus in 5 minutes by contact.
FREE BOOKLETS.
We will send you a booklet on the treatment of mange, eczema or pitch mange, arthritis, sore mouth, etc.
We will send you a booklet on how to build a hog wallow, which will keep hogs clean and healthy.
We will send you a booklet on how to keep your hogs free from insect parasites and disease.
WRITE FOR THEM.
Animal Industry Department of
PARKE, DAVIS & CO.
DETROIT, MICH.

## Livestock News Notes

### LIVESTOCK SALE CALENDAR

**Shorthorns**

August 9, Carruthers Farm, Live Oak.

**Guernseys**

August 4, L. D. Smith, Riverside Fair Grounds.

**Holsteins**

August 17, Jas. McGillivray, Sacramento.

The consignors to the Sutter County farm bureau hog sale at Live Oak on Wednesday, July 12, were very well pleased with the returns from the sale, one carload being sold to J. W. Walker of Marysville, and shipped to Alden and Agnew, Oakland, at $11.05 per 100 for tops hogs. Local buyers were offering from 10 to 10½. The demand for hogs seems to be very keen for this time of year.

On Thursday, August 17, a complete dispersal of the registered Holstein heifers in Willowmead herd, owned by James McGillivray, Sacramento, will be made at public auction. The 140 bred and open heifers in this sale make it the largest heifer offering ever made in a western sale. Particular attractiveness attaches to the offering because of the clean record of health and the fact that all heifers over six months old will be sold subject to 60 day retest by the buyer.

Irene Segis Pontiac, a junior four year old daughter of Finderne Pride Johanna Korndyke, lately completed a 365 day record of 1,008.75 pounds butter from 23,301.3 pounds milk. She has the same sire as the great junior 4 year old Kiatta Pontiac Pride that finished not long ago with 1,138.25 pounds butter from 31,489.1 pounds milk in 365 days. Both of these heifers are owned by Palo Alto Stock Farm, Palo Alto.

Vic Bello, formerly herdsman for McFarland's Steybrae Farm at San Mateo, is now in charge of the North Oaks Ayrshire Farm at Novato. This herd is owned by Robert H. Trumbull

of San Francisco and Novato. Vic had the pleasure of winning first on his bull Mac's Statesman of Elkhorn at the Western Sonoma and Marin Fair last month.

Santa Anita Rancho has sold the great Poland China show sow, Miss Big Price, to H. C. Merritt, Jr., of the Tagus Ranch at Tulare. She will be a feature of the Tagus show herd.

Queen Sadie Vale Veeman Karlray, a five year old Holstein owned by the Berylwood Stock Farm, has just finished a 30 day record of 127.45 pounds butter from 2386.9 pounds milk. Her last seven days was the best, and during that time she made 31.5 pounds butter from 616.3 pounds milk.

Belle Pontiac Korndyke Daisy, a junior two year old daughter of King Korndyke Pontiac 20th, has increased her former seven day record in her fourth month in milk, making 19.05 pounds butter from 484.5 pounds milk. She dropped twin heifer calves by Sir Aaggie Mead, and is making a splendid showing on yearly test, Winnie Walker, a junior two year old daughter of Sir Aaggie De Kol 2d, recently made 17.32 pounds butter from 434.1 pounds milk in seven days during a hot spell when the thermometer ran as high as 112 degrees. Both of these good heifers are owned by F. S. Borror & Son, Tipton, whose herd has already gained a place among the top herds of the San Joaquin Valley.

The recent national sale of Ayrshires held at Devon, Pennsylvania, in connection with the annual meeting of the Ayrshire Breeders Association, made a very satisfactory average. The sale included 42 animals from 18 herds and averaged $510 per head. All animals sold were from federal accredited herds or from herds that had passed one federal test without a reactor.

California has four out of the 25 leading prize winning sires in the production prize list of the Holstein-Friesian Association of America for the year 1921-1922 lately published The four, with amount of money won by daughters of each, are King Segis Alcartra Prilly, $230.25; Prince Gelsche Walker, $187.75; King Pontiac Netherland Segis 3d., $176.15; Segis Pontiac De Kol Burke, $147.75. Daughters in California of the eastern sire, Finderne Pride Johanna Korndyke, were also responsible for his position among the first 25 money winning sires.

Maud Netherland Wayne De Kol 2d, owned by Dr. W. H. Ketchum, Palo Alto, lately completed a 365 day record of 1,312.10 pounds butter from 32,631.9 pounds milk. This gives her the third highest yearly milk record and the sixth highest yearly butter record yet made in California.

The H-G Ranch at Buellton in the Santa Inez Valley recently sold 20 head of two year old grade Ayrshire heifers to a farmer in the Sisquoc Valley. This is a "repeat" order as this farmer already had a large number of H-G bred cows. They also report the sale of a pure bred bull to the same party. All the heifers were bred to that good bull "Steybrae Robin Quechy."

The Southern California Purebred Livestock Association is attempting a very comprehensive survey of the livestock situation in the southern counties, and a strong effort will be made to secure a complete and reliable census of the conditions relative to the number of beef and dairy cattle, hogs and sheep, present feeding conditions and local consumption demand. Southern California is supplying only a comparatively small part of its consumptive demands of beef, pork and mutton and in every county there are undeveloped resources which can be and should be applied to increasing production. The chambers of commerce and farm bureaus in each county have been asked to assist the members of the association in each county in securing this survey.

Copa De Oro Holland Bawn, owned by Arthur & Maxfield Holstein Co., Hanford, becomes the first 1,000 pound cow developed in Kings County, with a production of 1,103.45 pounds butter from 26,234.0 pounds milk in 365 days. She is a daughter of the well known sire, King Holland Paul De Kol.

Charles Harrington, Compton, has added another to the splendid yearly records made in his good herd when Oakfield Korndyke Adele 2d finished a 365 day record with 938.88 pounds butter from 20,839.9 pounds milk.

Ormsby Mechthilde Prilly, that calved at three years, three months with her first calf, has just completed a 365 day record of 1,017.59 pounds butter from 24,258.3 pounds milk in the Bridgford Holstein Co. herd at Patterson. She is a daughter of the sensational sire King Segis Alcartra Prilly and his second daughter to make above 1000 pounds butter with first calf. A new world's record has just been made in the Bridgford herd by the heifer Fairmont Colantha Prilly. Calving at 26 months of age she has made in 305 days 853 pounds butter from 20,067 pounds milk, giving her the world's records for butter in the 305 day division of the junior two year old class. This great heifer is a three-quarter sister to King Segis Alcartra Prilly, being by the same sire, King Segis Pontiac Alcartra, and out of a daughter of the Prilly bull's dam.

The Cultivator is in receipt of a letter from a Mexican breeder who wants to buy a carload of Holstein cows in milk. Letters addressed to Livestock Editor, California Cultivator, Los Angeles, will be forwarded to the prospective buyer.

The farm bureaus of Sonoma and Marin Counties have united on a pure bred sire campaign and have issued a very comprehensive leaflet showing the results which have been obtained in that district by the use of pure bred bulls. A survey which shows that 14 dairymen with 530 cows sired by pure breds produced $73,196.32 worth of butter fat in 1921 while 13 dairymen with the same number of cows sired by scrubs produced only $43,433.90 worth of fat, or an average loss of $2,289.47 to the man who champions the scrub bull.

The date of the Los Angeles County Fair at Pomona has been changed to Oct. 17 to 21. This completes a southern circuit of Ventura, Riverside and Pomona, and as all are big shows many of the breeders will undoubtedly be present.

D. F. Conant of Modesto has sold 11 milking cows and a bull from his Jersey herd to Louis J. Romer of Ukiah. Three of the cows were full sisters by Pansy's Gertie Lad, and the grandsire on the dam's side was a son of Lady Letty Lambert. One of the sisters has a record of 742 pounds fat. Seven of the others were daughters and granddaughters of the three cows, and the other is Mamie Owl whose record of 435 pounds fat as a junior three year old was a state record for several years. Mr. Conant says there is a big demand for Jersey cows now.

The report of the U. S. department of agriculture on tuberculosis eradication work for May shows that during that month 60 herds were tested in California. 3,184 cattle were tested and 113 reacted which was a remarkably small percentage since this was the first test. The waiting list shows 12 other herds which have applied for the test. 41 herds in the state have passed one test without a reactor.

Golden Eminent's Fairy Girl 449980, owned by H. G. Gross, Eureka, is the new yearling champion Jersey of California. In 362 days she produced 9,195 pounds milk, 529.35 pounds butter fat, starting test at one year and ten months of age. On this record she wins a silver medal, having carried calf 284 days during test. Her sire is Raleigh's Fairy Boy 9th 113825, a noted Register of Merit sire, and her dam is Olds' Golden Eminent 297220.

The second annual combination sale of the Eastern Guernsey Breeders' Association, held at Devon, Pennsylvania, June 14, resulted in an average of $1,118 on 48 head. Three bulls averaged $850 and 45 females $1,114.

J. W. Snodgrass of the Berylwood


REMARKABLE DISPERSAL

140———REGISTERED———140

HOLSTEIN HEIFERS

A dispersal of the splendid heifers in Willowmead Herd, owned by James McGillivray, Sacramento

THURSDAY, AUGUST 17, 1922

These choice heifers range from young calves up to bred heifers. There are approximately 100 open heifers in the lot

THESE HEIFERS WERE RAISED ON WHOLE MILK FROM TUBERCULIN TESTED COWS AND TURNED INTO CLEAN PASTURES AT WEANING TIME. ONLY ONE REACTOR OUT OF 175 HEAD TESTED FOR THIS SALE, WHICH NUMBER INCLUDED ALL COWS FURNISHING MILK FOR CALVES.

This is an opportunity to buy clean, well bred, well grown, well marked heifers of excellent type such as has never before been presented in a single sale in California.

EVERY HEIFER OVER SIX MONTHS OLD SOLD SUBJECT TO 60 DAY RETEST BY THE BUYER.

Place of Sale—On the main highway between Sacramento and Stockton, about 12 miles south of Sacramento, one mile north of McConnell Station.

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Management
CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
C. L. Hughes, Sales Manager, Sacramento, Calif.

You Should Not Buy a Bull Unless:

You have seen his dam and know that she is the type you want his daughters to be.

Or you have seen a good picture of her with a close-up picture of her udder.

She is a big producer of milk with a high percentage of fat.

Our cows are the tops of all the big sales in the state for the past three years.

Practically all of them have high 7 day and yearly records. They hold 4 world's records. Our herd bull is Sir Aaggie De Kol Mead, whose five nearest dams average 1130.66 pounds of butter in a year testing over 4%.

You should have one of his sons out of a high record dam.

Call or write for our long-time, easy payment plan.

Lankershim, Cal. Fred Hartsook RANCH Visitors always welcome.

MR. FARMER:—

You are contemplating the purchase of a service bull next year. Why not save 50 per cent of the purchase price by buying a registered Holstein bull calf now? Pay for him next year when he is ready for service.

Sons of SIR VEEMAN KORNDYKE PONTIAC, who has 27 A. R. O. daughters, and of BURR WALKER SADIE VALE, whose seven nearest dams average 29 lbs. of butter in 7 days, included in this offer. Call or write at once.

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GUERNSEYS

AT

AUCTION

Friday, August 4, 1922

One O'Clock

Riverside, California, Fair Grounds

36 Cows—6 Heifer Calves—4 Bulls

The Cream of the CLAREMONT HERD

Owned by L. D. Smith, Hydesville, Calif.

An excellent lot of well bred animals in fine condition, all tuberculin tested and from a clean herd. A destructive fire upon our place makes it necessary to reduce the herd.

CATALOGS NOW READY

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PACIFIC PURE BRED SALES COMPANY
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Italian Vineyard Company
GUERNSEY CATTLE
Herd Headed by the King of Hollow Hill
BERKSHIRE HOGS
Stock of Both Breeds For Sale
Alex. Wilson, Supt. Guasti, Cal.

GUERNSEY BULLS
Service Age
Have a couple crackerjack sons of the $10,000 bull, Pencoyd's Golden May Secret, ready for service.
Priced reasonably.
G. T. DRINKWATER
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GUERNSEY COWS

produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

ROSEMOOR FARM
W. H. Dupee, Owner Riverside, Calif.

Stock Farm at Hueneme, returned from a vacation in the northern part of the state and the San Joaquin Valley, with 49 head of Holsteins to add to his big herd. Thirty-six of the number are open heifers which are to be bred to Prince Aaggie of Berylwood, the highest record bull on the Pacific coast. Many of these heifers are out of yearly record dams and sired by yearly record bulls. One of the heifers is a daughter of Norma Korndyke, the Hartsook cow which recently made 42.8 pounds of butter in 7 days. One of the purchases was of a mighty good aged bull to replace the former senior herd sire which died recently. This bull is sired by Sir Bessie Fobes Tritomia and is out of the well known cow, Fay Tritomia Hengerveld, which made 30.4 pounds butter in 7 days. He is therefore a half brother to Fay Tritomia Hengerveld Walker, the state record 3½ year old also in the Berylwood herd, and of Fay Tritomia Hengerveld 2d who sold in the last guaranty sale for $975. This bull is also a tried sire as his daughter, Queen Pietertje Hengerveld Fobes, also in the Berylwood herd, is making about 25,000 pounds milk and between 750 and 800 pounds butter as a senior yearling and is expected to break the state butter record for her age. With the bull Mr. Snodgrass got seven of his daughters, three of whom are due to freshen in a short time.

Santa Paula set an example in Fourth of July celebrations that could be followed by any farming community with decided success, by making a livestock show one of the main features of its big day. Exhibits of livestock, horses and mules and dairy cattle, took part in the parade and served for judging classes later. One of the features was an exhibition of Holsteins from the Berylwood Stock Farm, and another was the show put on by the Ventura County Calf Club. This club now has 12 members and is rapidly expanding. The calves were judged by G. E. Gordon of the extension department U. of C., and Baird Snodgrass won first place.

## LARGE SALE OF REGISTERED HOLSTEIN HEIFERS

The largest sale of registered Holstein heifers ever made in the West will be on Thursday, August 17, when a dispersal of the 140 heifers in Willowmead Herd, owned by James McGillivray, Sacramento, will be effected at public auction. This is a sequel to the sale about a year ago of the registered cows in Willowmead Herd, following which Mr. McGillivray leased his ranch on Freeport road to commercial dairymen. A commanding feature of this sale is the fact that the heifers have been raised on milk from tuberculin tested cows, turned into clean pastures at weaning time, and in making the test for this sale a total of 175 head were tested, including the cows furnishing milk for the calves, and only a single reactor was found, that one a calf recently brought over from another ranch. The heifers over six months old will be sold subject to 60 day retest by the buyer, another unusual feature.

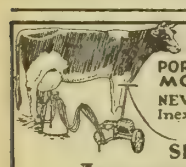
A very large group of these heifers are sired by Prince Echo Sylvia Segis whose sire is Champion Echo Sylvia Pontiac, the son of May Echo Sylvia whose daughters are making such sensational records at present. Another large group is sired by Colony Zarilda Newman whose dam in heifer form made over 30,000 pounds milk and over 1000 pounds butter in one year, and as a mature cow made over 33,000 pounds milk and over 1100 pounds butter in one year. Other heifers in the sale include granddaughters of such noted sires as King Mead of Riverside, Prince Gelsche Walker, and King Valdessa.

The sale will be managed by California Breeders Sales and Pedigree Co., with Col. Ben A. Rhoades, Los Angeles, as auctioneer, and will start promptly at 9:30 a. m., as this will be the largest number of registered Holsteins yet sold in one day in California.

## CALIFORNIA FALLS INTO LINE

By C. L. Hughes

California has at last joined the ranks of states cooperating with the U. S. bureau of animal industry in tuberculin testing of cattle to secure federal accredited herds. This is a result long sought for my many progressive California breeders. Possibly the real pioneer in promoting the idea was Horace L. Hill, Jr., owner of Toyon Farm, Los Altos, who tried unsuccessfully for several years to secure the cooperation of this state with the federal government, as he was particularly anxious to have a federal tested herd. He finally succeeded in a way by purchasing an entire federal accredited herd in Minnesota and shipped to California with the distinct understanding that the federal department would continue testing the herd after arrival in this state. This accounts for the fact that Toyon Farm had a federal tested herd at a time when it was not possible for any other California breeder to enjoy the same privilege. California Holstein-Friesian Association finally took up the task which Mr. Hill had started and was the first association of cattle breeders in California to go on record as favoring federal testing. At a directors meeting on May 4, 1920, a resolution was adopted favoring the introduction of the necessary bill in the then coming session of the legislature. At a general meeting of the association at Los Angeles on June 16, 1920, Dr. J. P. Iverson, chief of department of animal industry, at Sacramento, was present by invitation and explained that his department wished to introduce a bill providing for area eradication work by the state, and that the federal bill could be introduced at the same time. The area eradication bill was duly introduced, known as Senate Bill No. 98, but it remained for Assemblyman Cummings of Humboldt County to introduce the bill providing for federal testing in Assembly Bill No. 38. A keen fight developed on Senate Bill No. 98, primarily because of glaring faults in its original draft, but it was eventually amended, passed, signed by the governor, and is now law. Assembly Bill No. 38 received its most active support in the legislature by the association, the secretary and members of the board of directors appearing before the ways and means committee at a time when it looked as though the bill might be killed through the appropriation which it carried. Mr. Cummings finally eliminated that section of the bill providing for an appriation and in that form the bill was passed, signed by the governor and is now law. Approximately a year was required after the bill was signed before the federal department and the state signed the necessary agreement to permit the work to proceed, but the plan is apparently now in working order and many California Holstein breeders who have wanted the federal test now have it available.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TOP QUALITY, BOTTOM PRICE
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From Cows with Official Production Records. Sires all from Cows making Yearly Records. 1000 lbs. to 1200 lbs. Butter and 22,000 lbs. to 31,000 lbs. Milk.
Buy one and breed profit-making cows.
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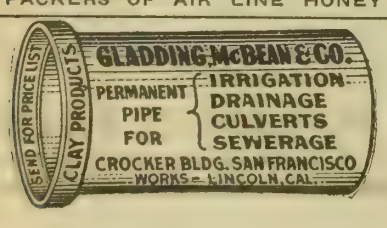



# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Worms.

Please advise us through the Cultivator what to do for a cat with worms. He is very thin and has vomiting spells and this morning vomited some worms about two inches long.—Subscriber, Fresno.

Get of your druggist ten powders each containing ten grains powdered areca nut. Every morning stir one powder into a tablespoon of fresh milk. The cat will probably eat it as there is very little taste to the areca nut, but if he will not then spoon it down him. Also get of the druggist a small package of catnip. Throw some of it down on the floor near the cat every day or two.

### Bloody Wart.

We have a mule that has a bloody wart on her leg that bleeds badly at times. Please tell us what to do for it.—Subscriber, Fresno.

Get an ounce of nitric acid and with a small swab wet the top of the wart once a day for three days with the acid, then stop until the scab comes off. Repeat this until you think the wart is cured. Be careful in handling the acid as it is very caustic. It will burn the skin or clothing. Keep it out of the reach of children.

### Goat Ailing.

We have a pure bred Toggenburg goat that came fresh the first of this month and there is still a bloody discharge coming from her. What would you advise doing for her?—Subscriber, San Jose.

Probably a part of the afterbirth was retained which will pass away in time. On account of the size of the animal it cannot be removed. Get one ounce of the tincture of iron and mix it into a pint of water. Give her a tablespoon of this twice a day.

### Looseness of Bowels

There is a great amount of fluid with the passages from our 18 year old horse and it smells bad. Also he bites the hair of his legs. I cured him last year by feeding him pumpkins. We had a veterinarian examine his teeth and he says they are all right. Horse is in good flesh and works well. Am feeding first class oat hay two-thirds and alfalfa hay one-third. No grain. Small or large amount of drinking water makes no difference. What can be done for it?—Subscriber, Downey.

Oat and alfalfa hay cut a little green, even if it is well cured, is apt to cause soft passages from the bowels. Oats and alfalfa should both be allowed to ripen more for horses than for cows. We think the symptoms indicate that you are feeding too much. Try feeding only three or four pounds of mixed hay in the morning, the same amount at noon and not over 12 pounds at night. This may seem a small amount but it is enough for any ordinary horse. Bowel trouble is brought on by bad teeth and overfeeding. There may still be something wrong with the teeth that the veterinarian did not find. Not being able to see the horse we can only suggest cutting down the feed as directed above.

### Kidney Trouble.

During the rainy weather last winter we were forced to keep our horses tied for long periods inside on board floors. One of our best horses began to get thin in spite of good feeding and is still poor. We feed all the hay that can be eaten and liberally of ground barley. He grinds his teeth a great deal and urinates about twice as often as is natural. What do you think is wrong?—Subscriber, Santa Ana.

Another case of overfeeding. It may have caused a stone (phosphatic calculus) to form in the kidney or bladder. First cut down the feed. Do not give over 15 pounds hay in 24 hours. When working do not give over ten pounds ground barley in 24 hours and when not working cut the barley feed down one-half. Give a teaspoon bicarbonate of soda (common baking soda) in the feed twice a day. Get your druggist to prepare 1 ounce iodide of potash in 1 pint of water and give 1 tablespoon of it in the drinking water once a day. If he seems sore when you press on the loins over the kidneys apply a good liniment there once a day. If he does not improve soon please write again and refer to this.

### Skin Disease

Please advise us what is wrong with our little pony. She bites herself as though she had chicken lice on her, but we can not find any and am wondering if she has an itch of some kind. We have washed her several times, and it does not seem to make any difference. When running one's hand over her we can notice a roughness in the skin which is mostly on the fore legs and breast. Can it be blood rash? —Subscriber, Monrovia.

Clip the pony, then wet her all over with a solution of zenoleum or some other good sheep dip, using a teacup of the dip in a bucket of warm water. Repeat this once a week until three or four applications have been used. If the skin still seems rough get these powders: Arsenic 20 grains, powdered nux vomica 1 ounce and powdered gentian 2 ounces. Mix and divide into 20 powders. Give one powder in the feed once a day.

### Congestion of the Udder

Our cow has been giving stringy milk from time to time for about two months. Her right front quarter was considerably enlarged but has gone down to almost normal. A dairyman suggested that we were feeding too much grain. We were feeding half a gallon of beet pulp and half a gallon of A 1 dairy feed at a milking so we have substituted bran in place of the latter. We have been careful to milk her clean at each milking. The udder shows no feverish condition and is not tender. We had her tuberculin tested but there was no reaction. Please advise us what to do.—Subscriber, Anaheim.

The cow is not overfed, but in place of dry feed give her green feed like green corn fodder or fresh cut alfalfa. Mix three pounds epsom salts with two pounds common salt and give a handful of it once a day in the feed. Be sure she gets plenty of good water to drink.

## THE NEW PACKING HOUSE

A group of large cattlemen reported to include Fred H. Bixby, David Babbitt, L. B. Tannehill, Russell Bros. and others, have purchased the H. F. Lewis packing plant at Vernon during the last few days.

This plant is new, modern and efficient, as it has just been rebuilt since the fire of a year ago, and this effort is the first of its kind in the U. S. A. of any considerable volume and importance. The details of operation have not yet been made public, but Ben Crampton, formerly with Cudahy, is reported to be the present manager. We will soon know if there is profit or loss in meat killing. The kill of Los Angeles is at present over a million cattle, sheep, calves and swine yearly, running some 25,000 cattle and calves monthly, 50,000 sheep and 25,000 swine. There are about 80 licensed slaughterers in Los Angeles County now, though the bulk of the kill is done by the six larger firms.

If this group of large cattlemen merely use the new abattoir to slaughter their own cattle and sheep and swine the effort will merely be one more killing plant. If they afford all cattle producers killing or use based upon a charge to cover killing and selling costs of meat it will develop into a first producer effort towards effective cooperation, and if carried out to its logical conclusion later with retail shops to the consumers it would complete an operation that would be of much interest to livestock producers as to results it may achieve. A stockyards market to protect the small men and a slaughter house started by the large men before a stockyards is in operation is confirmatory of the stimulation expected since the stockyards have been announced—A. L. S.

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**Baby Chicks** from my pure-bred, heavy laying strain of S. C. White Leghorns, June and July delivery $12.00 per 100; $33.00 per 300; orders taken now for August and September delivery. Write for particulars. J. R. HEINRICH POULTRY YARDS, Arroyo Grande, California.

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**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

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**500 Angora Goats** priced for quick sale. C. E. Bryant, Three Rivers, California.

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Two and one-half miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

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## TREES

**For Sale—25,000 Sour Orange Seed Bed Trees.** 1,000 1 year old Valencia buds. Not touched by the freeze. In one of our nurseries near Garden Grove. Southland Nurseries, 1941 East Colorado Street, Pasadena, California. Phone Colorado 6352.

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## WANTED

**Wanted: Men With Spare Time** to represent established California company selling standard material to ranchers in ten southern counties. Good pay. Address W. S. H., care California Cultivator, Los Angeles.

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## MISCELLANEOUS

**For Sale**—Approximately 5,800 ft. of 54 inch stock fence with redwood posts. Also 1,000 ft. 26 inch hog fence all good as new at one half market price. Troughs, oilers, etc. Chambers Ranch, RR 4, Anaheim, California.

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## LABORATORY OF FRUIT AND VEGETABLE CHEMISTRY BROADENS WORK

E. M. Chace, in charge Laboratory of Fruit and Vegetable Chemistry at Los Angeles, writes:

"It has been decided at Washington to broaden the work of this laboratory to include commercial dehydration of fruits and vegetables. In line with this policy, four men, who have been actively engaged in this work for the past three years, will be transferred to Los Angeles, and all work on commercial dehydration in the bureau of chemistry will be carried out at this point.

"It is proposed to install not only a small dehydrator for laboratory experiments, but also one of commercial size for practical tests. The title of the laboratory will remain the same, and the projects on fruit and vegetable by-products, the curing of lemons, the inheritance of composition in citrus fruits, the effect of frost on citrus fruits and the maturity work on avocados will be continued as heretofore.

"This change became effective on the first of July, and will add to the personnel of the laboratory a dehydration engineer and three chemists. These men, together with much new equipment, are enroute."

## JOINT FEDERAL AND STATE CERTIFICATES OF INSPECTION

It has been arranged that certificates of inspection issued at the shipping point on fruits and vegetables will be joint federal and state certificates and prima facie evidence in any court of the United States. It will be perhaps a week or ten days, before final details are worked out. In the meantime, however, it is known that the service will be operated as formerly by the state department of agriculture in cooperation with the United States bureau of markets and crop estimates. Former state inspectors will be licensed as federal inspectors under a plan which will call for the immediate dismissal of any inspector whose work is not found satisfactory by the federal government.

This new plan will, of course, greatly strengthen the legal applicability of the certificates and will thus make the service more attractive to our California shippers.

## PRUNE CROP LATE

The first car of 1922 crop dried apricots was shipped East from the Hanford plant of the California Prune and Apricot Growers Association on Saturday, July 8. The car was sent to Chicago.

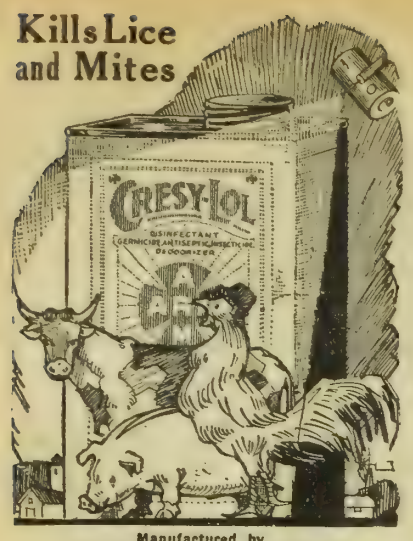
First shipment this year is practically ten days later than last, when the first carload of dried apricots of the 1921 crop left this state on June 29.

With the apricot season in all growing districts of the state about two weeks later than normal heavy shipments of the 1922 crop dried apricots will not go forward for several weeks. Even at this late date only small deliveries of dried apricots have been made in the southern San Joaquin valley section and a few light deliveries in Southern California, the two districts from which the fruit is first received.

## POULTRY CULLING DEMONSTRATIONS IN GLENN COUNTY

The several farm centers are appointing committees this month to assist the extension service in conducting county wide poultry culling demonstrations and giving talks the end of this month and the first of next. A definite schedule will be announced later.

Kills Lice and Mites

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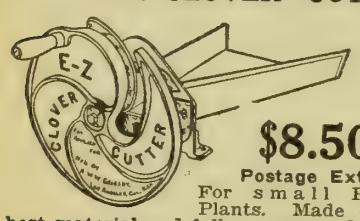


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The California Cultivator is only One Dollar Per Year.

# Poultry Queries

Conducted by Jean A. Koethen

### Inflamed Crop

Some of my turkeys have distended crops so filled with water that when I hold them by the feet it pours from mouth, eyes and nostrils. They are on free range.—Subscriber, Holtville.

Your turkeys have inflammation of the crop, which is nearly always caused by indigestible, decayed or poisonous food, more especially decomposed animal food, unslaked lime, paint skins, rat poison, and sometimes by milled feed containing too many hulls. As they are on range I should look there for the cause. Have they by chance gotten hold of gopher poison or something used for spraying fruit trees or a dead animal? Better confine them till you have investigated thoroughly. For treatment, first empty the crop as completely as possible by holding them by the feet, as you have done before, then rinse with several spoons lukewarm water. Follow with a teaspoon of castor oil and keep the birds without food for 12 to 20 hours, after which they may be fed soft, easily digested material, such as rolled oats chopped with onion and alfalfa. Salmon recommends 2 grains subnitrate of bismuth and ½ grain baking soda in a teaspoon water to relieve irritation. Be sure the birds have charcoal and grit both in the food and in a box where they can help themselves.

### Sulphur and Salts

I have seen mention in the Cultivator of sulphur in the mash for hens but do not understand how often it is to be used nor how much. Are Epsom salts good for hens, and has not bran the same effect? Please answer in next issue of Cultivator, for which I am always waiting. I love to read it. —Subscriber, Los Angeles.

Thank you. It is pleasant to know the Cultivator is appreciated by its readers. I think the sulphur prescription to which you refer must be that for chickenpox, which is one pound sulphur to 50 pounds dry mash. The sulphur is mixed in the mash, which is kept before the hens till the 50 pounds is gone. In a small flock a smaller quantity might be mixed in the same proportion, say ¼ pound of sulphur to 12 pounds of mash. I do not vouch for this remedy, but it is recommended by reliable people. Epsom salts in the drinking water occasionally is considered a valuable remedy, particularly in the spring when birds are apt to be bilious from heavy feeding. Half a teaspoon for each bird is the correct amount to use. My only objection to using Epsom salts in this way is that the hens will not drink the water if they can avoid it. It is better to dissolve the salts in water and use it to moisten the mash. Bran is a laxative to some extent, but not sufficient for medicinal purposes. However, do not give salts unless you are sure your hens need medicine.

### Blackhead

I have hatched 600 turkeys this season and now have only 100 left. They are dying at the rate of 10 to 18 a day, and in all I have dissected the liver is enlarged, hard and covered with yellow spots. I have raised turkeys for several years and never had any trouble like this before.—Subscriber, San Diego.

Undoubtedly the trouble is blackhead, as you were told by the feed man you consulted. Some turkey raisers are having fair success with the ipecac treatment recommended by the Drs. Wegeforth of San Diego, but it seems to work better as a preventive than as a cure. To prevent the disease powdered ipecac is mixed in the food, the dose being a teaspoon twice a week for each unit of 20 turkeys. For those already affected you might try fluid extract of ipecac, giving through the mouth 10 drops three times a day for three days, two times a day for three days, and once a day for three days, but a sick turkey is almost always a dead turkey. Another blackhead preventive which has been recommended by a Cultivator subscriber consists of a pint of bran and a pint of bread crumbs moistened with boiling water till it is crumbly. When this is nearly cool add one quart chopped greens, one small chopped onion and a cup of chick grit or sand. For each 10 turkeys add three drops of turpentine and one-quarter teaspoon ginger. This is fed twice a week in place of the regular morning mash and twice a day for three days if white spots are noticed on the backs of the legs. It looks to me as if you had overfed your birds. Some turkey growers keep bran before them all the time after two or three months but I believe the majority give only a mash in the morning when the birds have good alfalfa range. If I were you I would give them nothing but alfalfa and sour milk till they recover.

### Underfed

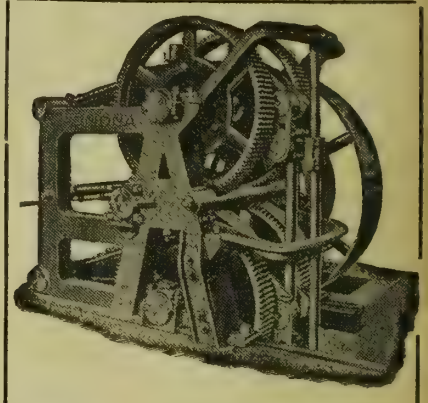
My four months old pullets are not doing well. At first they become pale and languid, then legs lose color and in advanced stages are quite blue. Some go light and die, others lose the use of their legs. Examination shows only a number of intestinal worms—one recently examined had 12 worms in intestines, others fewer. I have been treating them for worms, at first with turpentine in the drinking water, later with tobacco dust in the mash. Had been feeding laying mash with bran and bone meal added, till two weeks ago, when I changed to growing mash with another medicine in it. Since I began that and the tobacco the pullets have grown worse. I feed wheat and milo, about five pounds per day and two to three quarts of sour milk daily. They have alfalfa in the morning and mash all day.—Subscriber, Escondido.

I believe undernourishment is at the bottom of the trouble. Five pounds of grain per day is a very small grain ration for 100 growing pullets. Professor Jaffa allows from nine to 12 pounds for 100 laying hens, and growing pullets must have more than this. The grain ration should also contain Indian corn for which there is no substitute in raising chicks. Very likely you are not giving sufficient green feed, and two kinds of medicine at once is a pretty stiff dose. Make your grain ration equal parts Indian corn (cracked), wheat and barley, and give the birds all they will eat at night, with a little left over for morning. I do not know how much corn meal there is in the mash you are using, but you would be safe in adding a little. Give sprouted oats in the morning, alfalfa toward noon, and all the sour milk you can give them. It is practically impossible to overfeed growing pullets, for they must have a little extra fat on their bones when they begin to lay or they will not lay long. After they are in condition again and beginning to lay, put them on a regular laying mash but continue to feed cracked corn. I hardly think the few worms you found have done much harm, but you might write Dr. Beach of the poultry division, College of Agriculture, Berkeley, about them. Perhaps you have used more tobacco than he prescribes.

### Feeding Turkeys

I would like some information in regard to feeding turkeys. What and how much should be fed to avoid blackhead?—Subscriber, Burbank.

The important thing about feeding young turkeys is to feed always less than they want, just how much less is what nobody can tell exactly. Write the state experiment station at Kingston, R. I., for bulletin on the feeding of turkeys with reference to blackhead. They maintain that any feed suitable for other young birds, such as rolled oats, johnny cake, chick feed, bread and milk, hard boiled egg, etc., is suitable for turkeys, and that it is always overfeeding that causes blackhead. Some California turkey growers are using the turkey mash



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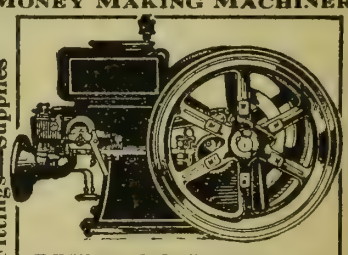
MONEY MAKING MACHINERY



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which is now manufactured expressly for this purpose, but the majority still cling to mixture of rolled oats, wheat flakes or stale bread with hard boiled egg, onion and alfalfa or lettuce. For the nursery feed for a brood of six or seven poults chop a quarter of a hard boiled egg, a pinch of wheat flakes, a bit of stale bread, dried in the oven till it can be mashed to powder, a young onion, top and all, and a small handful of alfalfa quite fine, and add a good sprinkling of grit. Miss Kate Warner of Hemet adds a little cottage cheese to the above ingredients. For the first meal feed about a teaspoon to poults and hen. This amount will be sufficient for the four meals that day and the next, then gradually increase the amount, but never give all the birds want. After three or four weeks the egg may be omitted, rolled oats take the place of the bread and wheat, and dry onions be used in place of the young onions. After the birds are worked onto a ration of rolled oats and chopped onion, with as much green as possible added, a little bran may be added, and the amount increased till by the age of three months they have bran without the oats. Some breeders put them on a ration of bran and rolled barley at two months, but my own experience is that they do better if allowed some rolled oats for another month. After they have learned to eat, say after two or three weeks, poults do much better if given the run of an alfalfa field and fed very little beside. Sour milk may be put before them every day if available. Young turkeys that have alfalfa range and sour milk need little else.

### Literature

Please give me the names of any special turkey or poultry publications published in the state, names of books on turkey and poultry raising and where to get them. I am going into the turkey and livestock business with chickens on the side.—Subscriber, Los Angeles.

You will have your hands full with three specialties to learn at the same time. "Poultry for Profit," which contains more information on turkey raising than any other book published in California, is out of print, but a few copies are still to be had at Germain's, Los Angeles. The department of agriculture at Washington sends out free a very good bulletin on turkeys, and the publications of the R. I. station at Kingston, R. I., are very helpful if they are still to be had. I think there is a small charge for them. You will find Harry R. Lewis' "Productive Poultry Husbandry," published by Lippincott's, Philadelphia, and Professor Dryden's "Poultry Breeding and Management," published by Orange Judd & Co., New York, valuable in your work with chickens.

### Roupy Turkeys

Some of my half grown turkey hens have swellings just forward of the eyes, and it seems to be impairing their vision. At first I thought they were caused by foxtails, but am now satisfied that is not the cause. There is some discharge from the nostril. What is the cause and what shall I do?—Subscriber, Porterville.

The discharge from the nostril shows that there is a roupy condition. You will probably find that there is pus in the swellings, and these should be opened with the sharp point of a pocket knife and the cavities thoroughly cleansed with peroxide of hydrogen, diluted 50-50 with water or with a warm boric acid solution made by dissolving half a teaspoon of boric acid in a cup of water. After cleaning cover the wound with white vaseline or sprinkle on campho-phenique. You may need to cleanse these openings several times. To cleanse the nostril you can either spray or dip the head twice a day in a permanganate of potash solution made by dropping a few crystals in a lard pail or quart measure of warm water. To be of any use as an antiseptic this must be prepared fresh whenever it is used. The following spray is recommended by Dr. Sanborn: witch-hazel, 4 tablespoons; liquid carbolic acid, 3 drops; water, 2 tablespoons. He applies this spray twice a day with a small syringe or atomizer, squeezing the bulb 5 times for each nostril and twice for the mouth. Turkeys that roost out of doors ought never to have roup. If they do it is probably due to an inherited tendency to the disease.

### Grading Eggs

We are beginning to get a great many eggs from our pullets and would like to grade them. What constitutes "fancy," "fresh extras," "pullets" and "peewee" eggs? I want to get a grader if you can tell me where and at what price.—Subscriber, Oxnard.

Scales for weighing eggs may be had at any large supply house, and cost two dollars. Eggs are graded as "pewees" if they weigh 18 ounces; "pullets," 22 ounces; "case count" or "ranch' 'eggs, 22 to 24 ounces; "extras," 24 to 26 ounces. They must also be clean and have firm shells and be of approximately the same shade if they are colored. If you sell through the Poultry Producers' or a commission house they will be candled no matter how fresh they are.

### PETALUMA EGG DAY

Petaluma will celebrate Egg Day this year during the Sonoma County fair, August 19-26. Petaluma calls itself the feathered kingdom, and it seems justly entitled to the name "with millions of chickens, hundreds of millions of eggs, and last year shipped 26,000,000 dozens of eggs, 6,890,000 chickens, hatched twelve million baby chicks."

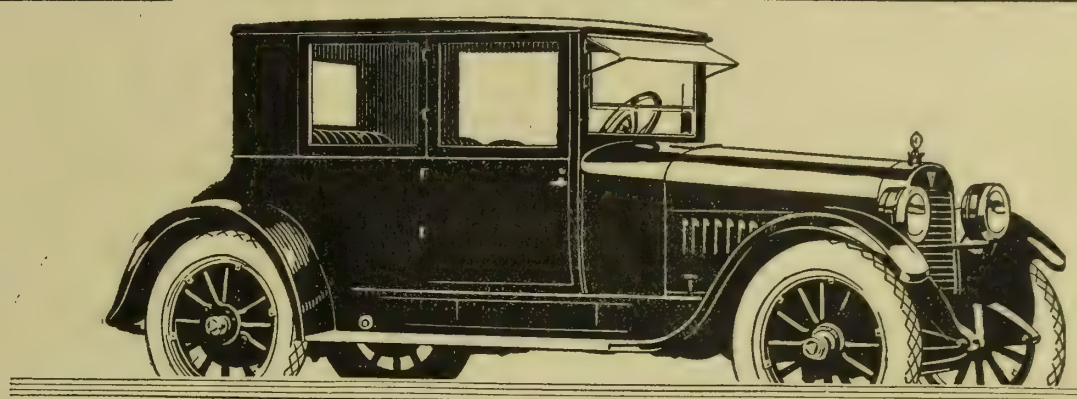
Besides the Egg Day features there will be a poultry and egg show of big proportions and big interest.

### SOUTHERN CALIFORNIA EGG LAYING CONTEST

With the June production at the Southern California Farm Bureau Egg Laying Contest some of the Leghorns reached the 200 egg mark. Mr. Eisenberg's bird heads the list with 205 eggs. Mr. Roger's bird having passed two other birds during the month, takes second place with 204 eggs. Mr. England's bird No. 357 now has 203 eggs to its credit and Mr. Smallwood's bird No. 218 an even 200. The highest Ancona record to date is held by Mr. Norton's bird No. 485 with 167 eggs and the highest R. I. Red record by Mr. Heying's bird No. 810 with 187 eggs.

The first ribbon for individual production for the month goes to Mr. R. C. Gibson's bird No. 205 with a record of 29 eggs, the second to bird No. 39 belonging to Flinian & Furstenfeld and the third to Mr. Miller's bird No. 27, each of which laid 27 eggs but previous production determines their standing. The entries of Mr. England, Mr. Rogers and Mr. Miller take the first, second and third ribbins respec-

(Continued on Page 95)

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|---|---|
| Phaeton - - | $1645 |
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The new Super-Six motor is a revelation even to Hudson owners.

It brings, we believe, the most vital advancements made by any car in recent years. Every phase of motor operation is affected. You will note especially the smoother, more easeful way the new Hudson does the things you require of it.

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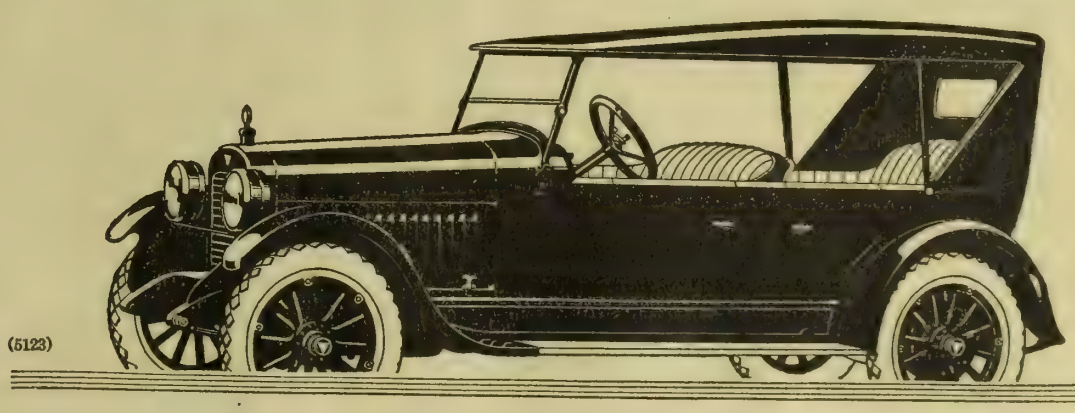

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# Los Angeles Markets

Los Angeles, July 19, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 45 cents.

Prices extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 12 | 13 | 14 | 15 | 17 | 18 |
| | 44 | 44 | 45 | 45 | 45 | 45 |

### CHEESE

Brokers' prices:
California flats, 19@21.

### EGGS

Produce Exchange closing prices. Eggs, cases included, fresh extras, 29½; case count, 28; pullets, 25.

Prices extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 12 | 13 | 14 | 15 | 17 | 18 |
| | 28 | 28 | 28 | 28 | 29½ | 29½ |

### POULTRY

Price to producers: Hens, 17; colored 30; broilers, 27@33; roasters, 35; old roosters, 12; fryers, 35; ducks, old 15; ducklings, Pekin, 3½ up, 30; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 11@12; old, 8.

### LIVESTOCK

Los Angeles, July 18.—Weighed and delivered off cars without food or water.

Hogs (hard grain fed) 125 to 150 pounds, 10.25; 175 to 226 pounds, 10.50.

Cattle (on foot, gross weight): Steers, good, 6.50@7.00; medium, 5.25@625; cows, good, 4.75@5.25; medium, 4.00@4.50; bulls and stags, 3.00@3.50; calves, 125 to 175 pounds, 8.00@9.00; 175 to 250 pounds, 6.50@7.50.

Sheep, ewes, 4.00@5.00; lambs, 9.00@11.00.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, July 18, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Movement slow market weak. New stock. Best locals, sk. cwt., 1.15@1.35, mostly around 1.25.

Onions: Coachella: Crates No. 1, Whites. $1.50@1.75; yellows, $1@1.25; Stocktons: Reds, $1.75; yellows, $2.00 per cwt.

Garlic: Mex. best, 10@12.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, July 18, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Asparagus: Per lb.: Northern, 10@12.

Beans: Market dull. San Pedro Ky. Wonder, 5@6; Limas, 17@18.

Bunched Vegetables: Per doz. bunches, turnips, beets, carrots and parsnips, 35@40; radishes, 20; parsley, 30; sprinach, 30. nary. Field cr., best mostly 1.75@2.00

Cabbage: Market steady, quality ordinary. Field cr., best mostly 1.75.

Cucumbers: Local, lug, 50@75.

Celery: Movement moderate, market dull. Wide range in quality and prices; quality, generally ordinary. Locals, best, 5.50@6.00; poorer, 5.00@5.25.

Corn: Green, local, lug 75@1.00.

Eggplant: 6@8 lb. Coachella: local, 10@12.

Lettuce: Market steady. Locals, ordinary, leafy, 1@1.10 per crate. Northern: Fancy, 3.25 per crate.

Okra: Lb., best, small, 12.

Peas: Best, Northern, lb., mostly 8@9; poorer, 5@6.

firm. Bell, local, 25@30; small, 15@22; Chili, 14@15.

Peppers: Bells, locals mostly, 30; Imperial Valley, 20@25. Chilis: Locals, 25.

Rhubarb: Local, best, Crimson, 75@1.00; mostly, 75@85.

Squash: Market steady. Locals: Summer, lugs, 65@70; Italian, lugs, 75.

Tomatoes: Demand moderate, movement slow, market slightly weaker. Imperial Valley: Best mostly, 2@3 lb. San Pedro: Lugs, best, 1.50@1.75.

### FRESH FRUIT

These are actual prices obtained July 18 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. New: White Astrachans, loose, 4@6½ lb.; packed, 3½@4 tier, 2.75@3.00; 4½ tier, 2.50 per box.

Apricots: Lb., Northern Royal, best, 3@4; poorer, 1@2; local, lug, 75@85.

Blackberries: Fy., 3.50@4.00.

Cantaloupes: Demand slow, movement light, market dull. Imperial Valley: Ordinary quality standards mostly, 1.40@1.50;- poorer, low as 1@1.25. Bakersfield District: Good quality and condition, standards, 1.75@2.00. Locals: Tip Tops, 3@3.50.

Casabas: 2 per lb.

Cherries: Per lb.: Bings, 20@22; Black Republicans and Royal Annes, 16@18; Lambert, mostly 18.

Currants: Cr. 3.00.

Figs: Black, 10@12; White, 8@11.

Loganberries: 2.50@2.75 per cr.

Grapes: Coachella Malaga, 8@10. Thompson Seedless, best around 10.

Peaches: Per lb.: Best, 3@4. Redbirds, fancy, 1.75@2.00 lug; Local Freestone, 6@7. Homegrowns, 75@1.00 per lug.

Plums: Per lb.: Santa Rosas, 2@4. Climax, 2@3 lb; Tragedy prunes, 5@6.

Raspberries: No. 1, 2.75@3.00.

Strawberries: No. 1, 3.00@3.50.

Watermelons: Imperials, Angeleno, 1@1½ lb.; Klondike, 1¾@2.

### CITRUS FRUITS

These are actual prices obtained between 7 and 8 o'clock July 18 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms, cash on the walk. There may be slight fluctuations during the day's trading. Higher prices are frequently obtained where credit is given or goods are delivered.

Grapefruit: Market steady. Californias: Northern, packed box, 4.00@4.50; market pack, 3.00@3.75; small, 2.25@2.50.

Lemons: Demand and movement light, market firm. Special brands, fancy, 6.75@7.50; choice, 5.50@5.75.

Oranges: Demand moderate, market steady. Valencias, special brands, 9.00@10.50.

### HONEY

The orange crop is estimated at ⅛ to ⅔ of normal, according to locality. The sage crop is reported generally good, and above average in quality. Perhaps one-half of the crop in the southern part of the state was made by the first of June.

Demand for carlots is reported light, the movement is slow, and the market unsettled. Dealers are said to be buying from beekeepers only on orders. A few carlot sales are reported on usual terms basis as follows: White Orange Blossom, 8½@9, some fancy high as 10. Light Amber Alfalfa, 5½@6 per lb. Beekeepers said to be disposed to hold for higher prices. Beeswax, cash to beekeepers, selling at 22c per lb.

### BEANS

F. o. b. Cal.:

| | |
|---|---|
| Lima, Standard | 9.00@9.15 |
| Lima, Henderson Bush | 9.00@9.15 |

Cal. Lima Bean Growers Assoc. reports some sales made in June for Oct. delivery of 1922 Limas and Baby Limas at around $6.25@6.40 f. o. b. Coast. Demand for futures now quiet. Assoc. has been sold out of 1921 crop for some time.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 18.00@23.00 |
| Barley | 16.00@20.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 16.00@20.00 |
| No. 1 Alfalfa | 15.00@17.00 |
| Standard Alfalfa | 11.00@13.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 20.00 |
| No. 1 Dairy | 15.00 |
| No. 1 Alfalfa | 12.00 |

### GRAIN

Prices L. A. Grain Exchange, July 18.
Barley: 100 ton lots August Del., 121¼.

Grain Department California Farm Bureau Exchange:

Receipts of wheat very light. Brisk export demand through San Francisco. Little California wheat has been exported for several years. Domestic demand good, although many buyers are holding off in anticipation of lower prices. If Chicago market continues at about present level or lower, Idaho and Utah wheat can be shipped and delivered in Los Angeles at about $1.75 f. o. b. California terminals. This crop will be available in August. In the meantime California wheat brings from $1.90 to $2.00 prices on Los Angeles market. Number 1 variety subject to federal grades.

Barley is showing considerable strength in Los Angeles although prices in San Francisco are weaker due to larger stocks available. Principal reason for this strength in the southern part of the state is due to the fact that buyers are feeling the effect of the strike. The Imperial Valley crop is about one-half shipped out. This crop amounted to approximately 20,000 tons this year. The quality is fine but the quantity somewhat less than original estimates. Very little coast barley has been moved. Crop is 30 days late. The San Joaquin harvest is well under way. On the whole California has a big crop of barley and prices are comparatively low. Unless an export demand develops it is not anticipated that prices will be much better. Barley market ranges $1.37½ to $1.32½ f. o. b. Los Angeles according to quality.

# San Francisco Markets

San Francisco, July 18, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | .44 |

Prices Extras last week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 12 | 13 | 14 | 15 | 17 | 18 |
| | 43½ | 40 | 41½ | .... | 44 | 44 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 25½ |
| California Flats, fancy | 19@21 |
| Oregon Trips | 23½ |
| Oregon Young America | 25½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 29½ |
| Extra Pullets | 24 |
| Undersized Pullets | 17 |

Prices Extras last week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 12 | 13 | 14 | 15 | 17 | 18 |
| | 29 | 29 | 29 | .... | 29 | 29½ |

### POULTRY

Prices furnished by state department of agriculture division of markets. Sales to retailers:

Broilers: 1 to 1¼ lbs., 27@28 per lb; 1¼ to 1¾ lbs., 28@29; do, colored, 32@34; 2 to 2¼ lbs., 32@33; do, colored, 35@37 lb.

Fryers: 2½ lbs. 32@34 lb.; do, colored, 38@40 per lb.

Young Roosters: 3 lbs. and up, 43@45 per lb.; staggy, showing spurs, 25@30 per lb.

Colored Old Roosters: 17@18 lb.

Leghorn Hens: 2½ to 3 lbs., 17@18 per lb.; 3 lbs. and over, 20@23 per lb.

Old Leghorn Roosters: 14@16 lb.

Large Colored Hens: 28@31 per lb.; off grades, 26@27 per lb.

Ducks: Young, 18@20 per lb.; off grades, 10@15 per lb.

Geese: Young, 20@22.

Live Turkeys: 32@35.

Dressed Turkeys: Young, 36@40. Off stock, 26@32.

Belgian Hare: Live, 13@15. Dressed 18@23.

Squabs: Live, fancy, 50@52 lb.; common, 3.00@3.50 doz.

Old Pigeons: 2.50@3.50 per doz.

Guineas: Young, 8.00@10.00 doz.

Jackrabbits: 2.00@2.50 doz.

### LIVESTOCK

The Western Meat Company quotes:

Steers: First quality, 6½@7 per lb.; second quality, 5¼@6¼ per lb.; cows and heifers No. 1 4¼@5; second quality, 4@4¼; bulls, 3@4 per lb.

Calves: Light weight, 8@9 per lb.; heavy, 5@7 per lb.

Sheep: Wethers, 6½@7 per lb.; ewes and stags 3@4 per lb.

Lambs: 10½@11½ per lb.

Hogs: Hard fat grain-fed, weighing 125 to 200 lbs., 12 per lb; 200 to 250 lbs., 11 per lb.; 250 to 300 lbs. 10 per lb.; light sows, 10 per lb.; heavy, 9 per lb.

California Farm Bureau Marketing Association reports:

| No. Hogs | | Av. Wt. | Dock | Price |
|---|---|---|---|---|
| **Corcoran, July 10** | | | | |
| 84 | | 178 | | 10.75 |
| 54 | | 171 | | 10.75 |
| 8 | | 221 | | 10.25 |
| 1 | | 130 | | 9.75 |
| 9 | | 362 | | 7.75 |
| 2 cars, 15 consignors, $3,044.79. | | | | |
| **Tulare, uly 11** | | | | |
| 70 | | 161 | 40 | 11.25 |
| 98 | | 172 | — | 11.15 |
| 10 | | 215 | — | 10.75 |
| 2 | | 275 | .... | 10.25 |
| 26 | Feeders | 122 | ..... | 10.10 |
| 5 | | 340 | 90 | 8.25 |
| 1 | | 430 | — | 1.00 |
| 204 hogs | | | | |
| 2 cars, 24 consignors, $3,766.24. | | | | |
| **Visalia, July 12** | | | | |
| 76 | | 141 | | 11.00 |
| 9 | | 216 | | 10.50 |
| 1 | | 270 | | 10.00 |
| 3 | | 210 | | 9.00 |
| 6 | | 298 | | 8.00 |
| 95 hogs | | | | |
| 1 car, 7 consignors, $1,646.50. | | | | |
| **Hanford, July 13** | | | | |
| 2 | Sows and pigs | 63 | | 11.50 |
| 100 | | 162 | | 11.40 |
| 28 | | 146 | | 11.00 |
| 14 | | 112 | | 11.00 |
| 10 | | 307 | 270 | 8.00 |
| 1 | | 390 | | 2.00 |
| 183 hogs | | | | |
| 2 cars, 17 consignors, $2,923.07. | | | | |

Totals: 638 hogs, 7 cars, 63 consignors, $11,380.60.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: New, 1¾@2¼ per lb.

Sweets: Merced, 7½@9; La., Nancy Hall, 6.

Onions: Gr., 1.50@1.75; Stockton Red, 1.25@1.40 Yellow, 1.50@1.75.

Garlic: 2@3 per lb. for medium grades; poorer quality, less.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, July 18, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per large cr., 4.00@6.00; extra large, fy., 8.00@9.00.

Asparagus: Green, 5@6 lb.; white, 8@10 per lb.; graded, 11@14 per lb.

Beans: Ky. Wonder, 2@3; Wax, 4@5; Italian, 5@7; Limas, 8@9.

Bunched Vegetables: Carrots, 60@75 per dozen; turnips, 55@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Corn: New, doz, 25@35.

Cucumbers: Southern, 70@1.00 crate; 1.00@1.25 lug; English, 2.00 doz.

Eggplant: Southern, 8@10 per lb.

Lettuce: Local, best 1,00@1.25 cr.; fair quality less.

Parsnips: 3.00@3.25 per sack.

Peas: Half-moon, 3@4 lb.

Peppers: Cal. Bells, 5@10; Chili, 5@8.

Rhubarb: Box, 1.50@1.75.

Sacked Vegetables: Carrots, 1.75@2.25; turnips, 1.10@1.25; parsnips, 3.00@3.25; beets, 1.00@2.00.

Spinach: Lb., 3@4.

Squash: Summer, 75@1.00; Italian, cr., 65@1.00.

Tomatoes: Merced, 1.50@1.75 lug; 50@75 crate. San Pedro, 1.50 lug.

### FRESH FRUIT

Apples: New crop apples, Green, 1.25@1.75 lug box. White Astrachans, 1.50@2.00 box; Gravenstein 4 tier, 2.50 box.

Apricots: 6@8 lb. Poorer, 3@5 lb; 1.25@1.75 lug; 75@1.25 crate.

Bananas: Hawaiian and eastern, 7½@8 per lb.

Blackberries: Dr., 25@35.

Cantaloupes: Imperial Valley, best standard crates, 1.50@1.75. Pony crates, 1.25@1.50; flats, 75. Soft, lower. Turlock Standard, 2.00; Pony, 1.75; Honey Dew flats, 1.25@1.50.

Cherries: Royal Annes, 10@13 lb. Black Rep. 10@12 lb. Bings, 12@18 lb.

Currants: Dr., 90@1.00.

Figs: Single layer box, 60@75.

Gooseberries: 10@15 lb.

Grapes: Malagas, 2.00@3.00.

Loganberries: Dr. 15@35.

Pineapples: 5.50@6.00 per doz.

Peaches: 75 cr.; basket, 50@75; lugs, 1@1.25; large, 1@1.50.

Pears, Bartlett, 4.00@4.50 box; No. 2 2.50.

Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.

Plums: Santa Rose, 1.50@1.75 crate; other, 75@1.25 crate. Lugs, 1.50@2.00.

Raspberries: 70@85 dr.

Strawberries: Local, dr., 75@95.

Watermelons Imp., 1½@2.

### CITRUS

Grapefruit: Southern Cal., fancy, spec. pack, 4.50@5.75; choice 3.50@4.00.

Lemons: Spec. pack, 5.50@6.50; choice, 3.50@5.00; Lemonettes, 2.00@3.50.

Oranges: Valencias, fy. boxes, 126s, 10.50; 150s-216s, 9@10.00; 250-288s, 8@8:50; smaller, 7; choice, 5.50@8.50.

### DRIED FRUITS

**Apples, 1922 Packers' Quotations f. o. b. Cal.:**

| | |
|---|---|
| Choice | 11½@11¾ |
| Extra choice | 11¾@12 |
| Fancy | 13 @13¼ |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— San Joaquins |
|---|---|
| Standard | @19½ |
| Slabs | @20 |
| Choice | @24 |
| Extra choice | @25½ |
| Fancy | @27½ |
| | Southern |
| Standard | @20 |
| Slabs | @20½ |
| Choice | @24½ |
| Extra choice | @26 |
| Fancy | @28 |

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼@11½ | 15 @15¼ |
| 40-50s | 9 @ 9¼ | 12¼@12½ |
| 50-60s | 8 @ 8¼ | 10¾@11 |
| 60-70s | 7½@ 7¾ | 9¾@10 |
| 70-80s | 7 @7¼ | 8¾@ 9 |
| 80-90s | 6¾@ 7 | 8 @ 8¼ |
| 90-100s | 6¾@ 7 | 7½@ 7¾ |
| 100-120s | in 50-lb. boxes, 6¼ per lb. | |
| 120-up | in 50-lb. boxes, 5½ per lb. | |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | 11¼@11½ | 11½@11⅝ |
| Slabs | @11½ | @11¾ |
| Choice | @12 | @12¼ |
| Extra choice | @12¾ | @13 |
| Fancy | @13¾ | @14¼ |

**Peaches, 1922, California Peach and Fig Growers' Assoc. prices :**

Opening quotations for the 1922 dried peach fruit pack announced by the California Peach and Fig Growers, Inc., show an irregular advance over the opening prices of last year in keeping with the general upward movement of California fruit values. The growers anticipate an increase in the export demand and expect that the domestic trade will hoard their early holdings. Following is the list of prices issued by the Peach Growers' Association quoted, f. o. b. Fresno for August and September delivery:

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @11 | @11¼ |
| Choice | @11¾ | @12 |
| Extra choice | @13¼ | @ |
| Fancy | @15¾ | @16¾ |
| Extra fancy | @17¼ | @18¼ |
| Practically Peeled— | | |
| Standard | 12 | @12¼ |
| Choice | 12¾ | @13 |
| Extra choice | 14¼ | @ |
| Fancy | 16¾ | @17¾ |
| Extra fancy | 18¼ | @19¼ |
| 11-oz. Cartons, 60 per case | 7.00 case | |
| 2-lb. Cartons, 24 per case | 8.25 case | |
| 5-lb. Cartons, 10 per case | 8.50 case | |

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | 13 @13¼ |
| Choice | 15 @15½ |
| Extra choice | 17 @17½ |
| Fancy | @19 |

**Raisins, Sun Maid Raisin Growers' prices, for shipping to August 1:**

Seeded—Sun-Maid, 15-oz., 15⅛. Bakers (in 25s and 30s) 13⅜. 1-crown (in 25s and 30s), 13⅜.

Loose Muscatels—4-crown (in 25s), 15⅜. 3-crown (in 25s), 14⅛. 2-crown (in 25s), 13⅛. 1-crown, recleaned (in 25s), 13⅜. 1-crown, not Sun-Maid (in 25s), 13⅜.

Seedless—Thompsons, bulk (in 25s), 15¾. Thompsons, bakers (in 25s), 15⅛. Sultanas, bulk (in 25s), 14¾.

Bleached Thompsons—Choice, sulfur (in 25s), 18⅜. Fancy, sulfur (in 25s), 19⅜. Extra fancy, sulfur (in 25s), 22⅜. Soda dipped, 15-oz., 17¼. Soda dipped, 8-oz., 9⅛. Soda dipped, bulk, 15⅜.

Thompsons, 5c pkgs., six 24s, per case, f. o. b. jobbing points, 3.65. Valencias, bulk (in 25s), 12⅝. Feherzagos, loose (in 25s), 12⅝. Malagas, loose (in 25s), 12⅝. Zante Currants (in 25s), 15⅜. Black grapes, 1920 crop (in 25s), 16⅞.

Layers—All grades, withdrawn.

### BEANS

California Bean Growers f. o. b. Cal. c. r. c.

| | |
|---|---|
| Large Whites | 8.00 |
| Small White | 7.40 |
| Pinks | 5.30 |
| Mexican Reds | 4.30 |
| Red Kidney | 8.00 |
| Cranberries | 7.65 |
| Bayos | 5.50 |
| Blackeyes | 4.25 |
| Henderson Bush Limas | 9.00 |

### RICE

California Rice Growers Assoc. report: No. 1 Paddy, 2.77.

### HAY AND FEEDSTUFF

A. W. Scott Co. reports under date July 15:

We quote today wholesale prices in carload lots as appear from dealers' trans-

fers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions).

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@17.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 14.00@16.00 |
| Wild Oat Hay | 10.00@12.00 |
| Alfalfa Hay, 1st and 2nd Cutting | 13.00@15.00 |
| Stock Hay | 9.00@11.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 28.00@29.00 |
| Oats, Rolled Feed | 38.00@40.00 |
| Bran | 33.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 55.00@60.00 |
| Coconut Meal | 31.00@33.00 |
| Alfalfa Meal | 20.00@22.00 |
| Cottonseed Meal | 50.00@55.00 |
| Sugar Beet Pulp | 32.00@34.00 |
| Molasses, tanks | 17.00 Barr 25.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices S. F. Grain Exchange, July 17, f. o. b. S. F. warehouse and storage charges paid.

Barley Feed. 1.15@1.20; shipping, 1.25@1.35.

Wheat Mill, 1.90@1.95; Feed, 1.85@1.90. Milo, 1.90@1.95; No. 2 bulk, 1.90@1.95; Middlings, 41@43.

Oats: 1.40@1.50.

Corn: White Egyptian, nominal; colored milo, 1.90@1.95; No. 2 bulk, 1.80@1.90; No. 2 Eastern yellow, 1.58@1.60.

Grain Department California Farm Bureau Exchange:

Barley: No great quantities on hand. Quoted around $1.20@1.22½ for good feed; heavy head, 1.27½@1.32½, latter price for choiest quality only.

Wheat: Export dealers are out of the market. The mills are maintaining prices: $1.90 for Sonora and soft white varieties; hard white, around $1.95. Should offerings become heavy probably this level will not be maintained.

Oats: Continued good inquiry, though few offered. Feed prices around $1.40@1.55; choice feed around 1.75 S. F. basis.

## Citrus Markets

Los Angeles, July 19, 1922.

Best grade of Valencias continue to receive top prices. All are in eager demand. Only a little over 4,000 cars remain in California for shipment. These will go forward slowly for the next three and a half months and will probably bring big prices. Navel drop is heavy in some districts; in others light. Mutual Orange Distributors estimate the coming crop at 50 per cent normal in the field they cover.

Lemon market is improving somewhat; supplies are being reduced; but absence of hot weather holds down the market.

#### Citrus Shipments

Shipments of citrus fruits to date since November 1, 1921. Southern California: Oranges, 19,410 cars; lemons, 7,763; total, 27,173. To same date last season: Oranges, 31,292; lemons, 8,848; total, 40,140. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,603 cars; lemons, 185; total, 6,788. From Northern California to date this season: Oranges, 372; lemons, 8; total 380. To same date last season: Oranges, 305; lemons, 5; total 310.

### AT THE AUCTIONS

#### July 14

New York: 9 or., 2 lem., 1 mixed. Val. 3.40@11.08, grapefruit 3.15@4.35, lem. 1.70@5.50.

Boston: 3 or., 2 lem. Val. 4.60@9.35, grapefruit 3.00, lem. 2.75@4.75.

Cleveland: 2 or., 5 lem. Val. 5.30@6.60, lem. 2.55@5.80.

Pittsburg: 3 or., 4 lem. Val. 4.80@6.30, lem. 2.30@3.70.

Philadelphia: 2 or., 1 lem. Val. 3.85@9.70, lem. 3.10@3.55.

St. Louis: 3 or. Val. 3.45@5.75, grapefruit 2.00, lem. 2.70.

Cincinnati: 4 lem. 2.10@3.90.

#### July 17

New York: 15 or., 3 lem., 1 mixed, 1 grapefruit. Val. 4.10@10.95, grapefruit 2.75@5.30, lem. 1.50@5.60.

Boston: 9 or., 4 lem. Val. 4.70@9.35, grapefruit 3.45@5.55, lem. 2.40@4.85.

Cleveland: 2, or., 4 lem. Val. 6.95@8.50, lem. 3.10@6.25.

Pittsburg: 5 or., 6 lem. Val. 4.65@8.75, lem. 1.95@5.20.

Cincinnati: 3 lem. 2.85@3.90.

Philadelphia: 3 or., 4 lem. Val. 5.45@9.90, lem. 1.20@5.20.

St. Louis: 3 or., 2 lem. Val. 3.45@6.95, lem. 2.20@3.10.

### CALIFORNIA CATTLEMEN'S MARKET REPORT

San Francisco, July 17, 1922.—The Chicago market showed a considerable increase in receipts last week compared with the week previous and an increase of approximately 40 cents a hundred for the week. From available information, it seems that the Chicago market is on a healthy basis and will continue so until the supply of cattle from the Northwest begins going on to that market, which will probably be somewhere near the first of September.

The San Francisco market remains steady, sales being reported in Solano County at 7 cents f. o. b. ranch for eight cars of steers and 5½ cents for cows f. o. b. ranch. Sales in San Benito and Monterey County are reported at 6¾ cents to 7 cents f. o. b. ranch for choice steers and 5 to 5½ f. o. b. ranch for cows.

The Los Angeles market is stronger both for dressed beef and live cattle. Sales are reported at 7½ cents delivered in Los Angeles for steers, and 6 cents delivered in Los Angeles for cows. Sales are reported in Santa Barbara County at 6½ cents to 6¾ cents f. o. b. ranch for steers and 5½ cents f. o. b. ranch for cows, calves 8½ cents f. o. b. ranch.

The supply of fat cattle in the state, if spread over the next 40 days is not sufficient to supply the demand. However, if cattle are forced on to the market too strongly at the present time, it will have a depressing effect on the price, since this is the season of low consumption.

In spite of the comparatively small supply of prime cattle, and due to the high Eastern market compared with prices being paid in California, 35 cars of cattle were shipped from Kern County to the Omaha market on Saturday, July 15. It is expected that additional cattle will be shipped East from this point. This should be a large factor in improving the California prices.

The telephone number of the California Cattlemen's Association office in Los Angeles has been changed to 61064. Use this office.—R|. M. Hagen, Secretary.

### BULK WHEAT THREE CENTS UNDER SACKED

Manager T. E. Morgan of the grain department of the California Farm Bureau Exchange has made arrangements with the largest flour mills to take bulk wheat at 3 cents per hundredweight under sacked wheat, which means that where a farmer pays 10 to 11 cents for sacks he only gets three cents out of them, which is evidence that insofar as the handling of wheat is concerned bulk handling is naturally much preferable. This will permit growers in many sections bulking their wheat at shipping point and retaining the sacks. This, however, may not apply to all varieties of wheat and the management suggest that before a grower starts shipping in bulk he advise of the variety he will have to ship, as all varieties of wheat cannot be used for export milling purposes. There is a certain class of chicken feed trade in the state which we will cater to, and this grain will very largely have to be handled in sacks. Some of the mills are discounting bulk grain 6 to 8 cents per hundredweight over sacked grain.

The Los Angeles office has been doing some very effective work also. It has handled approximately 100 cars of grain shipped out of Imperial County and Imperial members feel that they have saved from $4 to $5 per ton on what they have handled so far this season. Because of their being so completely organized (equal to at least 70 per cent of the county) the exchange has been able to feed the market in an orderly manner, preventing thereby very largely depression.

### UNIFORM GRADES FOR ARIZONA COTTON

(Continued from Page 77)

knows? A few pounds extra lint even at a low price will pay for a number of hours of extra labor at American prices.

#### Land Costs High

Because of the high price of land in Egypt, which makes rent or interest high, and the slow methods of plowing, planting and cultivating, the cost of raising an acre of cotton in Egypt comes nearer to the cost of raising an acre in America than one would suppose when the very wide margin between the prices paid for labor in America and in Egypt are the only consideration. When the costs of harvesting are considered the Egyptians have it over us with a difference that is discouraging. Picking Egyptian cotton, whether it be the Sakellaredis grown in the Nile Valley or the Pima grown in Arizona or California, is a slow and tedious job as compared with picking the short staple cotton of the Southern states.

#### Spinners Buy in Egypt

When we who scan the reports of the world's cotton markets and read that America buys more cotton from Egypt and pays a better price for it than from Arizona, even when there are warehouses and gin yards loaded with cotton we ask, "Why?" We learn that the spinners of long staple cotton are not philanthropists and neither are they so excessively patriotic as to sacrifice profits for the sake of using cotton grown in America just because it is a home grown product. Yet in spinning tests and every other test that is known, our No. 1 Pima cotton equals or excels the best of the Egyptian cotton. Then what is the trouble? The spinners say it is due solely to the uneven grades of cotton found in any single bale. A bale of cotton may be classed as No. 1 or No. 2, and the classer has been unquestionably honest, but the sample which he had may not be representative of more than 50 or 75 per cent of the bale simply because the quality of the cotton in the part of the field where the pickers worked varied, and all the cotton was picked together, and the sample from any bale is only representative of the major part of it. "It ought not to make much difference," so we think, but to the spinner, it does make a difference, and since he can obtain from Egypt bales of cotton that are even all the way through he prefers that from overseas.

#### Bales Must Be Uniform

It is not conceivable that Yankee ingenuity is to be baffled by the one last step after all the trials and achievements of perfecting the best cotton in the world. Some way must be found for making the cotton uniform all through the bale. It is not to be supposed for a moment that after taking the seed from Egypt and spending 20 years in the development of a type of plant that is ideal, and after developing the most thorough system of cotton seed breeding in practice in the world today that the one thing lacking will stop the cotton growers.

#### Working Out the Problem

Just what plan will be finally adopted as most practical is not yet known. For this present season an acreage is to be selected that will furnish from 1,000 to 5,000 bales, depending upon matters that have to be gradually worked out between now and picking time. Observations are being made over a considerable acreage at the present time, and when the cotton is ready for picking it is planned to have experts go over the fields and indicate the quality of cotton in different parts of the field. There are a number of factors that operate to affect the quality of the cotton. A portion of the field may have been in alfalfa for the previous season, while a part may have been in some other crop. There may be spots that have been fertilized. There may be some areas that have a different type of soil which takes more or less water than the major portions of the field. A place may be high and receive too little water. A ditch may have broken and a portion of the field may have had too much water. All in all there are many things that may happen to make a difference in the staple length and quality. The problem is to keep the grades by themselves. If this plan works out satisfactorily the work will be extended to larger areas next year. If this is not the best way then some other will have to be found. Whatever it is, there is a certainty that there must be more care used in the picking of the cotton.

Pima cotton is an expensive crop to grow. When grown and the grades are kept uniform and the cotton is clean and free from leaves or other trash it is the best and strongest cotton known. Its uses are many and some new use is being discovered every season. The last step in the final perfection of this cotton from the spinners standpoint is now being worked out. Pima cotton in spite of discouragements is still the premier cotton of the world.

### SOUTHERN CALIFORNIA EGG LAYING CONTEST

(Continued from Page 93)

tively for pen production for the month.

The egg production for the contest flock was only about four per cent under that for May but a sudden decrease in mash consumption during the last few days of the month and the dropping of a few feathers by some of the birds predict a coming slump in production. The birds consumed on an average 3.37 pounds of grain, 2.97 pounds of mash, and 2.5 pounds of green feed and gave a 66.77 per cent egg production.

#### Highest Pens June

Geo. C. England, 245¾. E. E. Rogers, 239¾. J. L. Miller, 235⅝. S. H. Park, 231⅞. R. C. Gibson, 231⅜. M. L. Frick, 230⅝. Bonnie Brae Farm., 227⅝. Chas. G. Weaver, 224¾. R. A. Whitaker, 223⅞. Will S. Hatch, 220⅞.

#### Highest Birds June

M. & M. Ranch, (R. I. R.), 30. Gibson, 29. Frick, 28. Flinian & Furstenfeld, 27. Miller, 27. Geo. B. Wilken, 27. Bellows Egg Ranch, 27. Gibson, 27. Rogers, 27. Swinton, 27.

#### Highest Birds to Date

Eisenberg, 205. Rogers, 204. England, 203. B. S. Smallwood, 200. Frick, 196. M. A. Schofield, 194. Ferd Heying, R. I. R., 187. Wilken, 186. Gibson, 185. England, 185.

### RED SPIDER INCREASING RAPIDLY

The red spider, which is one of the most destructive pests to certain orchard trees in mid-summer, is now becoming very abundant, says Theo. D. Urbahns, field entomologist of the California department of agriculture. The hot weather is very favorable to the development of this pest. The infested leaves curl up, dry and are carried with the wind, spreading the little mites from one tree to another until they become scattered over the entire orchard. The red spider multiplies very rapidly when trees once become infested.

The best control consists of spraying early and very thoroughly with wettable sulphur or by repeatedly dusting with dry sulphur. Many of the growers are spraying with lime-sulphur and with diluted solutions of commercial miscible oils. Both will kill the red spider where the spraying is thoroughly done, so that the spray actually comes in contact with these mites. There is, however, considerable danger of burning the leaves when these solutions are used in very hot weather. In case of extreme infestations, a spray consisting of one and one-half gallons of lime-sulphur and five or six pounds of wettable sulphur to each one hundred gallons of water thoroughly applied with plenty of pressure and material to each tree makes a very effective spray for this pest.

### GUERNSEY SALE AT RIVERSIDE

Relative to the registered Guernsey cattle that are to be sold at Riverside on August 4, we have just received the following from Manager C. R. Thomas: "The Guernsey cattle that I am to sell at Riverside for L. D. Smith are a mighty useful lot. Of the 36 cows and heifers offered about 25 are in milk, most of the others are bred and several of them are heavy in calf. Many of the cows are heavy milkers, having made as high as two and a half pounds of fat per day, and if given an opportunity in the future will, no doubt, make a most creditable record. Of the bulls, two are now old enough for hard service and these are splendid fellows. The other two are yet too young for service. Six heifers too young to be bred are included in the offering. These cattle are in good condition, are splendidly bred, are tuberculin tested and are the kind that the breeders and dairymen need, and they come from a clean herd." Catalogs are now ready and can be had by writing to Mr. Thomas at 808 Santa Fe Building, San Francisco.

A recent massmeeting of cantaloupe growers and shippers at Brawley passed resolutions highly commending Horticultural Commissioner Waite of Imperial and his deputies for their work in preventing shipments of green cantaloupes.

Successful Planters Come Back for

McSweeny's

Shamrock Brand

Certified Seed Potatoes

Production Unexcelled

Reliability Unchangeable

Quality Unsurpassed

E. D. McSWEENY

EL MONTE

# Capacity Counts!

BECAUSE, through our tremendous milling capacity, we can control the source of most of the ingredients used in our feeds. For example: the bran, shorts, middlings and flour that go into SURELAY are by-products of our own mills. Then there's corn. We use 10% or more in this feed—and here are our mills in the *center* of the largest corn-growing district in the State.

Animal protein offers another example: the amount of *meat* we use daily puts us in position to secure meats of uniform, high quality throughout the year. In one case, we use the *entire* output of a single manufacturer. Again, there are vegetable proteins. Direct purchases in tremendous quantities of soya bean meal, cocoanut meal and linseed meal offer another price-advantage.

So there you are! You can't dodge this fact: large batches of feed can be manufactured cheaper than smaller ones. Capacity counts! We have the facilities, the equipment, the experience. Our costs per ton of feed *are* lower. No two ways about it!

Then, for extra good measure, there are the daily laboratory tests—a feature no individual poultryman could possibly afford. Before being used, each ingredient destined to go into SURELAY is analyzed in the laboratory for quality and feed value. All grains are recleaned before being ground or cracked. Never will you find mill waste, dust, smut or sweepings in Sperry Feeds. During the actual process of mixing, samples are taken regularly and tested for uniformity. It is test, test, test all the way for SURELAY—and every other Sperry Feed.

And all to what purpose? To make sure that SURELAY will live up to its reputation as the most uniform, most dependable egg mash on the market. To make sure that "what's on the tag is in the bag"—always!

Always specify SURELAY-in-the-yellow-striped-sack from your dealer; and send for the new edition of our handbook, "Makes Hens Happy." It will show you how Sperry capacity counts in bringing feed-costs down. Mail the coupon now!

# SURELAY

"A Sperry Product"

POULTRY AND STOCK FEED DEPT. **SPERRY FLOUR CO.** 208 WEBER AVE. STOCKTON, CAL.

Please send me, without obligation, your new booklet "Makes Hens Happy"

Name _____

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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — July 29, 1922 — No. 5


# Fence Rails a Hundred Years Old

The Cultivator camera has strayed away and is capturing the worm fences with wild raspberries and mandrakes and real elderberries in the corners. The "youngest" of the rails shown in this photograph are around 75 years; more of them are around a hundred and a hundred and a quarter.

Some of the rails are of oak, some of maple, more of walnut, beautifully grained walnut. Some are showing the ravages of time, and all have rendered effective service for an average of more than a century.

This scene is on the Townsend Farms, a great property of several thousand acres on the Western Reserve. The implements and the furniture of pioneer days are all preserved on these farms, though modern methods prevail in production.

There will probably never be more rail splitters, and another generation will know of a rail fence only because of the Cultivator, or other cameras, which have perpetuated them. The tree which lends itself so delightfully to artistic use is the Slippery Elm.

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

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## Saturday, July 29, 1922

OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

### FILLED MILK LAW UPHELD

In a suit brought to test the validity of Wisconsin's "Filled Milk" law, the state supreme court held that the legislature is given the power to prohibit the sale of "filled milk" or other food products believed to be deleterious to the welfare and health of citizens of the state. This will be welcome news to the dairy interests of the United States, as it is in line with the efforts they have put forth to discourage the use of substitutes for any of the dairy products. We trust that with each victory won, they will renew their efforts to keep their products pure, clean and healthful so that the consuming public will learn to use only the pure unadulterated dairy products.

### FUMIGATION

This week's paper contains an article on "Fumigation Recommendations," by R. S. Woglum, entomologist for the California Fruit Growers Exchange.

Mr. Woglum has made a close study of fumigation methods in California, having been sent here by the department of agriculture a number of years ago to investigate the unsatisfactory results of fumigation prevailing at that time, and it is largely due to his efforts that the scheduling methods now employed were worked out.

We believe that every citrus orchardist should carefully study his "Fundamentals of Successful Fumigation" and then see that the men fumigating his grove use the proper care in their work.

Much of the unsatisfactory work being done of late years, we believe, is due to carelessness of employes in one way or another, and by familiarizing themselves with these "Fundamentals" growers will be in position to determine whether or not their work is being properly done.

### LIMA ASSOCIATION

The annual report of R. L. Churchill, manager of the California Lima Bean Growers Association, appearing in this issue of the Cultivator, should be of interest, not only to all bean growers, but to all friends of cooperative marketing.

Because of a lack of space we are unable to publish the report in full but have tried to give the essential points, leaving out only such portions as, we felt, were not of general interest to our readers.

The California Lima Bean Growers Association is a comparatively young organization, but its methods of handling and marketing crop and the reputation it has established with the trade for fair dealing, have enabled it to build up a demand for the product of the growers, that otherwise could not have been accomplished.

All of which goes to show that cooperation tends to better market conditions by better and more uniform grading of the crop, thus making it more dependable to the dealer and attractive to the consumer and creating a greater demand which invariably brings the producer better returns at no material advance to the consumer. We sincerely trust that Mr. Churchill's appeal for more members will meet with a hearty response from all Lima bean growers. The old adage "In numbers there is strength" most certainly applies in all cooperative movements.

### QUALITY—THAT'S ALL

Shall the farmers continue to cooperate in marketing or shall enactments which permit cooperation be considered class legislation?

Writing to Senator Capper Bernard M. Baruch refers to an address in which one Judge Gary severely criticized "special privilege cooperation." He (Mr. Baruch) said:

"I gather that Judge Gary is of the opinion that the legislation authorizing farmers to cooperate in marketing their products confers privileges upon them that are denied to other producers, and thus results in inequality of citizens before the law, and in fact.

"It is admitted by all that there should be that equal opportunity for the treatment of all pursuits which he contends for, and that is precisely why I have done what I could to assist the farmers in procuring legislation authorizing them to cooperate in marketing their products, for that is but restoring balance to the economic whole. The legalization of agricultural cooperation does no more than attempt to put the six millions of scattered and competitively selling farmers on an equal footing with the largely consolidated buyers of their products and with industry generally.

"The farmers have not asked for any special privilege, nor has it been accorded to them. Certain laws have been passed, and others sought, to enable them to do in their way—cooperation—what other producers, the makers of steel, for example, do by means of great corporations. The purposes of cooperation on the other hand and corporation on the other are the same—economy, efficiency and a degree of certainty of adequate returns for capital and enterprise. It simply happens that the farmers can cooperate, but can not make use of the corporation form of organization. Both sorts of organization are properly subject to governmental regulation for the protection of the public. Where is the inequality in this? Rather is it not the attainment of equality?"

### A FIELD

The Chicago grain pit is the greatest grain market in the world.

Its greatness is indicated by the fact that last year the transactions in the wheat pit of the board were greater (possibly a dozen times greater, I've forgotten now) than all the wheat produced in all the world. So it may be imagined there is some swiftness of action. Anyhow the "Exchange" is a mighty interesting place to go.

The racket made in the efforrt to buy or sell 5000 bushels of wheat is prodigious. It resounds until it reaches through doors and walls to the street. The racket leads one automatically up the steps and two broad stairways into the visitors gallery from which we could look down into the "pits." There was one for "selling" wheat, another for corn, another for oats, one for rye and barley and one for provisions. In this Exchange principally grain is handled.

The vast number of small tables at extreme left of the great room contained small packages or paper bags with samples of the grain to be sold.

The pits, except that of wheat, were nearly deserted, indicating, I was told, that the day's business in those lines was practically completed.

#### An Instructor

Then I spied an onlooker nearby who had a look in his eye as if he had a slight conception at least of the proceedings, so I asked as to what the rumpus was all about. From the position taken by his eyebrows I perceived that he considered that not a very intelligent question. However it served as an entering wedge and I found a world of information regarding Board of Trade operations. My informant had "been about this Exchange, almost daily, for over 40 years."

When a new outbreak occurred and almost the whole pit seemed to be pointing the finger or clenched fist at one man I asked as to its occasion and as to what he had done. I was told that he had come into the pit with a vast quantity of July wheat to sell. He had sold a few lots of 5,000 bushels each at $1.12¼ and now had just offered 25,000 bushels at $1.12⅛. The instant increase in the yelling and gestures was almost terrorizing. In the pushing and jostling which resulted from the effort to get their signals recognized, it appeared like a free for all fight. Many were coatless, and one broker's shirt sleeve was torn nearly off at the shoulder.

I asked my instructor as to these signals and he gave me this:

"The sign language is simple and consists of eight motions covering fractional changes in price, and a ready code, denoting the amount of bushels bought or sold.

"Prices are denoted by the hand held horizontally. Held vertically the hand signals the quantity desired or offered. The hand signaling price or quantity held with the palm out or away from the trader, shows a desire to sell, with the palm toward the trader it denotes a wish to buy.

"The horizontal clenched fist denotes an even price, say $1.80 a bushel. One finger extended, ⅛ of a cent; two fingers spread apart, ¼ of a cent; three fingers spread apart, ⅜ of a cent; four fingers spread apart, ½ a cent; four fingers and the thumb extended and spread apart, ⅝ of a cent; four fingers and the thumb extended but pressed together, ¾ of a cent; hand clenched with the thumb alone extended, ⅞ of a cent.

"Indicating the quantity the fingers are displayed vertically, each representing 5,000 bushels. The whole hand, fingers and thumb extended vertically represents 25,000 bushels.

"A single transaction is after this fashion: A broker wants to buy 5,000 bushels of December grain at $1.24⅞ a bushel, the last sale having been $1.25 a bushel. He extends his hand, fist closed, thumb extended, palm toward himself, and shouts his offer. His words may be lost in the volume of sound but his signal is seen by a broker across the pit who is willing to sell at that figure, and the signal is answered. The buyer raises one finger vertically, indicating that 5,000 bushels are wanted and a nod accepts the offer. The transaction is complete. The buyer notes on the blue side of his trading card '5 Johnson $1.24⅞,' the blue side denoting a purchase, while the seller notes on the red side of his trading card. red denoting a sale '5 Smith $1.24⅞.'"

But why this confusion and contention? "If a miller wishes a hundred thousand bushels of wheat why does he not go on the market and buy it and have it done with?" "Yes, my dear sir, that's exactly what he has done, only in the vastly more expeditious way through this exchange. He instructed his broker to buy, the broker made two or three gestures and the transactions were completed."

Maybe! But some way I came away from the Chicago Board of Trade with a thorough conviction that the whole gambling operation is a menace to the country's best interests. Who pays for the bread and butter and torn shirts and big fortunes, and fine homes in which these operators live? Who pays for the hundreds of telegraph boys and attendants and the thousand and one other "expenses?" And who suffers because of the vicious practices of bulling or bearing the market?

Well it isn't the "bull" and again it isn't the "bear." None of them have ever thought for a moment that the farmer has any right to figure the cost of his production and expect—and receive—a fair profit.

An old adage has it "If little labor, little are our gains; man's fortunes are according to his pains," but when the wheat pit is in operation there is no consideration whatever as to labor or pains required in production. A big bear on the market with a few millions of bushels under his direction can depress and greatly injure and possibly ruin millions of farmers.

Who pays the costs of the "Exchange" and the millions in fortunes made on it?

The farmer.

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Forbes Magazine suggests: "Difficulties make men. Ease makes mollycoddles. It is harder to climb than to stroll along a level road or dawdle down hill. Difficulties are stepping-stones leading to the top. Therefore, do not dodge them, do not run away from them". This is intended as advice for the clerk or the young man starting in business. We do not see but that it applies with equal force to the young man—and to some of us who are older—who are making a living from the soil.

# California Cultivator

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# Suggestions for Drying Figs


By I. J. Condit, Horticulturist,
California Peach and Fig Growers


NO ARBITRARY methods can be used or directions given for the best drying of figs. Varieties differ as to their requirements and texture. While fig sections vary in temperature and humidity, a method which may be successful in Tulare and Fresno Counties may not give good results in the Sacramento Valley. The difference in treatment is largely a difference in time required to secure the same results. This length of drying depends mainly upon the atmosperic humidity. Growers, therefore, must use their own judgment as to the length of time the figs are left in the sun or in the stack.

Quality in figs begins in the orchard, in the care and cultivation of the trees, as well as in the handling of the crop. The following suggestions are therefore offered in the hope that they will help to produce a product of more uniform and better quality:

### Picking Up or Gathering

Before harvesting time the surface of the ground should be smoothed or dragged to make it easier to pick up the fallen figs and produce a cleaner product. Weeds and grass should be hoed away from the trees, but under no conditions should the dried grass be burned, as is sometimes done. The dried fig when it reaches a certain stage of maturity drops naturally to the ground. The trees may be lightly shaken, but care should be taken not to dislodge immature or green fruit. Under no conditions should the trees be clubbed or the fruit knocked off with poles. Green fruit dries out into a very inferior product due mainly to lack of sugar. The ideal system is to gather the fruit from the ground every day, as the longer the figs are left on the ground, the longer they are exposed to sunburn, to dust and dirt, and to infestation of worms. The figs are ordinarily picked up into lug boxes holding from 40 to 50 pounds, this work being mostly piece work. The boxes are hauled direct to the dry yard when almost full. The treatment in the dry yard differs with the variety.

### Trays and Boxes

There is considerable variation in the size of the trays used. A common size of tray is 46½ by 36½ inches. Larger trays to be handled by two men are 8 feet long and 3 feet wide. In the raisin districts ordinary raisin trays are commonly used for figs. In any case the trays should be under cleated or properly constructed so that when stacked there may be a free circulation of air between. The trays should not be overloaded, that is, too many figs put on one tray, as this prevents rapid drying and makes it more difficult to sort the figs properly.

### The Mission Fig

The success of recent shipments of first crop Mission figs to the Eastern markets has demonstrated that the best returns can be secured from marketing this crop in its fresh state. The first crop of Mission figs is inferior dried and by no means should it be mixed with the main crop. The figs of the main crop drop naturally to the ground, after which they should be picked up as frequently as possible. In unfavorable weather such as high humidity, or after a slight shower, Mission figs mould very quickly if left on the ground. Frequent gathering and spreading on the trays will help to produce a better and more uniform product. In Tulare, Fresno and Merced Counties Mission figs should be left in the sun not longer than two or three days if there is good drying weather. In the more northern sections the fruit may have to be left in the sun somewhat longer. After the exposure to the sun the trays are stacked and the figs allowed to dry slowly until they are ready to be boxed and delivered. Care must be exercised in thoroughly curing Mission figs as insufficient curing results in moldy fruit.

### Calimyrna Figs

As with the Mission, the Calimyrna fig should be picked up frequently. There seems to be no question that sunburn of the fruit occurs mostly on trees which have sparse foliage. Overexposure to the sun on the ground or on the trees, however, tends to produce a tough or woody fruit. The Calimyrna figs should therefore be cured principally in stacks. In some districts the trays may be stacked almost immediately after picking up the figs from the ground. In more humid sections exposure to the sun may be necessary for several days.

The Calimyrna figs do not require sulphuring and should not be sulphured, except under unusual climatic conditions to prevent fermentation.

### White Adriatic

Frequent picking up of the Adriatic fig is to be emphasized, as with the other varieties. Neglect will result in sunburn and in dark color, as well as greater infestation of beetles, fruit flies, and worms. Immediately after the gathering of Adriatic figs into lug boxes they are dumped on the drying trays and sulphured late in the day or during the night.

### Sulphuring

All varieties of figs are not sulphured. The Mission fig, being black, could not be improved in color by any amount of sulphuring. The Calimyrna fig when properly handled is of such a light color naturally that it does not need sulphuring, but the Adriatic is ordinarily subjected to the fumes of sulphur for the purpose of lightening the color, softening the skin and disinfecting the fruit from the germs of decay which may be present and from any insects which might have crawled into the figs through the eye.

The pure food law, enacted by congress in 1906, established an arbitrary limit to the percentage of sulphur compounds in evaporated fruits. California dried fruit growers consider this limit too low. As a result of their protest the enforcement of the law

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# California Lima Bean Growers Association


Report for 1921 by R. L. Churchill, Manager


THIS association's legal year marks the close of its sixth season, and we have this week completed the sale of the last of our 1921 crop of Limas and Baby Limas, thus ending the marketing of the sixth successive crop of the grower members.

Organized in the midst of the great world war, the association's life history has been strenuous, because of passing experiences peculiar to the bean business, and including the unfortunate results upon quantity and quality production caused by the drouth of the 1920-1921 crop years.

### Marketing the 1921 Crop

The total 1921 crop of regular Limas amounted to only about 700,000 one hundred pound bags, or but a trifle more than half a normal production, and a total of about 150,000 bags of Baby Limas. Of these totals, something over 60 per cent of the Baby Limas and between 40 and 45 per cent of the regular Limas were produced by association members.

After cleaning losses and seed reservations had been deducted there remained about 247,800 bags of regular Limas, and 79,100 bags of Baby Limas for association sale and shipment.

The average f. o. b. car returns from the sale of these beans will show approximately $6.47 per hundredweight for regular Limas and $5.67 per hundredweight for Baby Limas.

With the exception of a few cars that were sold prior to the harvest last fall our selling prices ranged from the first month's steady market $5.65 to $5.85 on Limas and $4.85 to $4.95 on Baby Limas up to as high at $9.00 to $9.25 for a limited quantity of both varieties during a combination period of relative scarcity and dealer manipulation this spring.

The association's expense and cost of marketing, including storage, insurance, interest and advertising, have been very low this season, being about 37 cents per hundredweight or 9 cents per hundredweight less than the 1920 crop cost on Limas and 14 cents less on Baby Limas, despite the smaller volume of beans handled. This is principally accounted for by lower insurance, interest and tax charges and reduction almost to the vanishing point of our advertising appropriation, although some other savings were also effected.

### Distribution

Considering the small crop and the effect of shipment of large quantities of 1920 crop Limas and Baby Limas, by independent shippers late last summer, we secured a good general distribution this season, shipments being made to more than 100 different markets.

### Grade and Quality

In view of the considerably below normal quality of the general run of Limas, due to lack of sufficient moisture to cause proper maturity, and the stain damage resulting from too much moisture at harvest time, it required extra care and watchfulness to maintain a grade which was none too good, and at the same time protect our members as much as possible from excessive cleaning and hand picking costs, especially under a system where we have no control over warehouses other than requirement that beans must be brought to grade. Mr. Davis, in charge of our inspection and field department, had two assistant inspectors during a portion of the season, but personally attended to a considerable part of the inspection work in Ventura County. Under these conditions it must be granted that our receiving very few complaints upon quality and having only one allowance to make on arbitration is an excellent record.

The effort which the association has been making toward improving in a reasonable and practicable manner the grade and quality of Lima and Baby Lima beans is one of its most helpful and constructive lines of work from an industry standpoint. Some noted authorities upon economics go so far as to assert that the essential benefit which is possible to be derived from cooperative marketing of farm products is to be found in the improvement of the product, and that this exceeds in value the savings to be made through securing the profits which usually go to private marketing agencies.

The individual farmer cannot secure the information that will enable him to analyze the market for his product and intelligently decide as to the quality and quantity which consumers demand. This is a service which the cooperative marketing association is best fitted to render satisfactorily because it can secure the necessary information and will strive to use this for the best interest of its members. If the right quality of goods can be delivered to the right market, in the right quantity at the right time, successful marketing is accomplished. We have taken some good steps in this

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# Agricultural News Notes of the Pacific Coast

## Northern California

Dogs and cats will not be allowed within the Yosemite National Park except on leash.

Contract has been let for construction of state highway from Auburn to Colfax in Placer County.

The state has purchased 180 acres of timber in Humboldt County to add to the state Redwood Park.

Shasta County has two traffic officers patrolling the state highway between Cottonwood and the Siskiyou County line.

It is estimated that plantings of rice in the Sacrameno Valley this season will total between 140,000 and 150,000 acres.

The cooperative grain elevator at Lincoln, Placer County, has been finished and grain has begun to come in for storage.

Seed sowing machines are being used to spread poison in sections of Sutter County threatened by invasions of grasshoppers.

Manager Hyrup of the Colusa County fair says that many requests are coming in for exhibition space. The fair will be held September 13-17.

Dodgeland, Butte County, reports barley harvesting well along and yields are good; wheat will be finished in a few days; rice prospects excellent.

Chico is making great plans for "Hands Across the River" conference on August 2, when eight counties of the Sacramento Valley will be represented.

The management of the Colusa County fair announces that many outside exhibitors are already signing up for space. Fair will be held September 13-17.

Sales were made last week by the California Rice Growers Association of 127,000 sacks. The prices ranged from $2.87 to $3.27. This practically cleans up the crop.

Glenn County farm bureau has asked the supervisors to redistrict judicial townships, eliminating five, retaining only Willows, Orland and Butte City. This as a matter of economy.

The first car of 1922 dried apricots was shipped east from the Hanford plant of the California Prune and Apricot Growers Association on Saturday, July 8. The car went to Chicago.

One hundred and thirty-seven of the almond growers in the vicinity of Arbuckle and College City, Colusa County, have signed contracts with the California Almond Growers Exchange.

From Sonoma County early apples are moving to market in small quanities rapidly. Picking of Gravensteins commenced July 20; tomatoes healthy and truck generally developing fast; hops doing very well.

Competition has been keen among rice buyers for the last of the 1921 crop, Japanese buyers being particularly anxious. Some members of the associaion assert that the last bags of 1921 rice will go at $4.

A typical section of the Redwood Highway along the coast counties from San Francisco to Eureka and Crescent City will be one of the features displayed at the state fair by the North of the Bay Counties Association.

## Central California

The three creameries in Tulare sent out pay checks in June totaling nearly $200,600.

Report of the Stanislaus County Cow Testing Association for June shows 1255 cows tested.

Twenty-seven peach growers have signed up in the Modesto County farm bureau peach growing contest.

The Turlock cannery expects to start on Elberta peaches August 25 and make the heaviest run in its history.

There is no carry over from California's last year's dried peach crop. Estimated production this year is 23,000 tons.

Considerable damage from army worms is reported from Stanislaus County by Horticultural Commissioner Rutherford.

The newly formed California Olive Growers Association reports 30 per cent of the growers of the state have signed up their crops.

Many entries have been made by poultry raisers in the poultry department of the Tulare fair which will be held at Visalia September 12-19.

Manager T. E. Morgan of the grain department of the California Farm Bureau Exchange announces that the grain pool will be closed August 1.

Modesto fruit shippers say that practically all of the leading Eastern markets can yet be reached by railroad lines not tied up by the strike.

Apple growers of Owens Valley have formed a marketing association. The association expects to make a marketing charge of 10 cents per 40 pound box.

Four carloads of Black Mission figs were shipped from Merced last week to Eastern markets. The fruit was packed in 8 pound boxes, 2250 boxes to the car.

The first carload of fresh grapes to leave the San Joaquin Valley was loaded at Magunden, Kern County, and was grown in the Arvin and Weed Patch districts.

The California Sweet Potato Corporation at Turlock will this season manufacture alcohol from undersized sweet potatoes and other waste fruit and vegetables.

Shipment of lemons infested with red scale was condemned at Porterville and destroyed. The lemons were said to have come from the southern part of the state.

Turlock melon growers on July 19 were compelled to haul 15 carloads of melons back to their ranches because there was no possibility of securing cars to ship them out.

W. C. Jacobsen, head of pest control of the state department of agriculture, has been in Stanislaus County making a weed survey to determinate weed free areas.

The Tulare County Poultry Association is paying members 24 cents for number 1 June eggs. The association marketed during the month $7,000 worth of eggs and $5,000 of poultry.

The first annual sales convention of the Sun-Maid Raisin Growers was held at Fresno, July 19-25. 28 district managers from all parts of the United States and Canada attended the meeting.

## Southern California

The first cotton textile factory at Los Angeles is nearly completed.

Banning dry yards are handling a large tonnage of apricots from Hemet.

An almond packing house is being built at Paso Robles, San Luis Obispo County.

A new vinegar plant is being built at Redlands. It handles cull apples from the Yucaipa Valley.

Horticultural Inspector Hadley estimates that 5,000 acres will be fumigated this season in the Redlands district.

President Larzalere of the Escondido Grape Day Association is organizing his committees to arrange for celebration on September 9.

Nearly 600 industrial establishments have already taken space in the Pageant of Progress exhibit to be held at Los Angeles, August 26-September 9.

A. D. Shamel of Riverside has returned from a six months stay in Honolulu where he was engaged in work on improving strains of sugar cane.

Secretary Van Pelt of the Southern California fair, to be held at Riverside, October 10-16, reports several entries made by breeders of pure bred sheep.

San Diego County is much interested in progress of the big Warner dam project which it is said will provide irrigation for 50,000 additional acres of orchard land.

In Imperial County a good crop of grapes ripening nicely; Honey Dew melons still moving; watermelons good in amount and quality; alfalfa is doing well; cotton excellent.

W. S. Anderson of West Riverside has been elected president and Will S. Mays of Riverside, secretary, of the newly organized Southern California-Poland-China Breeders Association.

Growers of Redbird cling and Early Rose peaches are advertising themselves, and Yucaipa Valley by enclosing in each box of peaches a slip giving name of owner, orchard and place where grown.

Plans are being made for the construction of an evaporating plant at Banning to cost $40,000. This will take care of a large portion of the apple crop which heretofore has not been marketable as fresh fruit.

Poland China breeders of Riverside, San Bernardino, Orange, Los Angeles, Imperial, San Diego and Ventura Counties have organized a breed association which will affiliate with the Southern California Livestock Association.

A series of irrigation field meetings has just been concluded in Riverside County. They were held under direction of W. R. Schoonover. Especial attention was given to methods of securing uniform distribution of waters through citrus groves.

The newly organized Deciduous Fruit Distributors of Southern California has signed articles of incorporation. The new organization will market for the Yucaipa Apple Growers Association, The Independent Fruit Growers and unorganized growers in Yucaipa and Oak Glenn. The association starts with 2,000 acres of apples and pears signed up.

## The Coast and General

Algeria exports great quantities of flower and vegetable seeds.

Spain uses large quantities of honey in making nut and other candies.

Arizona state fair will be held at Phoenix, October 30-November 4.

The sugar beet crop in Eastern Idaho is said to be the best in many years.

The Phoenix chamber of commerce is encouraging "Trade at Home" and "See Arizona First."

Cuba is sending heavy shipments of honey to Antwerp at an f. o. b. price of four cents per pound.

Maricopa County, Arizona, announces that contractors are finishing one mile of highway a day.

Argentine's potato crop is becoming so large that growers are looking into development of export business.

A carload containing 500 hives of bees was shipped from Salt River Valley of Arizona to pasture in Colorado.

The United States forest service is using airplanes to discover and photograph lakes in the national forests of Alaska.

Italy's filbert crop is reported of unusually fine quality. The United States last year imported 700 pounds of these nuts.

The Oregon Growers Cooperative Association expects to handle between 20 and 30 million pounds of prunes this year.

Sicily's annual production of lemons is about 8,000,000 boxes. Approximately about 20 per cent is sent to the United States.

The experiment station at Sacaton, Arizona, distributed this spring 1200 tamarisk cuttings which are reported to be making splendid growth.

Total savings deposits in the banks of the United States amount to $16,500,000,000. Of this amount $1,453,927,000 is in the Pacific states.

Heavy shipments of wool are being made from Custer County, Idaho. Prices are said to be 100 per cent better than last year at this time.

Mexico has resumed shipment of beans and the department of commerce states that American buyers are making heavy purchases of beans in Roumania.

In effort to control fever tick 6,000,000 cattle were dipped in Texas during May. More than 250,000 herds are under active process of being freed from ticks.

The Arizona Cattle Growers Association at its recent meeting in Prescott selected H. M. Rice of McArthur, California, as secretary. He assumed his duties on July 20.

American Consul Stiles at Patras, Greece, is insisting that Greek currant packers who wish to export to the United States comply with the sanitary regulations of the U. S. department of agriculture followed by the California raisin packers.

Alfalfa growers of Western Nevada met at Fernley July 16 and organized an association to market their 1922 crop. They have a large crop and the California quarantine against alfalfa weevil is making it a problem where they will dispose of their hay.

# Frost Protection on Rancho Sespe

## By Manager Howard F. Pressey Before Citrus Institute at Pomona

THROUGH the several years of frost protection by oil heating we have proven to our own satisfaction, under conditions as they exist with us, and we feel that they are not so very much different from conditions in other communities, that frost protection is a paying investment and good insurance, and that trees and fruit can be saved by efficient and effective firing.

### The 1913 Freeze

In 1913 the Rancho Sespe had a severe and striking lesson on the value of orchard heating. The thermometer recorded as low as 16 degrees. On 150 acres, protected with only a two gallon laid pail type heater to a tree, we were able not only to save the trees but also a portion of the fruit. On 150 acres not protected the trees were killed to the ground. It is well known that it is rather impossible to get much fire from a two gallon heater when one has to fire as early as 6 o'clock in the evening and maintain fires throughout the night. Yet it is rather interesting to know, without endeavoring to explain, that in comparable groves, one protected with a two gallon heater to a tree and one not protected, both groves registering the same temperature of 21 degrees, that a portion of the fruit was saved on the protected section, while the unprotected section was frozen to the ground. This season of 1913 fully demonstrated the efficacy and necessity of orchard heating, for even though we were equipped with only small unimproved orchard heaters, we were able to save trees and some fruit.

The season following the big freeze found us fully equipped with 13,500 seven gallon Dunn orchard heaters in addition to the 12,000 two gallon heaters used during the freeze. We also installed an auxiliary equipment of four 50,000 gallon storage tanks, tank wagons, torches, filling buckets, thermometers, small storage drums for distillate, telephones and firing stations. From time to time these have all been added to by pumps and pipe lines for better distribution of oil, more heaters and more small equipment.

### Full Equipment

We feel that a properly equipped lemon orchard should have at least one heater to a tree of sufficient capacity to burn at least 15 hours with proper regulation without refilling. We very seldom fire more than 40 heaters per acre at the first firing, all heaters being set for a small fire, but if the night is very cold and prolonged the balance of the heaters are lighted before morning. The lighting torches are distributed at stations where they are easily accessible and known. On a large property it is very important to have distillate tanks of approximately 50 gallons capacity distributed around the groves, so that the torches may be refilled quickly and without confusion. The entire equipment should be so installed, not only to be

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# Imperial Valley Cantaloupes

## By H. H. Warner

GROWERS and shippers of cantaloupes in the Imperial Valley are now checking up their operations for the past season, and those who can point to any profits are laying their plans for another year.

The 1922 season will go down in history as remarkable for the speed and efficiency with which the railroads handled the largest number of cars of cantaloupes ever shipped from Imperial Valley. At no time was there a shortage of refrigerator cars even though for several days in succession the shipments exceeded 500 cars and on one day reached the unexpected total of 649 cars. Nowhere in the country are the railroads called upon to supply so many pre-iced cars in so small a territory in such a short time. The officials who were responsible for the organization which made this feat possible are certainly to be congratulated.

### Standardization Enforced

Never before has the quality of the early shipments been so carefully guarded. The county horticultural commissioner and his force of experienced inspectors handled this difficult problem without fear or favor, with the result that consumers were well pleased with their first taste of cantaloupes this season. They were not disappointed in the quality as has been the case so often before when the first shipments went forward without being fully mature. Strict enforcement of the fruit and vegetable standardization law this season and the resulting favorable impression on the Eastern consumers well demonstrates the justice of a law designed to protect the reputation of an industry such as this.

### Late Season Detrimental

In addition to planting the largest acreage on record, the growing season was such as to retard the normal maturity of the melons, and the season was approximately ten days later than usual. As is so often the case, if the normal development of fruits and vegetables is held back, both the early and late plantings tend to reach maturity at about the same time, and this fact contributed in no small measure to the very heavy shipments at the peak of the season. Fortunately, or not, as the case may be, the damaage from aphis and other pests was much less than usual this year and the quality of the melons themselves was as fine as has ever been shipped from Imperial Valley.

### Work Together

The office of the U. S. bureau of markets again assisted very materially in the equitable daily distribution of shipments. The value of this work depends almost entirely on the degree of cooperation extended by the various distributors. This season there were between 40 and 50 carlot distributors, many of whom did not appreciate the value or the necessity of this work and therefore were not as willing to cooperate as some of the distributors who, having had more experience in past seasons, valued the service more highly. It is to be hoped that the government office another season can be accorded unanimous support in this very important work in order that the service rendered can be of the greatest value to all concerned.

From a number of different angles it would appear that success in the marketing of Imperial Valley cantaloupes depends largely upon the degree of cooperation which the various distributors will undertake. There are a number of ways by which savings in the cost of operation can be effected by the willingness on the part of the distributors to work along the same lines without in any way suggesting a combination of shippers in restraint of trade.

### Consumer Advertising

One of the most important of the possibilities which has been overlooked to date is the matter of consumer advertising which could be handled effectively at a very small expense per crate if the distributors would join forces on a national advertising program designed to increase the consumer demand for cantaloupes at the peak of the season. All factors in the deal this year knew at the start of the season that shipments would greatly exceed those of any previous year, and furthermore that the peak would mean exceedingly heavy shipments for a comparatively short time, and that the normal carlot quota of many receiving markets would have to be exceeded during a part of the season. One of the large national advertising agencies attempted, just before the season opened, to interest the distributors in a comparatively inexpensive advertising campaign to run for a week or 10 days in the large city dailies at the time when heaviest supplies would be available. To the utter amazement of those who have had the value of consumer advertising demonstrated on other commodities, the factors who had the most at stake refused to take any action along this line. There is no longer any doubt but that a carefully planned advertising campaign conducted through the proper publications will materially increase the consumption of any food product. Of course considerable advertising is done by the distributors to the jobbing trade throughout the country, each shipper emphasizing his own particular brand, but only one organization so far has invested any money in consumer advertising.

To anyone who has given the matter study and watched the results, it is almost unbelievable that the operators in a deal representing an investment of millions of dollars would deliberately reject a business proposition in the face of a situation such as existed this year—a proposition which, at least, would have materially lessened the risk in the marketing of these cantaloupes, and would have stimulated the consumer demand.

### Wraps Should be Discarded

It has been repeatedly demonstrated that unwrapped or "naked" cantaloupes will carry better than wrapped stock, but on many markets where both kinds are available the wrapped cantaloupes command a premium, and therefore the custom is continued because the trade seems to demand it. Cooperation on the part of the distributors to eliminate the use of wraps would save more than enough to pay for a well directed national consumer advertising campaign, would improve the carrying quality of the melons, and would remove the temptation of hiding immature and poor quality melons under a wrap. If no wrapped stock were available, the premium would be more justly paid for strictly quality melons which the trade could recognize at a glance.

### Heavy Losses

It is needless to point out that as a result of heavy shipments to many markets, returns were far from satisfactory, particularly to the growers and shippers in the later producing areas of the valley.

A number of shippers whose acreage was located in the later producing areas of the valley will be forced to accept heavy losses this season on account of net returns being less than the advance guaranteed to the growers. It is probable that some of the smaller shippers interested in the deal for the first time will not be on hand again next season. Losses to both growers and shippers as a result of this past season have been very heavy, and the ultimate outcome has not yet been determined. However, it is reasonable to presume that certain risks can be eliminated from the deal if the growers and shippers will exercise a greater degree of cooperation in the future along the lines indicated above.

### Constructive Cooperation a Necessity

Each season for several years the distributors, facing a larger acreage and increasing shipments, have been haunted with the fear of overproduction. They have actually hoped for a car shortage or any other factor which would reduce the shipments. Some students of the problem believe that the Imperial Valley cantaloupe deal is suffering from the effects of too much or at least a destructive type of competition on the producing end. With this year's experience as a lesson, either the distributors must take a more constructive atatitude in the future or else the growers will gradually take the marketing more and more into their own hands. The danger of overproduction can be minimized through organized consumer advertising, large savings can be effected in the cost of handling through common agreement. If the shippers are not willing or are unable to work collectively along constructive lines in the marketing of the crop, the time will probably come before long when the growers will organize in such a way as to make possible the carrying out of a more progressive policy.

## CALIFORNIA LIMA BEAN GROWERS ASSOCIATION—REPORT FOR 1921

(Continued from Page 99)

direction, but need the membership support of more growers to enable us to make a nearer approach to this goal.

### Saving to Members

The bags and twine which the members recently purchased through the association will, conservatively figured, show them a total saving of between $15,000 and $20,000 as compared with what they would have paid if they had purchased from dealers. This added to a very substantial saving made in fire insurance cost due to special low rate secured on account of volume of insurance carried, would considerably more than pay the annual salaries of the manager, bookkeeper and stenographers together with office rental and supplies.

### Results Obtained

While the association's average price on 1920 and 1921 crops was unquestionably higher than the average price received by outside growers, it is certain that the growers would not only be able to secure a larger part of the consumer's dollar, without increasing the retail price, but several other benefits would accrue to the industry if an appreciably larger percentage of the growers would place their membership with the association.

Our meaning in the matter of securing for the producer a larger part of the consumer's dollar without increasing the retail price is well illustrated in what happened in the Lima bean market the past few months. Growers, not members of the association, sold many thousand bags to dealers at around 5½ cents, and a little later these same beans were sold by the dealers at around 9 cents and retailed to the consumer at 15 cents. This meant that the outside grower received about 36 per cent of the consumer's dollar. On the other hand, the association sold a good many thousand bags at 9 cents or higher, and the grower members' pool received the benefit of about 60 per cent instead of 36 per cent of the consumer's dollar.

Several other farm products have successful minority control cooperative marketing associations, notably cranberries, dairy products, poultry and eggs. The decision as to the value of an association having a minority control of the marketing of a product must rest with the members. Private gain or higher price is important, but it should not be considered the only worth while advantage of cooperative marketing, and it may be well to keep considering what would the grower have received if there had been no association?

### Returns and Payments

Prices ruled high at the opening of the 1917-1918 and 1919 crop seasons, and it was possible each of those years to advance the growers 5 cents per pound within about 30 days after the delivery of his beans to a warehouse. In 1920 and 1921 the much lower prevailing prices and the tightness of money made it impossible or impracticable to advance more than 2 cents per pound.

While fundamentally or theoretically the correct principle of cooperative marketing is to make payments to the grower members only as funds become available from the proceeds of sales, this method, if strictly adhered to, would work a hardship upon a large majority, so from a practical standpoint it becomes necessary to work out a plan that will be safe and yet give as liberal financial assistance as possible to members who require it.

Since the 2 cents per pound payment has not seemed to meet the need of many of our growers, the manager has recently secured the promise of large banks to finance the association in such a way that, with the approval of our board of directors, it will be possible around tax payment time in the fall to make further (above the 2 cents per pound) advance to members who so desire in amount to bring their total advance up to approximately 70 per cent of the estimated total recleaned weight value of their crop. This would mean 4 cents if growers selling price was around 6 cents, and 3½ cents if growers price should be around 5 cents per pound. The plan will probably call for members giving their notes to the association for the difference between their first advance payment of 2 cents per pound and this second advance, the notes to be liquidated by amounts due the grower from the association as funds become available from sales. However, this money will be obtained by the association and furnished to the member at less than current local bank rates.

### Stocks and Crop Prospects

All varieties of beans in the United States are more closely cleaned up now than they have been at this corresponding time for a number of years. This is due to very light total production last year and to very light importation of foreign grown beans, as stocks have moved into consumption rather slowly since prices jumped to 8 and 9 cents in March and Arpil.

California's 1922 crop acreage planted to various varieties of white beans is considerably increased over last year, and the growing plants are looking well and promising at this time. Similar report comes to us regarding increased acreage and crop prospects from the other large bean producing states of Michigan, New York, Colorado and New Mexico.

A cablegram just received from U. S. Consul Carter, through the state department, in answer to our inquiry as to Lima bean and crop and market conditions upon the Island of Madagascar, advises that the acreage planted to Limas there this season is 41,000 and that the quality of the growing crop now promises to be good. The total production is estimated as 19,000 tons, or 380,000 hundred pound bags, of which about 60,000 are reported sold.

You will note this indicates an estimated yield of about 950 pounds per acre.

Consul Carter also reports about 60,000 bags of old crop stock remaining unsold, with no buyers. England is reported to be receiving the bulk of the shipments from Madagascar, and it is estimated that about 160,000 bags of 1921 crop and 240,000 bags of older crops of Madagascar Limas are in storage in England unsold. We understand from the message that local bean dealers in Madagascar are trying to make sales of the coming crop at about 3 cents per pound there, but finding no buyers at present.

### Our Position

California Lima Bean Growers Association has established excellent market connections and facilities, and has good standing with the wholesale trade of the United States. It has through a term of years demonstrated its ability to sell large volume, and undoubtedly it could now easily sell a much larger percentage of the crop and at the same time secure better returns to the growers with greater satisfaction to distributors and equal or better satisfaction to consumers. Larger acreage and membership is required to accomplish this, and to this end we bespeak the continued and increased loyalty and effort of our present membership. The directors and employees of the association will do their best under the limits which are placed by the size and strength of our present organization. Suggestions which any member may offer for the good of the association will be appreciated and given thoughtful attention.

## COTTON GROWERS COOPERATE IN ALABAMA

About 30 per cent of Alabama's cotton crop is now under contract for cooperative marketing. 11,375 growers have signed up cotton marketing contract with the Alabama Farm Bureau Federation. This membership represents a production of 169,000 bales.

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Utah reports an unusually heavy early flow of honey. In the Salt River Valley of Arizona the flow thus far is said to have been one of the poorest ever experienced, as the mesquite crop was almost a failure. A good crop of alfalfa and cotton honey is expected later in the valley.


# FUMIGATION—With Liquid Gas
## —Endorsed by Citrus Pest Control School

FROM reports made at the Citrus Pest Control School, held at Pomona recently, the superiority of fumigation as a means of combating scale is more definitely established than ever before.

In a well-prepared paper given by J. L. Prizer, superintendent of Bastanchury Ranch of Fullerton, fumigation was recommended as the best known means of controlling scale.

H. J. Ryan, horticultural commissioner of Los Angeles County, presented a number of charts showing the excellent results obtained by fumigation with liquid gas. In the upkeep of orchards it was shown that liquid gas registered 78%, while the next best method recorded 68%. Orchards neither fumigated or sprayed during the past year showed a deterioration of 45%, Mr. Ryan stated.

In tests made by M. B. Rounds, entomologist for the Azusa Foothill Citrus Co., liquid gas killed 93% of the insects, while the next best method destroyed 83%. Of the insects subjected to liquid gas, in a total of 8000 examined only 1.3% remained alive.

It was brought out during the meeting that liquid gas is fully as effective as either of the other methods of fumigation, and more economical. It was also pointed out that liquid gas is easier to handle and not so hard on the clothes or tents, and, therefore, superior in every way.

**Use Aero-Brand Hydrocyanic Acid and our devices for its application to obtain the best results in fumigation. Aero-Brand Acid diffused with our newly-perfected Jackson Pump is the most effective scale eliminator on the market, combining Accuracy, Simplicity, Safety and Dependability.**

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# Fumigation Recommendations

**By R. S. Woglum Before Citrus Growers Institute at Pomona**

AFTER a season of severe crop loss in some districts and prospects in some cases of a short crop the coming season, many growers are looking toward a reduction in operating expenses. Fumigation, a costly practice, is likely to be one of the first cut. My observation has been that if any considerable amount of scale exists in an orchard the grower can ill afford not to attempt control if he can possibly finance the operation. There are already too many examples of four, six and upward box trees of high class fruit developing into two, one or even one-half box trees of inferior fruit from one or more season's neglect in scale control. By all means the grower should keep ahead of the scale.

Those of you who have decided to fumigate, and from my experience the spray is yet to be found that can equal fumigation in effectiveness for scale control, have the option of three methods; the liquid, the cyanofumer and the pot system. Which system is superior? Considering the discussions of the other speakers today and the prevailing opinion of many fumigators and inspectors, there appears to be no evident outstanding superiority of one system over the others in commercial work. Particularly so in these districts of black scale most resistant to cyanide gas where most of the comparative tests have been made. The experience of most speakers, however, does appear to indicate a slight difference in results between the different systems, and in all cases pot work appears the least favored, while liquid gas has an even draw with the cyanofumer.

Upwards of 75 per cent of all fumigation in California this last year was done with liquid gas. Districts in which the work was confined exclusively to this method appear to be less agitated over poor results than those in which the smaller proportion of the work was done with the liquid gas method. In Tulare County, a territory given over exclusively to liquid gas, the county commissioner reports that there was not a single poor job in over 2000 acres treated. Most other exclusively liquid gas districts report generally satisfactory work where the fundamentals of successful fumigation were carefully followed. Thus, when we consider that the bulk of the fumigation was done with liquid gas last year; that with the exception of a few districts and these for the most part districts in which the scale appears to be resistant to gas, the work was satisfactory; that in these resistant scale districts the cyanofumer and pot proved in no way superior, if the equal, of liquid gas; that the liquid gas apparatus is now entirely dependable and that the method is preferred by practically all fumigators—when we consider all these features it would appear that liquid gas is justly entitled to the position of predominant use it now occupies.

### Fundamentals of Successful Fumigation

Trees should be taped, not guessed, and dosed according to schedule.

A careful, experienced foreman is the keystone to safe, effective fumigation.

Use heavy dosages. Start with an 85 per cent schedule, if possible. Raise to 100 per cent as soon as the trees will stand the heavier dosage.

Fumigation during even a moderate wind tends toward poor results, and is advised against.

It is poor policy to fumigate orchards heavy in cover crop.

### Black Scale

Fumigate when in the youngest stages of development. Season generally extends August to December, some coastwise orchards excepted. Use 85 to 100 per cent dosage for one hour. Resistant type scale requires even more concentrated gas. If double fumigation, the second treatment should follow the first by two or three months.

### Red Scale

Middle of December to April is preferred season to fumigate for resistant red scale. One hundred twenty-five per cent schedule is commonly used on lemons, 100 to 110 per cent on oranges. Ordinary red scale can be fumigated at any time of year with 85 to 100 per cent schedule. Exposure 45 minutes or one hour.

### Citricola Scale

Fumigate during July or August with 100 per cent schedule; first part of September with 110 per cent schedule, if possible. Do not fumigate later than the middle of September.

### Purple Scale

Use 100 per cent dosage, if possible; never less than 85 per cent. Exposure one hour. Do not fumigate during the winter.

Fumigation of black or purple scales at temperatures near the freezing point often results in poorer scale kill than at higher temperatures.

### Cyanofumer

Test the cyanofumer for accuracy two or three times a week.

Stir the cyanide solution in solution tank before using.

Before fumigating a row, generate two ounce charges until the machine is filled with gas.

Cyanide solution will crystallize at temperatures around 40 degrees Fahrenheit.

The same dosage schedule is used for cyanofumer as for pots. For liquid gas a slightly different schedule is used in which the dosage for large trees is somewhat increased.

Liquid gas is inflammable. Keep open flames at a distance from drums or applicators.

Inspect and test applicators for accuracy every day before starting work.

Direct the nozzles of applicators away from the trunks of small trees to avoid injury.

The nozzles of applicators should not be placed among weeds or cover crop, and should be within the foliage fringe of the tree.

Results from atomized liquid gas appear to be most satisfactory at warm temperatures. Preferably should it be used at temperatures above 50 degrees.

Vaporized liquid gas gives a better diffusion within the tent than when atomized through a nozzle.

Eighteen cubic centimeters of high purity liquid gas is equivalent to one ounce of sodium cyanide for scale kill under field conditions.

### Injury

Avoid fumigating trees sprayed with Bordeaux mixture, or painted with Bordeaux paste high above the trunks, within ten months after application.

Fumigation with pot or cyanofumer should be stopped at 36 on damp nights, and on dry nights when the first warnings indicate that the temperature is likely to fall to freezing or below. Complete safety demands stopping at 43 to 45 degrees Fahrenheit.

Fumigation with wet tents is the cause of severe injury. Work should be stopped before tents become wet.

Sunshine is one of the most harmful agents to plants in connection with fumigation. It exerts an influence both during and after the treatment. Safe sunlight fumigation requires the proper knowledge of dosage, exposure and temperature influences. Without this knowledge daylight fumigation should not be attempted.

In the coastwise districts it is generally unsafe to fumigate above 75 degrees Fahrenheit; in hot interior districts where the trees harden up in summer, work appears to be carried on with safety even as high as 85 degrees.

Sulphuric acid will burn canvas. Therefore care should be exercised to avoid the residue from cyanofumer or pots coming into contact with tents.

Fumigation during periods of desert or "electric" winds sometimes produces severe fruit injury.

Trees in bloom can be fumigated with safety with moderate dosages.

Fumigation should precede rather than follow an irrigation.

Hydrocyanic acid is one of the most deadly gases known. Particular care should be exercised in handling liquid gas. Two men should always be present when filling the machine. If a man is overcome by gas have him breathe ammonia fumes and induce respiration by movement of arms and walking, if possible.

The grower might well keep a watchful eye on his fumigation. At such times a midnight pot of coffee and doughnuts for the crew might prove a good investment.

### THE LOS ANGELES COUNTY FAIR

The directors of the Los Angeles County Fair to be held at Pomona October 17-20, are making rapid progress with the plans for holding a big show. A large tract of land has been secured and plans drawn for permanent buildings and a race course. Part of the buildings are now under way. The fair ground and improvements are being built by the people of Pomona and are designed for the holding of an annual Los Angeles County agricultural exhibit. The County of Los Angeles has appropriated $10,000 to be offered as premiums, and Pomona has added $4,000 more to this fund, making one of the largest agricultural premium lists in California. In the livestock department judges of national reputation have been secured and from present indications one of the largest livestock shows ever seen in California will be staged at Pomona this fall.


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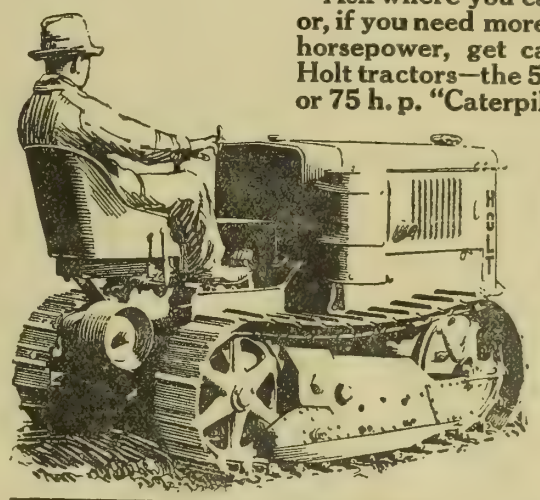

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# Moving Valencias

By Ernest Braunton

THE task of moving 7,800 Valencia orange trees, six years old, on the Limoneira ranch, Santa Paula, has been completed. The task was begun the last week in May and ended July 15. But commencing April 1 and continuing until the commercial transplanting began, about 50 trees were moved, several by each of several methods, such as bare rooted, balled, boxed, heavily pruned, lightly pruned, partially defoliated, completed defoliated, etc.

A Cultivator representative makes regular pilgrimages to this ranch to view the work and its progress, and while much of interest may be recorded no definite conclusions can be drawn. One curious fact is that transplanted trees have ranged in "breaking out' with new growth, from 10 to 67 days, while two moved early have not yet resumed top growths, though bark on even the smallest twigs is still green, tender and juicy.

But two changes were made after the work was well under way. First, the crane was discarded as being of no use for bare root trees, but will be employed on balled or boxed trees used in replacement. The ropes formerly tied about roots are therefore dispensed with, saving time and material; and one man, with help of loader, can easily land trees on the truck.

At the earnest solicitation of two friends, recognized horticulturists of standing, Mr. Culbertson put on two additional and competent men to prune roots with greater care. These trees will be recorded and results watched in years to come. In addition in every other row the root stubs will be painted. A careful examination of the transplanted orchard makes the observer quite exultant, for it would appear that success is to result from this great experiment. The work has been splendidly executed. The total cost, including sharpening of tools and other incidentals, will not vary much either side of $2.50 a tree.

The trees in the trial plat are in all stages. The boxed trees started first and strongest, perhaps; the balled trees are a good second, but the bare root trees have also started, and as their transplanting cost but half or less than those boxed or balled, we will have to wait and get final results. Will the boxed or balled trees yield a year before the others? And will the crop more than pay for the extra cost? Will the trees for all time or for a few years prove in any or all ways the best? These questions the Cultivator will endeavor to answer when definite results have been noted or as soon as fairly intelligent forecasts can be made.

# California Field Crops, July 1

By California Cooperative Crop Reporting Service

E. E. Kaufman, statistician, California Cooperative Crop Reporting Service, comments:

### Indian Corn

Acreage estimated same as last year when 116,000 acres were grown for all purposes.

Condition 90 per cent nomal as compared with 87 last year and a 10 year average of 90. Indicated production 4,072,000 bushels. United States planting 103,234,000 acres. Production 2,860,245,000 bushels.

### Wheat

Wheat 91 per cent normal as compared with 80 last year and a 10 year average of 78. Preliminary estimate of area harvested 693,000 acres, probable crop 13,243,000 bushels.

United States production forecast winter wheat 569,276,000 bushels; spring wheat, 247,660,000 bushels.

### Oats

Crop improved slightly the past month. Present forecast of production about 4,859,000 bushels compared with 3,780,000 last year. No change in acreage.

United States oats 74.4 per cent normal as compared with 77.6 last year and a 10 year average of 85.5. Forecast 1,186,626,000 bushels.

### Barley

The barley crop is estimated at about 36,720,000 bushels.

U. S. production forecast at 181,586,000 bushels, last year's, 151,181,000.

### Rice

Area sown to rice 142,000 acres. Sutter, Butte and Yolo Counties show slight increase, decrease in Glenn, little change in Colusa. Assuming average conditions until harvest and that the estimated acreage planted will all be harvested, forecasted production is 3,655,000 bags—100 pounds each.

Estimated area planted in the United States is 1,009,000 acres, producing 39,085,000 bushels.

### Potatoes

Potatoes show slight increase planted as compared with 1921, 74,000 acres, this year about 76,000. Condition 95 per cent normal. Forecast of production indicates 11,335,000 bushels as against 10,064,000 in 1921.

In the United States production estimated about 428,607,000 bushels, as compared with 346,823,000 in 1921.

### Sweet Potatoes

Area planted 9,000 acres. The condition is 94 per cent normal as compared with 93 last year and a 10 year average of 93.

In the United States there has been a slight increase in the area planted.

### Grain Sorghums

Slight decrease in the area planted, 133,000 acres against 145,000 last year. Condition slightly better, total production about 120,000 tons.

### Cotton

The estimated area of cotton in California, including the Imperial Valley, planted and standing as of June 25, about 210,000 acres as compared with 140,000 in 1921. Condition on June 25 showed material improvement during the month, and forecast of production would indicate about 123,000 bales. Total acre estimated 145,000 acres in lower California, California proper, some 65,000 acres. Revised figures for 1921 crop show 140,000 acres picked, including all the Imperial Valley, with a production of 75,600 bales, 500 pounds gross.

### Hops

Reports as of July 1 from hop growers and dealers indicate decrease in acreage, leaving estimated total for the state at 11,000 acres as compared with 12,000 in 1921. Condition of the crop better than last year, indicated production about 100,000 bales.

### Sugar Beets

Condition about 85 per cent normal as compared with 85 last year and a 10 year average of 89. Preliminary estimate on acreage for all factories available about third week in July.

### Beans

Preliminary estimate Lima beans (which includes Baby Limas), about 125,000 acres, as compared with 101,000 acres harvested in 1921.

Beans other than Limas increase of 18 per cent, or 201,000 acres as against 171,000 harvested last year. Black eye acreage in Orange County greatly reduced. Santa Barbara shows increase in area planted to beans other than Limas, predominating variety being Small White.

Condition of all beans estimated 90 per cent normal as compared with 80 last year and a 10 year average of 88.


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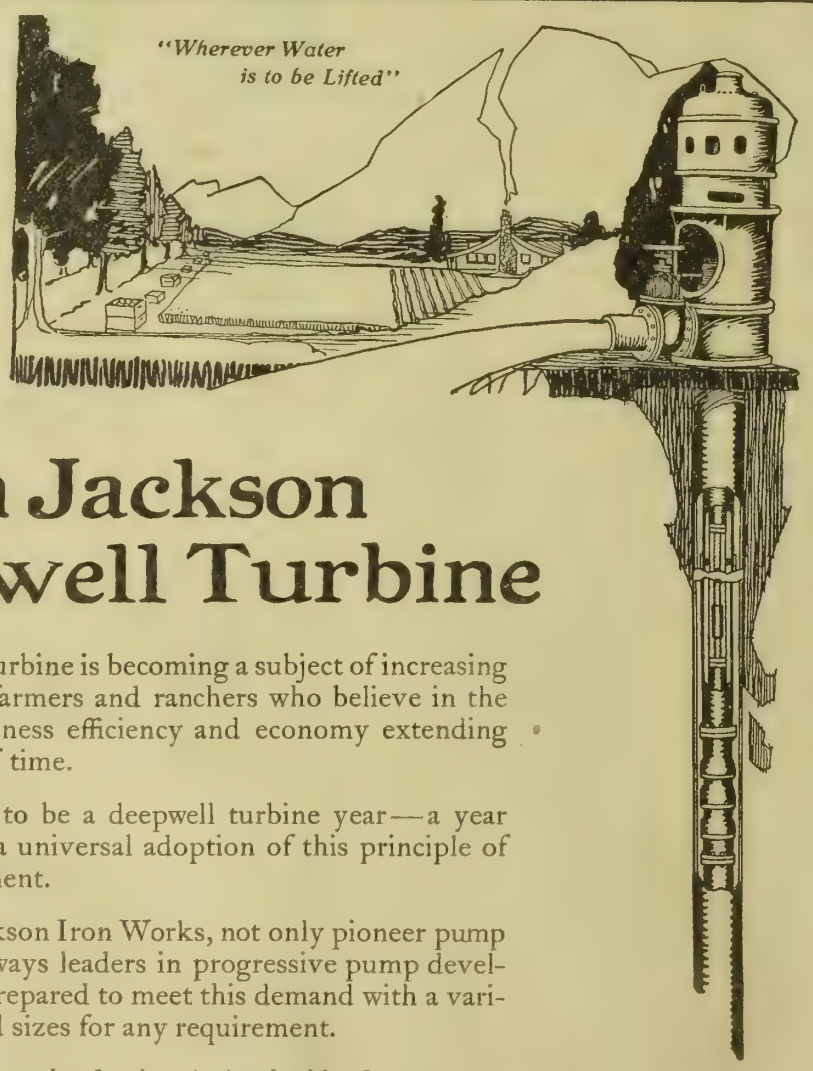


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## GUMMING OF FRUIT TREES

By Leonard Coates,

From Cultivator's Questions and Answers column it would seem that the gumming of fruit trees is more prevalent, and its cure, or prevention, no better understood. The cause may be a mechanical injury, or it may be a bacterial disease superinduced by uncongenial conditions. No doubt an excessive early flow of sap, which may be checked by subsequent cold weather, is not conducive to the well being of a tree, especially if the bark of the tree does not expand or check readily or naturally. For this reason a gentle slitting of the bark, if done early enough, is often helpful. To save a tree, like an apricot, cherry or prune, which suddenly begins to exude globules of gum in the spring, it is absolutely necessary to act very promptly, and, perhaps, vigorously. Use the knife at once, cutting out the bark where discolored by gumming. If a branch, or the whole top, is very badly affected, saw off the branch or branches. Cover cut places with a Bordeaux paste. In nearly every case the tree may be saved, but all depends upon prompt action at the first signs of gumming.

Where conditions are more or less severe, as to climate, heavy rainfall, or sudden changes of temperature in the spring, prunes and apricots on peach root are less liable to gum than those on Myrobolan root.

## BEAUMONT HAS HAD SUCCESSFUL CHERRY SEASON

Manager A. H. Smith of the Beaumont Fruit Growers Association writes:

"This association has handled 175 tons of cherries, and a careful estimate of the fruit handled outside the association and of that sold by individual growers at their orchards, is 150 tons, so that this valley has produced in the neighborhood of 325 tons of cherries this year.

"This has been a very successful season. The best prices were received for the Bings this year, as the market was best at the time this va-

riety ripened. About 50 tons of Royal Annes were sent to the Golden State Canneries at Ontario from this valley, and the rest of the cherries were sold in the green fruit market, shipments being made both east and west of Beaumont.

"There were some trees 12 years old which bore six or seven hundred pounds, and many which averaged three to four hundred pounds apiece, and several orchards of five acres had from 14 to 18 tons."

## CITRUS GROWERS' DEPARTMENT

The following is the executive committee of the newly formed citrus department of the Los Angeles farm bureau: Col. Frank Firey, Pomona, San Antonio district; B. W. Chambers, Los Angeles. La Canada Valley district; B. Bolle, Lamanda Park. Pasadena and Lamanda Park district: Harry Damerel. Covina, Covina district; C. J. Pegler, Sierra Madre, Sierra Madre district; R. F. Radford, Monrovia, Monrovia district; M. B. Rounds, Azusa, Azusa district; W. G. Fields, San Dimas, San Dimas district; Harry Wood, Puente, North Whittier Heights district; Fred Palmer, Walnut, Spadra and Walnut districts; J. B. Vail, Claremont, La Verne district; F. L. Maurer, Rivera, Rivera district; Sam Mendenhall, Whittier, Whittier district; J. H. Allen, San Fernando, San Fernando district; L. Loyd, Owensmouth and Chatsworth district; C. W. Cook, Burbank, Burbank district.

## GRAVENSTEIN GROWERS AGREE ON SHIPPING

At a special meeting of Sebastopol and Napa Gravenstein apple shippers and packers at Sebastopol July 5, cooperating with the state department of agriculture and the county horticultural commission, it was decided that no carload shipments should be permitted to move before July 17 and that nothing but 3½ and 4 tier stock should move up to July 20. There will be no changes in the inspection policy that prevailed last season, either as to charges, fees or quality of fruit admitted to the different grades.

## 50,000 ACRES OF NEW SUN MAIDS

Vineyards planted in California this year under the Sun Maid banner should reach a total of about 50,000 acres, including Malaga grapes, according to an estimate which has been made by F. C. Goodwin, head of the crop contract department of the Sun Maid Raisin Growers.

Of this number, Goodwin estimates that 10,000 acres have been put in Malagas, 30,000 acres in Thompsons and the remainder in Sultanas, Muscats, Feherzagos and other varieties.

## NEW YORK PLANT SPECIALIST AT POMONA COLLEGE

Dr. A. B. Stout of the New York Botanical Gardens at Bronx Park is to spend a year's leave of absence from New York at Pomona College. Dr. Stout describes as his particular field, "that of sterility and fertility with reference to crop production." It is expected that his work in a new department of horticulture will contribute definitely to the upbuilding and welfare of the community.

## THIS YEAR'S PEACH CROP

Peach crop in California is estimated by the U. S. D. A. at 16,863,000 bushels from indications on July 1. Last year's crop was 12,848,000 bushels. Estimate for the nation is 54,302,000 bushels this season. California's nearest competitor as a peach state is Georgia with 5,206,000 bushel crop.

## WOULD LIKE THEIR GROVES BACK

Cuban orange and grape fruit packers are repenting at leisure. If an orange or a grape fruit tree grew as fast as sugar cane, there would be less remorse. When sugar prices in the United States began to rise and then sky-rocket to the well-remembered 30 cents vast stretches of Cuban orange groves were torn up and planted in sugar cane; other groves were abandoned entirely and have received no care for the past three or four years, Consul Horace J. Dickinson at Antilla, Cuba, states in a report to the department of commerce. As a result of this but 1,000 boxes of grape fruit will be shipped from Omaja this year, while less than 1,000 boxes have been shipped from Sabanaso. At Omaja there are about 2,000 acres still left of grape fruit and oranges, but less than half have received little or no care during the last few years.

## SHIPPING POINT INSPECTION

The shipping point inspection service on fruits and vegetables, inaugurated as a result of a memorandum of agreement between the state department of agriculture and the federal bureau of markets and crop estimates, has now been in operation a little less than two years, and during that time about 16,000 carlots of fruits and vegetables have been inspected and certified. The demand for the inspection service is constantly increasing and, based on present indications, it appears that during the coming 12 months as many carloads will be inspected as during the past two years.

The service has now been in operation long enough to demonstrate its practicability and commercial value. The certificates of inspection issued by the state department of agriculture are prima facie evidence in the courts of this state and are accepted as evidence in any court in the country. They indicate that a trained, impartial third party in the form of the state department of agriculture has examined the carload of fruits or vegetables in question and has described its quality and condition as fairly and accurately as possible. The certificates are continually being used in the case of railroad claims against the carriers, and on the other hand, the carriers, just as anxious to know the exact facts surrounding a given shipment as the shipper, are paying more and more attention to the work. The future outlook for the work is promising.—F. W. Read, chief, bureau of standardization, California department of agriculture.

## THE COTTON TRADE

Fluctuations in cotton prices continued wide and irregular during the week ending July 14, accompanied by reports of continued unsettled financial and political conditions abroad, and of serious spreading of the boll weevil with consequent uneasiness as to the probable extent of damage from this and other insect enemies of the crop. On July 14 the bureau of the census reported that consumption of cotton by American mills during the month of June amounted to 507,869 bales, exclusive of linters, compared with 461,917 bales in June 1921. The census report shows also that imports of Egyptian cotton for the 11 months ending June 30, were 228,433 bales of 500 pounds, compared with 84,716 bales for the corresponding period last season.

Total stocks of cotton in the United States on June 30, in accordance with statistics compiled from reports of the bureau of the census, amounted to 3,593,966 bales, compared with 7,425,055 bales on same date lastyear.


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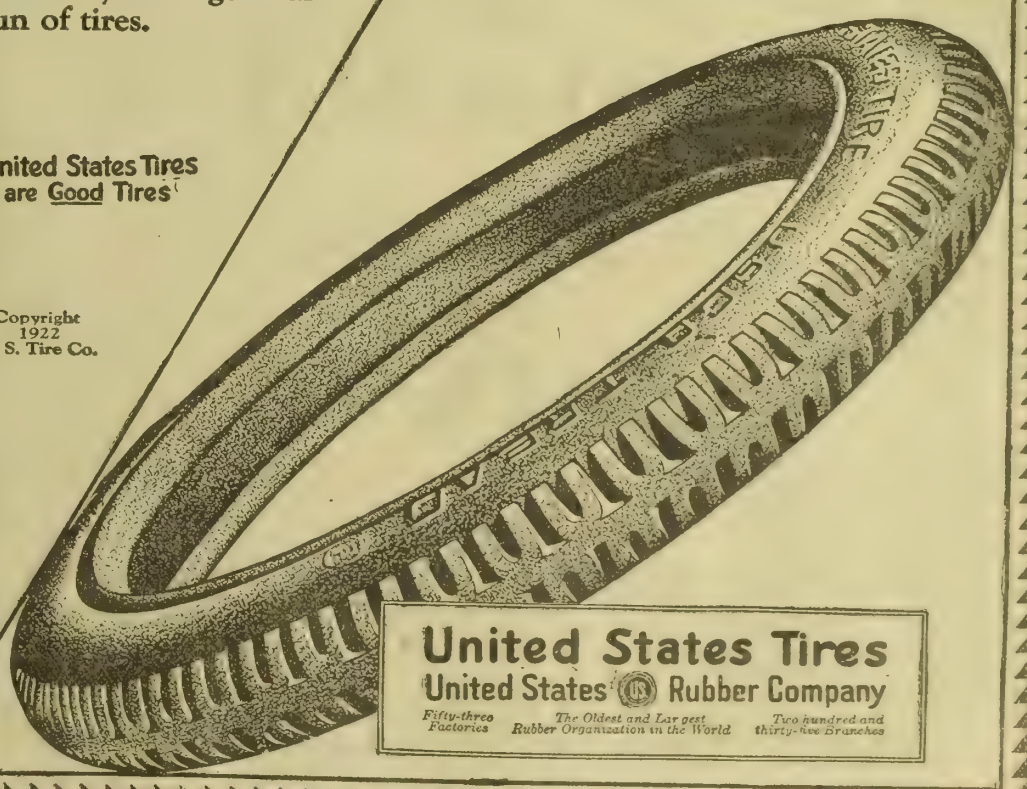

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# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Potato Second Growth

What causes potatoes to make a second growth? My potatoes looked fine, bloomed, the bloom dropped and then they began to send out new growth and are now blooming again. Is there any way to prevent this?—Subscriber, Geyserville.

There is but one cause for potato second growth—soil moisture. This may be because too late an irrigation was given, water level has risen from irrigation elsewhere, or soil is naturally very moist. There is no way to prevent it except as may be suggested by the cause. One piece of advice should be heeded, however. Under such conditions dig potatoes immediately.

### Filling Squirrel Holes

I would appreciate a reply through your column to the problem stated: In the bank of a creek, having a direct drop of some 60 feet, there is an old squirrel town. There are from three to five feet of soil above a gray hardpan or rock which crumbles after exposure to the weather. Squirrel holes extend inland, in one case causing an irrigation leak about 90 feet from the edge. Irrigation leaks have enlarged the holes, forming small caves near the outlets. I have been advised to dynamite the rock formation that it may drop down and fill up the openings; also warned not to use explosives on it, as this would open up cracks in the rock and make more leaks. What is the remedy?—Subscriber, Modesto.

A piece of land similarly worked by squirrels was once owned by the writer and reclaimed by running the squirrel and badger holes full of earth while the water was going into them. First poison the squirrels, then when water is turned on the land and finds its way into a squirrel runway, fill it with earth as fast as the water will take the earth away and until the hole is stopped. We have had some runs hold a wagon load of earth, but when the work was done it was finished and no further trouble. Holes near the bluff may be hard to fill, but if a smaller stream of water is used and earth thrown in fast enough to make a mixture the water cannot carry rapidly, the hole will soon fill, and when they are filled five or six feet below the surface there will be no further trouble. We think dynamite would close many of the holes along the bluff to advantage and would not open any that could not be filled by the method described.—J. B. N.

### Clearing Land

I want to clear land of large trees, brush and poison oak. Can you tell me cheapest and best way?—Subscriber, San Francisco.

The brush and poison oak is not a serious problem. The size, number and nature of the trees would determine the most economic procedure. Dynamite is largely used, for the least a charge will do is to blow soil, rocks, etc., from under stumps so roots are exposed for cutting. This is the cheapest and quickest way to remove the soil. On the other hand, there are effective stump pullers that will accomplish more with some kind of trees. We would advise writing to firms advertising giant powder and stump pullers in the Cultivator, stating kind, size and number of trees to be removed.

### Soil Already Filled

Property is surrounded by large elm trees. What fall blooming bulbs will grow in the yard? The roots run across yard and so fill the soil that nothing but lawn grass will grow. Shrubs and roses are soon choked out and larkspurs, zinnias and other annuals have been tried unsuccessfully. Will dahlias thrive there?—Subscriber, Porterville.

Nothing will thrive there; the soil is already too full. The top roots of elms may be cut and taken out without harm to trees. Then dig in rotted manure and plant anything in the bulb line that is in season, and it will grow.

### Rhubarb Rotting

Rhubarb roots set out last spring made vigorous growth but lately stopped, some leaves wilted. Found ants running over plants and roots. Drove them away with coal oil but found that center bud or heart of plant is dead and dry. What is the matter and the remedy?—Subscriber, East San Diego.

One could hardly diagnose such a common trouble without seeing an affected root, perhaps not them. Rhubarb roots decay in this manner without seemingly any direct cause, though of course there is one, yet every lot of any size has similar troubles. This heart rot, according to local horticulturists, is ever present.

### Gum on Pecan Trees

Kindly inform me cause of young peach trees gumming, just set out last spring; also remedy? Since writing above received my Cultivator and note article on gumming for prunes and plums. Shall I treat peach trees same way?—Subscriber, Sacramento.

Yes; also apricots and cherries, in fact all stone fruits.

### Cutting Sudan for Hay

Answering query of Chino subscriber as to when Sudan grass should be cut for hay, H. L. Musser writes:

"Sudan grass should be cut for hay just after it has bloomed and when the seed is beginning to get hard. At this stage it will dry to the best advantage and furnish the richest feed. All stock are very fond of it. It has not become popular with dairymen because they say it is not a milk producing food."

### Corn Worm in Garden

In the control of the corn worm I have had success by cutting the end of the ear square off, after the corn is well formed and the worms have not got down far. A little care will show how far they have gone, and keep cutting until the worm is found. About ten days before the corn would be ready for eating is the best time here. The ends with the worms we destroy, using care that they do not have a chance to do any more damage. We like your paper much.—Nicholas Anderson, Ramona.

### Capri Figs

I have 12 white fig trees about ten years old. Some of the figs get sour each year and will not dry Our horticultural commissioner told me to get Capri figs, but the price is a dollar a dozen, and I want a dozen for each tree. Cannot I get them cheaper, and where?—Subscriber, Hemet.

You should first determine if you have Smyrna or Calimyrna figs. If you have not, the trouble is from other cause than lack of pollination. Other figs are "fig-shaped," but those named are short-necked, broad, and flat on the lower end, some nearly the shape of a mature onion. If you have these you should purchase one or two Capri fig trees, which may be supplied by any firm advertising fig trees in the Cultivator. Some of these dealers also supply Capri figs in season.

### Army Worms

Can you give us any information in regard to army worms? How long after eggs are deposited does the worm appear?—Subscriber, Fairmead.

The common army worms, the dull-colored ones, of several species, require eight to ten days. The beet army worm and the yellow striped require about a month.

### Rust on Beans

What should be done with string beans to prevent rust or blight (turning brown of leaves long before they should)?—Subscriber, Pasadena.

Dusting with sulphur is the best preventive for rust on string beans. Blight is also controlled to some extent by sulphur, but the use of Bordeaux mixture is more effective for this disease.—D. F. R.

### Bothersome Bees

Would like to know what can be done to prevent bees from a close by apiary annoying stock. The apiary is not provided with water for bees, and they so annoy and sting people and stock that we can hardly get water for selves or stock in safety. Is there any way the apiary can be compelled to furnish water for bees, or have we any redress?—Subscriber, Elsinore.

This is an old source of trouble that nothing can change. If you could identify and impound the offending bees you might secure legal redress or at least force the owner to keep his


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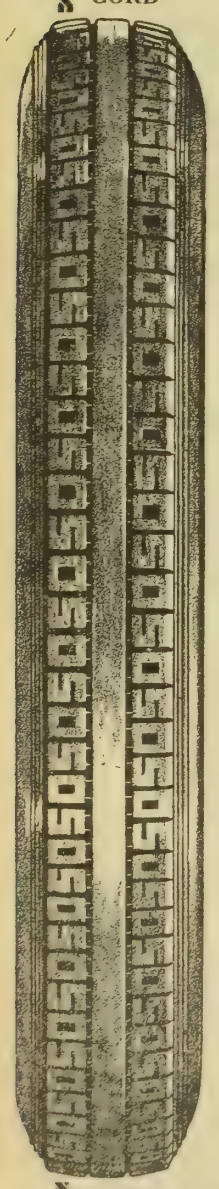

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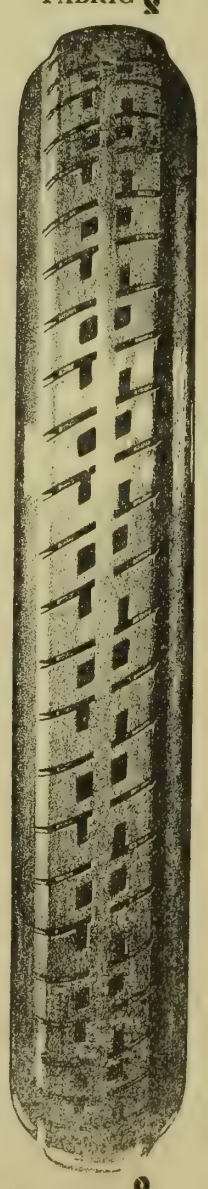

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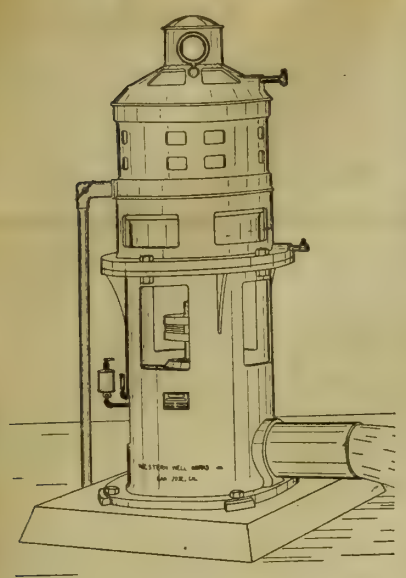

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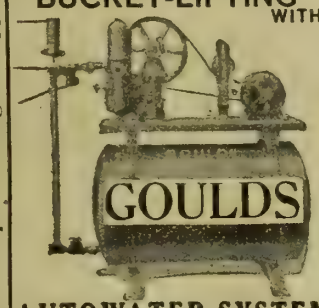


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bees from trespassing on your property. No satisfactory adjustment seems possible, for lack of provision of water for bees cannot come under the ban of the law against cruelty to animals. If one attempted to poison bees through setting vessels of poisoned water he would doubtless be liable to arrest for malicious mischief or something worse. We are sorry we cannot advise a remedy for what is evidently a great and unjust annoyance.

### Commercial Fertilizer for Potatoes

Has anyone in California had any success using commercial fertilizers in growing potatoes? If so, what was the analysis and how much per acre did they apply?—Subscriber, Springville.

Commercial fertilizers are used very extensively in growing potatoes, one carrying potash is particularly desirable. We would recommend a formula of approximately 5 per cent nitrogen, 8 per cent phosphoric acid, 1½ to 2 per cent potash at the rate of 400 pounds per acre. Communicate with your local dealer or with our advertisers who handle fertilizers, who will be glad to give you their formulas with advice on prices.—D. F. R.

### Blister Mite

I am enclosing leaves from Bartlett pear tree. Half of the leaves are so affected. What is it and what shall I do for it?—Subscriber, Devore.

This is blister mite for which spring spraying with lime-sulphur has been advised, but for two years experiments have proven that it is better to spray in the fall, just as the pear leaves commence to fall..

### Shot-hole Fungus

I am sending you a few apricots badly cracked open and otherwise ailing. The trees were sprayed with lime-sulphur just before they bloomed and have been irrigated once a month since the rains.—Subscriber, Wilmar Station.

You spray a little late; spray when first buds are open and spray with 5-5-50 Bordeaux instead of with lime-sulphur. Aside from cracking the fruits have shot-hole fungus. The moisture conditions have not been uniform, which causes cracking of skin. Either you have not irrigated heavily enough or often enough; the practice to be governed by soil texture, etc. This inconstant soil moisture always produces cracked skins.

### Weeds in Roads and Paths

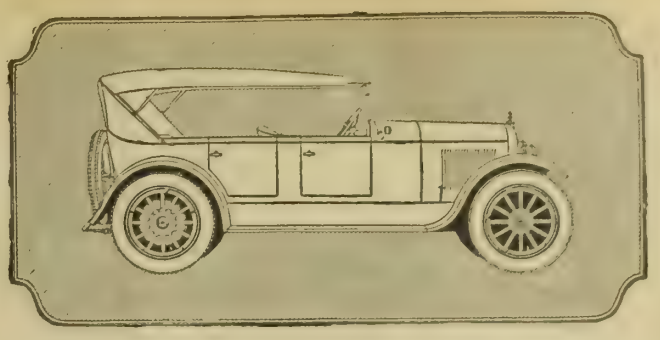
What do people do to keep graveled walks and drives free from grass and weeds? We cannot dig them out and we do not know how to fight them.—Subscriber, Tancred.

Under the above head we published formulas and treatment in the Cultivator of June 4, 1921, pages 738-9. The article is too long to republish but a copy is sent you by mail. The materials recommended by the United States department of agriculture, are caustic soda (sodium hydroxide), two pounds; or high grade concentrated lye, three pounds; white arsenic, four pounds; water to make one gallon. This mixture will make 50 gallons ready to apply to the weed infested soil. Common salt and oil are the only two other materials that are recommended as weed killers.

### Wild Strawberries

Can you tell me the name of a strawberry plant that bears its first crop in clusters of round fruit while the second crop is shaped like butterflies? They are very fine eating and also very hardy plants and can stand more alkali than other berries. Where can I get plants?—Subscriber, El Cajon.

We do not know a named variety such as you have described, but you have mentioned peculiarities common to the wild strawberry, Fragraria Chiloensis, from which our cultivated varieties came. This species also stands alkali and drouth well. The berries are not large but of finest flavor and borne in abundance. The plant is used as a ground cover, and the agricultural hall and other building at the University of California, Berkeley, are surrounded with it. Perhaps some of our readers know of a named variety having the good points mentioned.

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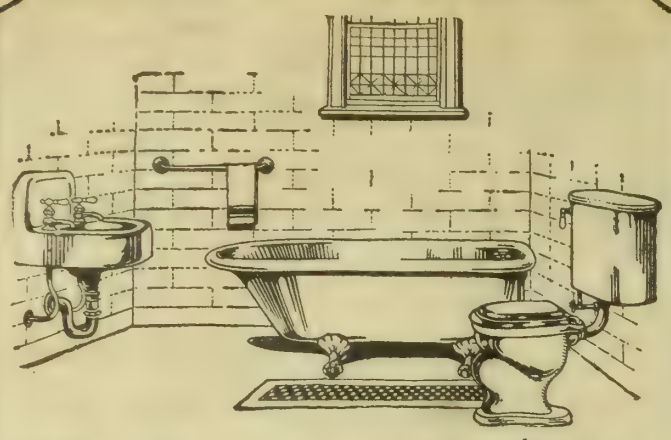

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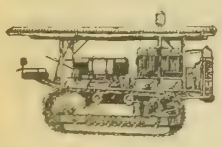

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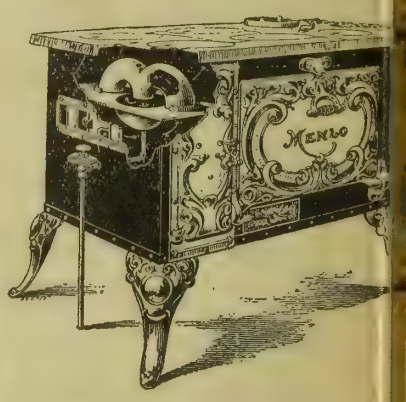


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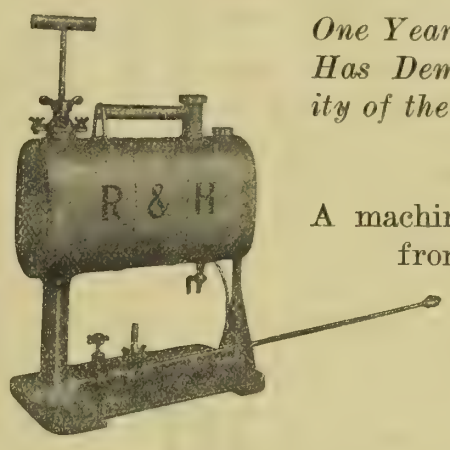


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# Household Department

### ALL IN THE STATE OF MIND

I

If you think you are beaten you are,
  If you think you dare not you don't.
If you'd like to win, but you think you
    can't,
  It's almost a cinch you won't.
If you think you'll lose, you've lost,
  For out in the world we find
Success begins with a fellow's will,
  It is all in the state of mind.
Full many a race is lost,
  Ere ever a step is run,
And many a coward fails
  Ere even his work's begun.

II

Think big and your deeds will grow,
  Think small and you'll fall behind.
Think that you can and you will,
  It's all in the state of mind.
If you think you're outclassed, you are
  You've got to think high to rise.
You've got to be sure of yourself before
  You ever can win a prize.
Life's battles don't always go
  To the strongest or fastest man,
But sooner or later the man who wins
  Is the fellow who THINKS HE CAN.

—By M. McGrath.

### THE FAIRY CHILD

**By Marianne Gauss**

**(Concluded)**

So, carrying the stranger child, she followed her path. As she went, the noises of the snow—twigs settling with its weight—seemed like footfalls of unseen passersby. The rising wind tossed the branches until they cracked like whips. Her feet ached from cold as she plunged on through the snow; in the darkness she had lost her shadowy path. And all the while the little stranger of the storm clung to her with both hands and feet.

She walked a little way down a ravine; when she climbed out she felt the full force of the wind. The snow had stopped and she could make out through the darkness a dim shape that proved to be a barn. Some one had stored wild hay there during the summer; but there was no house near by.

"Well, baby, we've found a shelter," Fay began—and stopped, for it seemed queer to be talking to the strangely silent child.

The hay in the barn was warm and fragrant. Fay gave the child a lump of sugar that she had carried for her pony. He was evidently used to caring for himself, for when she laid him down he promptly burrowed into the hay.

Hours later, warm and tired, she fell asleep.

In dreams nothing is impossible. Fay dreamed that morning came, that she opened her eyes, and that during the night the strange child had turned into Bunny. She thought she held out her arms and he leaped into them from his little bed, just as he always had. He kissed her neck and tickled her with his fingers.

She woke—in the barn. It was midnight; and her heart beat violently, for voices had startled her in her sleep. She could hear them outside the place. She remembered that her footprints were plain in the snow leading to the barn door—and by now the moon was out.

The barn door opened, and some one came in with a lantern; it was Jim.

He came running toward her. "O Jim, be careful of the baby!" she cried.

He thought that she was dreaming about Bunny.

"Jim, I'm wide awake. I found some one's baby in the snow." She stopped bewildered—for the tiny stranger had vanished.

"You must had dreamed that, Fay."

Fay was searching the hay. And she soon found the baby, who had burrowed surprisingly far into his fragrant bed.

When they reached home, it was Jim who carried the strange child into the house. As Fay was warming her chilled hands, trying to unfasten her cape, Jim's nephew, Bobby, cried out, "O Auntie Fay, it's a papoose you found! It's an Indian baby!"

"Heat some milk, Fay," said Jim. "And—I say, Bobby, get some water to wash it."

It seemed to Fay that it would break her heart to give a strange baby its bath. She brought the warmed milk, but she let Jim and Bobby wash and care for the child.

"It belongs to that Indian outfit that broke up and moved on today," said Jim. "Just possibly it's an ill-luck twin. Some of the old timers among those Indians never raise twin papooses; they think it's bad luck. They'll give them to the mission schools or leave them for some one to pick up."

"An ill luck twin, indeed!" cried Fay. "How dear, how cunning he is!"

And she touched the baby's cheek.

"It didn't have much on," said Jim: "just a blanket, and a shirt that looked to me as if it had belonged to a much older child."

Fay turned away. She thought he was going to ask her for some of Bunny's little clothes; but he did not. He dressed the papoose for the night in a night suit that belonged to Bobby.

In the morning he said to her, "Fay, I think I'd better ride up the canon, hunt up that Indian outfit and see where the youngster belongs."

He went into the next room. "Fay," he called back to her, "did you see the little shirt the papoose had on?"

"Why, no!" she answered. And then, "I think you put it in the stove, Jim. Never mind. Of course he shall have Bunny's things."

After a little the door closed behind Jim; she heard him mount and ride away, although it was scarcely light. He had not slept at all, and he was to be gone all day.

When he returned, she decided, he would find this baby dressed in Bunny's clothes. She kept them in a trunk: the dear, tiny baby colthes, the first short ones, which had long been outgrown, and the last—which would never be outgrown.

If Bunny had been there,—prattling, loving the baby, getting in her way,—what joy it would have been to give away his clothes! But the day passed, and she could not dress that other baby.

At last, when she had prepared supper and set it to keep warm, she went and dropped on her knees beside Bunny's trunk. She lifted the lid. Everything smelled of violet powder. She seized some little, rolled up stockings, undergarments and a dress. There was a celluloid duck for a baby's bath—she could not take that.

When the Indian baby was dressed in Bunny's white clothes,—it had been easier to take a Sunday frock than the rompers,—she held him in her lap and stroked his head.

"Aunt Fay," asked Bobby, "what made Uncle Jim take that little old shirt with him?"

"Why, to help find the baby's mother, I suppose. Run and fix the bed for the baby, dear. He's asleep now."

"Why don't you light a lamp? There's Uncle Jim."

Fay was laying the stranger child down when she heard Jim's step at the door.

"Did you find out about the baby, Jim?"

"Yes, and I found something else."

She and Jim had often spoken of the chance that their drowned baby might be found. Her heart beat hard.

"You know that little shirt the child had on?" asked Jim. "I knew it."

"Oh Jim—it wasn't Bunny's!"

"I was afraid to tell you. You'd had so many false clues."

"And the Indians took Bunny out of the river? Hurry, Jim! Tell me!"

He came in. Its was growing dark in the room. He put one hand on her shoulder and gently forced her down into the rocking chair. "Yes, Fay, they found him—away up in the canon. He was playing by the river."

He laid something on her lap. It was Bunny—alive—well. Bobby lighted a lamp, and Bunny woke. With a little gurgle of surprise he found himself at home.

By the next day—all over the house, underfoot, pulling himself up by daddy's leg or mother's skirt—he had forgotten that he had ever been away. The papoose was his delight.

As Jim had guessed, the papoose was an ill luck twin. But the mother, a young Indian squaw, did not believe in the old superstition. She had begged Jim to keep the poor little twin for a few days until she could find a place for it, where it would be safe from the medicine man.

"Ill luck twin!" Fay murmured. "Blessed fairy child that brought me my heart's wish!"

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**4051. Misses' Dress**—Cut in 3 Sizes: 16, 18 and 20 years. An 18 year size requires 5⅛ yards of 32 inch material. For trimming as illustrated 1⅜ yard is required. Price 10 cents.

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### HOUSEHOLD QUERIES

**Sour Cucumber Pickles**

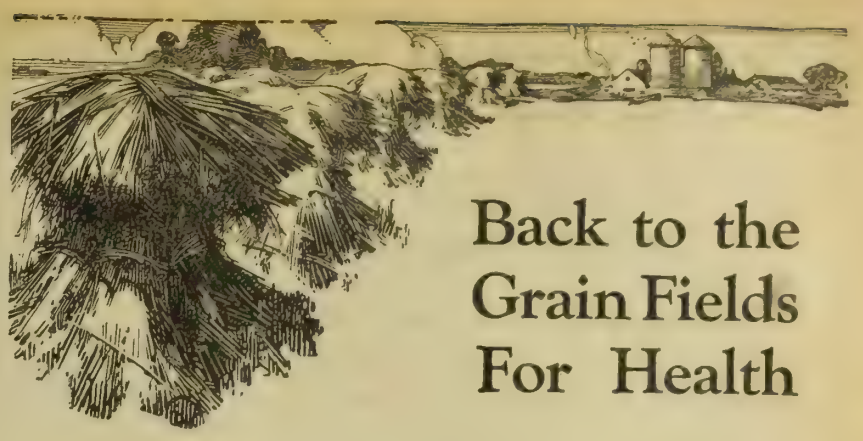
Will you kindly tell how cucumber pickles are made as ordinarily found on the general market? If the method is not possible for home use will you give method yielding results as nearly as possible the same?—Subscriber, Pasadena.

Choose small cucumbers. Prepare a brine of 2 pounds salt per gallon water. Place cucumbers in this and keep them submerged with wooden float. Store in this brine for about 4 weeks. Fermentation will take place and a scum will form. If pickles become soft add more salt. After about four weeks remove cucumbers and heat in a large amount of water to the simmering point for about 20 minutes. Discard this water and cover with fresh water. Heat to simmering point, remove from fire and let stand about two hours to soak out excess salt. If pickles tend to be soft or "flabby" add a tablespoon of alum per gallon water. Rinse in cold water. Drain. Store in strong cider vinegar of good quality until reaady for use. If at any time the pickles soften or mold, place them in fresh vinegar. Pack in wide mouth corked bottles or in jars with glass tops. Do not use metal.

**Peptin for Jelly**

I have seen in the Cultivator where you answered a subscriber about buying peptin for jelly. I have tried myself to get peptin in every store in Merced and they don't know what it is. I have such trouble getting my apple jelly jelled and I have followed directions exactly as stated in the recipes. Now if you please would be so kind and give me the firm's name where I could get that peptin. I have no luck in making jellies from apricots or pears or cherries. All I can get is thick like syrup but not really jellied. I asked in the drug store and they gave me citrus acid. Is that any good to use in jelly?—Subscriber, Merced.

See answer to "Jelly from Sweet Fruits" on page 85 of last week's Cultivator. No doubt this inquirer is using too much sugar in proportion to juice. Also, we wonder if she is not trying to make large quantities at a time. It is much better to make not more than 3 or 4 glasses at a time by quick boiling in shallow pans. Juice from sour apples requires only ½ cup of sugar added to 1 cup of juice to make it jelly. If more is added it becomes syrupy. We are sending this inquirer copy of the Cultivator of June 17 which contains a splendid article by A. W. Christie, giving directions for making jelly with fruits sweet and sour, with much pectin or little. This article is invaluable. Also we are sending address of firm carrying pectin for jelly making. With apples there will be no need of pectin added if amount of sugar is cut down as suggested. The citrus acid would not add pectin to the juice but would help to jelly it by balancing the oversupply of sugar. Remember that fresh, sour fruits like apples, cranberries, loganberries, currants, jelly easily with ½ cup sugar to 1 cup juice; apricots, peaches, pears are sweet and have little pectin so it is best to add acid juice like that from sour apples—the article by Mr. Christie explains fully why and how. We have not space here to repeat. But here is a hint. Try jellying one cup of juice; if it is syrupy add less sugar or more acid juice; if it doesn't jelly, add more sugar or juice containing pectin—apple juice. Don't mix all juice at once.

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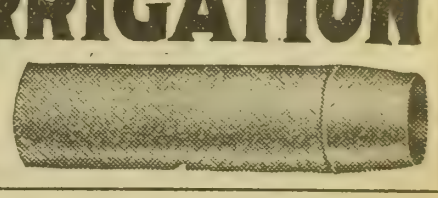

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46—REGISTERED—46
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# Livestock Problems

By R. A. Condee

THE matter of having properly fitted collars on work horses is especially important during the hot summer months.

### Properly Fitted Collars

Sore necks may be caused by overloading, improperly balanced machinery or by poor drivers who do much unnecessary backing. If none of these cause the sores, then the collar is too short. About 90 per cent of collar trouble is caused by short collars. Sometimes this can be remedied by removing some of the packing in the top of the sweat pad. In doing this, however, lumps are often left in the pad which in many cases causes a worse sore. Collars that are too long or draft that is too low may cause bunches or sores low down on the shoulders. Improperly fitted hames also cause similar trouble. In some cases this can be corrected by placing a folded grain sack between the sweat pad and the top of the collar. A large horse should have long hames, so the draft will be higher. Sores high up or in the middle of the shoulders are generally caused by wide collars.

A properly fitted collar is one that lies snugly along the sides of the neck with room enough at the bottom to allow a hand to be passed through. Sweat pads aare necessary to adjust the collar to different horses and are also made necessary by the loss of flesh; a collar that fits perfectly in the spring may be too large by fall.

### Castrate Young Boars

Most hog raisers hold their surplus young boars too long before castration. The best time to castrate young boar pigs is between six and eight weeks of age, before weaning. By performing the operation at this age the young pig is still sucking its dam and is small enough to be handled conveniently and the testicles large enough to render the operation quite simple. The objects of castration are to prevent reproduction, increase fattening propensity, better the quality of the meat and help insure docility. Every swine breeder should be competent to castrate pigs. Any one who has not performed this operation will find Farm Bulletin No. 780, U. S. Department of Agriculture, Washington, D. C., very helpful.

### Cow Comfort in Hot Weather

During the hot summer months many high producing cows are prevented from giving their normal supply of milk by carelessness of their owner in not supplying some one of the many necessary comforts for hot weather milk and butter fat production.

One of the most common of these is the furnishing of drinking water.

A cow in milk requires about 100 pounds, or 12.5 gallons, of water daily, and heavy producinig cows frequently double this amount. During hot weather a cow must have the normal supply of water and an added amount necessary for adjusting her supply from normal to hot weather needs.

The question of how often cows should be watered, when they are not kept with a constant supply before them, varies with the condition of the weather, kind of feed, etc. It is safe to say, however, that cows in milk should have water at least three times a day.

### Silo a Necessity

The silo has come to be recognized as a necessity on farms where ten or more dairy cattle are kept. In fact it is now recognized as the most profitable building on the dairy farm.

In installinig a silo make it to fit the size of your herd. The diameter should allow you to feed your herd at least two inches off the surface to prevent surface spoilage, then make it deep enough to last as long as you expect to feed during the year; for example, two inches per day for 180 days would require 30 feet of settled silage. A silo ten feet in diameter will feed 12 cows 35 pounds of silage per day. This is considered about the right amount to feed producing milk cows.

Corn, either Indian or the grain sorghums, makes the best silage.

However, it is best to choose that crop which, on your farm, can be successfully matured for silage and which gives the greatest feeding value per acre at the lowest cost.

The proper stage at which to harvest the silage crop is an important question. Cutting too green sacrifices too much growth and feed value and makes acid silage; cutting too late causes poor packing and spoilage. A good rule in harvesting Indian corn for silage is to cut just before the kernel glazes, and in the case of Dent varieties, after the dent is well formed.

In refilling a silo see that it is in ship-shape before starting the filling. In the case of wood silos it is a good plan to paint the inside with a good asphalt paint and see that the hoops are properly adjusted and tightened. Silage cut to half inch lengths and well packed is well worth the extra cost of cutting.

## INCREASED PREMIUMS AT STATE FAIR

The state fair which is to be held at Sacramento, September 2-10, has made a considerable increase in the premiums to be paid in the livestock departments this year over previous years. Especially is this true in the cattle division, which has a premium list this year of $16,167.50. For Shorthorn beef cattle the premiums total $3000, an increase of $660 over 1921; Herefords $3,000, an increase of $750. In dairy cattle an advance of $100 in each class has been made. Premiums for Holstein-Friesians total $1,436.80, dairy Shorthorns $1,514, and other dairy breeds $1,214. Premiums for milk goats total $1,004, an increase of $693 over last year's list.

Slight increases are made right down the line in the sheep division, the premiums for which total $3,882. Swine premiums are $3,971, exclusive of special prizes, such as $1,500 offered for fall and spring pigs by the National Duroc-Jersey Record Association, and $1,000 in the Poland-China futurity. Another slight increase is noted in the department of dairy products, premiums for which total $1,098.50.

The educational department also shares in the general increase in premiums. This year's list totals $3,240, an advance of $1,000 over the list of last year. In the student judging and livestock department, the premiums total $990, exclusive of special prizes from the California Cattlemen's Association, California Jersey Breeders' Association, California Swine Breeders' Association, American Shropshire Registry Association, Western Berkshire Congress and others.

## GUERNSEY SALE AT RIVERSIDE

The sale of registered Guernsey cattle to be held at the Fair Grounds in Riverside on August 24 should not be overlooked. An unusual opportunity will be presented to those needing milk producing cattle to get something good. The cattle will be sold to the highest bidder. They are yours at your bidding. No protection will be thrown around any of them. It is a most useful offering. All are splendidly bred, are good individually, are in good condition and tuberculin tested. The sale is under the management of the Pacific Pure Bred Sales Company, C. R. Thomas, sales manager, 808 Santa Fe building, San Francisco.

## PROPOSED BUTTER STANDARD

The join committee on standards has adopted a new butter standard providing that butter must contain not less than 80 per cent butter fat or not to exceed 16 per cent moisture. This is an unofficial committee representing the department of agriculture and state food control officials, and the standard will not become effective until it is finally approved by federal and state secretaries of agriculture.

# Financial Interest Jerseys

During these days of shifting ownership of purebred livestock it is refreshing to find a breeder who has built up a herd of purebred dairy cattle along constructive lines, one who has never deviated from his original objective. Such a breeder is Harry H. Cook of Chino who has during the past few years developed a herd of Financial Interest Jerseys to a point where they stand in the front rank of both producing and show Jerseys in the west. Recent butterfat records, made by Mr. Cook's Financial Interest bred Jerseys bears out the statement he made some years ago that "The Financial Interest Jerseys are the result of the nicking together and intensifying of the two greatest Jersey blood lines in America, the Golden Fern Lads and the Financial Kings, which gives them size, type, constitution, temperament, longevity and production."

One of the oustanding cows in this herd of top Jerseys, Regia Rowena, No. 394362, has just completed a 365 day record, qualifying in Class AA, and making her a gold medal cow. Regia Rowena produced 730.16 pounds butterfat from 1185.3 pounds milk in 365 days. She is a daughter of Rowena Interested Fern who has over 20 daughters in the Register of Merit. Regia is the second daughter to make the gold medal class, the other one, Fern Silver Ray, made 779 pounds butterfat in a year and was formerly state Jersey champion in her class. The record Regia Rowena, just finished, makes her the third highest Jersey butterfat cow in California, the other two being Interested Jap's Santa and Fern's Silver Ray. Regia Rowena's breeding is Golden Fern Lad on the top side and traces to Pedro and the famous sire, Stokes Pogis on the dam's side. Another cow in the Cook herd of Jerseys, that is attracting a great deal of attention among dairymen is the senior four year old, Shylock's Gay Bettie No. 476505. This splendid young cow has just finished her 365 day test as a four year old, carrying off the California state championship honors in her class. She produced 670 pounds butterfat during the year test. Shylock's Gay Bettie is a great granddaughter of Financial Countess, world champion Jersey cow in 1907, with a record of 952 pounds butterfat in one year. Financial Countess is a half sister to Financial King's Interest. This great cow proved the longevity claim for the Jersey breed by producing 20 calves in 21 years, 19 of which were heifers. The last two years of her test she produced 805 pounds butterfat and dropped three calves.

Shylock's Gay Bettie also traces to Golden Fern Lad on both her sire's and dam's side. Mr. Cook contends that this cow is another conclusive proof of the soundness, of the theory and good judgment of D. G. Whiting in his breeding plans started over 30 years ago.

This four year old has not only won a state production championship but has also qualified as a silver medal cow, (producing 500 pounds butterfat while under five years of age).

In her three year old form this cow produced 513 pounds butterfat in one year, on twice a day milking. Shylock's Gay Bettie dropped a fine bull calf at her last freshening, which has developed as a yearling, into an outstanding individual. This youngster with the breeding and production back of him should make his mark at the head of some Pacific Coast purebred Jersey herd.

All the records made at the Cook Dairy are produced under normal conditions and no attempt is made to force the animals on test. In fact, the Cook Jerseys are carried on a well equipped 40 acre dairy farm midway between Chino and Ontario, and are intended primarily to furnish milk for a high class private trade in the city of Ontario.

## GOES TO PACIFIC INTERNATIONAL

The matter of sending a California high school judging team to either the Chicago International Livestock Show or the Pacific International Livestock Show at Portland, Oregon, was one of the principal topics of discussion at the conference of California agricultural high school teachers held at Davis' farm school, July 11, 1922. A cordial invitation was received from President E. A. Stuart and Manager O. M. Plummer of the Pacific International, as well as from E. E. Elliott, state director of vocational education of Oregon, urging the California schools to send their judging team to Portland to compete with the high school teams from the other Western states.

After much discussion it was decided to accept the invitation of the Pacific International and send one or more California high school judging teams to Portland next November. It is planned to hold two large high school judging contests in California this fall, one at the California state fair in September, and one at the Southern California Fair at Riverside in October. The three winning teams from each of these two fairs will then


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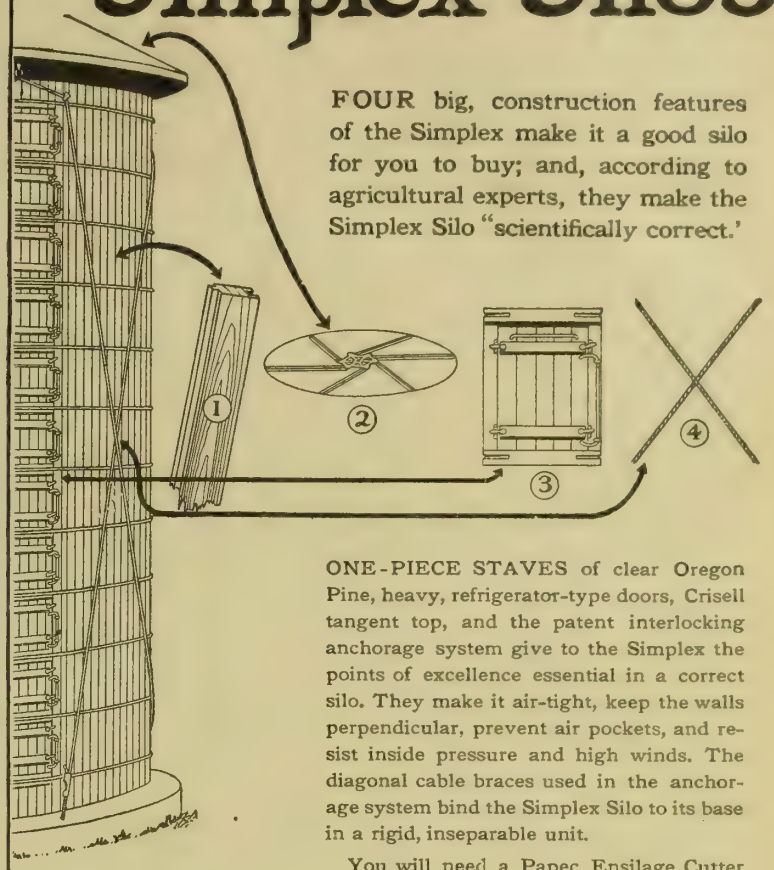
**4 Important Features of Simplex Silos**




FOUR big, construction features of the Simplex make it a good silo for you to buy; and, according to agricultural experts, they make the Simplex Silo "scientifically correct."

ONE-PIECE STAVES of clear Oregon Pine, heavy, refrigerator-type doors, Crisell tangent top, and the patent interlocking anchorage system give to the Simplex the points of excellence essential in a correct silo. They make it air-tight, keep the walls perpendicular, prevent air pockets, and resist inside pressure and high winds. The diagonal cable braces used in the anchorage system bind the Simplex Silo to its base in a rigid, inseparable unit.

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You will need a Papec Ensilage Cutter to complete your equipment for feeding ensilage. Six fans on the cutting wheel of the Papec give it a number of advantages that we will be glad to tell you about.

Tell us how many head of stock you have to feed and for how long each year you will feed ensilage, and we will tell you what capacity your silo should be.

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She is a big producer of milk with a high percentage of fat.
Our cows are the tops of all the big sales in the state for the past three years.
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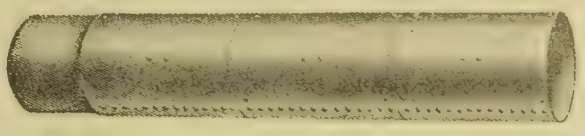

**American Steel Pipe Tank Co. P.E. Bldg., Los Angeles**

go to Davis farm school and hold an elimination contest to determine the team that is to represent California at the Pacific International. J. B. Lillard, state supervisor of agricultural instruction for California, is in general charge of these contests, and Prof. E. H. Hughes of the division of animal husbandry, University of California, will act as superintendent of both contests and coach for the teams that go to Davis for the final tryout.

## HOG CHOLERA INCREASING IN NORTHERN COUNTIES

Recent investigations in several California counties have shown that cholera in hogs is spreading in certain districts, due apparently to lack of appreciation by hog owners of the importance of early recognition of the disease. The situation is not yet sufficiently serious to necessitate placing a quarantine on the movement of hogs in these counties, but unless prompt cooperation can be had with the local hog raisers, this drastic recourse may be required to guard adjoining counties and those parts of the state where proper precautions are observed to prevent such "flare ups" of cholera. While outbreaks of this disease may occur sporadically in any part of the state at intervals there is no excuse for a general spread throughout any given territory if hog owners will properly dispose of animals that have died of cholera and will avail themselves of existing prophylatic measures.

### Vaccination Effective

In some instances the presence of disease in herds was not reported to the division of animal industry until after the lapse of two or three weeks by which time all the susceptible pigs were infected. It must be understood that there is no cure for cholera. Drugs and chemicals of all kinds have proved worthless either as a cure or preventive. Proper anti-hog cholera vaccination however is effective in protecting hogs so treated from contracting the disease but is of no value when given to a pig already visibly sick with the disease.

### Watch Your Sick Hogs

An outbreak of cholera is usually preceded by the death of a single hog in a herd, followed after the usual period of incubation by the appearance of sickness in a number of hogs in the herd. No attention is paid to the death of the first hog as the owner does not suspect cholera, but when a number die he is worried and seeks assistance. A high temperature ranging from 105 to 108 in a hog showing extreme prostration evidenced by a staggering gait, should be enough to give a clue that cholera may be present. Prompt attention at this stage of the infection should result in saving the rest of the animals. No time, however, should expire between the appearance of cholera and vaccination; else both the hogs and price of vaccination may be lost.

### Don't be Careless

In order to prevent the spread of cholera to healthy herds it is necessary that all infected hogs be confined in small enclosures. A cholera hog should not be allowed on range or in fields where it may come in contact with non-infected hogs. Flies and insects may carry the infective discharges from the eyes and noses of sick hogs. Sick animals should be kept strictly isolated. Animals that have died should be burned, together with any loose litter or refuse in pens and yards. The practice of hauling carcasses off to the woods or fields or burying in shallow graves shows an utter indifference to the welfare of other hog owners in the community. Spray hog houses and fences with a five per cent solution of any good coaltar disinfectant.

The cooperation of all hog owners is requested by the division of animal industry to control the spread of this disease. Call your local veterinarian or notify the state department of agriculture by letter or telephone. The United States department of agriculture has stationed in California Dr. Robert Jay, a hog cholera expert, who functions jointly with the state department of agriculture at Sacramento and the state university, and who will investigate and advise hog owners regarding any suspected outbreak of this disease. The services of the field veterinarians of the California department of agriculture are also available to hog raisers in combating this or any other infectious disease.

Hog owners should bear the following points in mind: Early diagnosis is imperative. Suspect cholera when the first pigs become sick. Isolate affected animals at once. Burn all cholera carcasses immediately. Disinfect premises after removal of sick animals.

# Livestock News Notes

### LIVESTOCK SALE CALENDAR

**Shorthorns**

August 9, Carruthers Farm, Live Oak.

**Guernseys**

August 4, L. D. Smith, Riverside Fair Grounds.

**Holsteins**

August 17, Jas. McGillivray, Sacramento.

August 30-31, Dispersal, Maxwell Farms, Hollywood.

**Jerseys**

August 20, Dispersal, W. H. Rough herd, Riverside.

Harry Wilson who was formerly with E. C. Shroeder and Fred Pabst and later with the Bridgford Holstein Co. and Palo Alto Stock Farm in this state, has taken the position of herdsman with the Berylwood Stock Farm at Hueneme.

The report of the Stanislaus County Cow Testing Association for June shows that the 1,255 cows tested averaged 684 pounds milk and 27 pounds fat. 141 cows made over 40 pounds fat for the month. A registered Holstein owned by E. W. Looney of Salida, headed the list with 104 pounds fat from 3,027 pounds milk. Six Brothers Dairy, F. L. Hogue and Kaiser Brothers followed in order, all with registered Holsteins.

The usual June break in the price of hogs did not occur and leaves the hog market in better condition than for some years past. Usually during June the price of fat hogs drops from two to three dollars per hundred but this year maintained the price around $10.50 to $11. From now on the price should remain steady if it does not increase a little as the offering will be less until the new crop is ready for the market.

The Bridgford Holstein Co. of Patterson has sold the great bull, King Segis Alcartra Prilly, to Fred Pabst of Milwaukee. This bull has six times been grand champion in leading shows and his daughters are a most remarkable group of producers. He heads the list of prize winning sires for 1921-22.

The Western Berkshire Congress will meet at the Travelers Hotel, Sacramento, on September 5, 1922, at 8 p. m. All Berkshire breeders and others interested in Berks are urged to attend. This will be in the evening after the Berkshire judging at the state fair.

H. C. Merritt, Jr. of the Tagus Ranch at Tulare has added a fine junior yearling Poland China gilt to his show herd in Sunkist Maid which he bought from P. B. Long of Tulare. She is by The Sunbeam, one of the popular boars of the Middle West.

Fred Hartsook of Lankershim is sending out a big show herd of Holsteins which will take in the principal fairs this fall. In order to round out his herd Mr. Hartsook has recently purchased a 1200 pound record cow from Frank Hatch of Modesto, and a two year old heifer from the Maxwell farms. The two year old is sired by Sir Ormsby Skylark and is out of the 1200 pound yearly record cow K. S. P. Lily McKinley. Mr. Hartsook also bought a bull from A. Pasti of Atwater. This youngster was sired by King Korndyke Pontiac 20th and is out of the great Higdon cow, Mona Fobes. The Hartsook show herd will number about 28 head and will be able to show three get of sire.


# Give Your Cows a Chance

## Help Them Make Money for You

Don't handicap them by giving them dry, withered feed that has no milk possibilities in it.

Give them nourishing, juicy, milk-producing silage, the kind that comes from an

# Ideal Green Feed Silo

By the use of the Ideal Green Feed Silo you have the advantage of green pasturage during the winter months—the time when dairy produce is at its highest price.

The Ideal Green Feed Silo will pay for itself every season, and possibly twice a season. It is the most economical investment you can make on your dairy. Built of clear, dry redwood—the everlasting wood—and held together with hoops of steel. Fitted with refrigerator doors.

Let us tell you about this wonderful silo. You need our booklet on silage. We'll send it FREE for the asking.

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His seven nearest dams average 1120 pounds of butter in a year, some of the records being made in heifer form. This average is sure to be raised and he will then be **the highest record bull in the world.**

Five of his seven nearest dams have produced **over 2000 pounds of butter in two consecutive years.** The sixth made 1862.88 pounds.

**HIGH RECORD FEMALES FOR SALE**

We have at present a number of high record females of excellent breeding and conformation for sale. Some are fresh and others are heavy springers.

They are reasonably priced.

**GET A BERYLWOOD SHOW BULL**

We can fit you out with young show bulls ready for service or younger. Popular bloodlines from high record cows. The price is reasonable and responsible parties can take a long time to pay if necessary.

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**White Leghorn Trapnest Stock, our own famous Yesterlaid Egg Ranch strain.** Cockerels from hens, records 200-301 eggs, mated to males whose mothers laid 250 and up to 316 and 333. Buy your stock now. We have cockerels 8 weeks old and up. Also offer for sale several thousand pullets, yearling hens and good breeding hens and cock birds. Write for circular. Yesterlaid Egg Ranch, Kent, Washington, "Home of the 300 egg hen."

**Hoganized White Leghorn Baby Chicks—** The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

**Profitable Poultry News**—Capacity 200,000 chicks—off every week of year. Booking Fall delivery. Thousands pullets, breeders, money-makers reasonable. 180-290 egg Leghorns, Reds, Rocks, Anconas, Minorcas, Wyandottes, Ducks, Turkeys. Imported, trapnested, selected for vigor, growth, beauty, eggs. Write Profitable Poultry, 13 North Fair Oaks, Pasadena.

**Certified White Leghorn Baby Chicks.** Booking orders now for Summer and Fall delivery. Safe arrival, live vigorous chicks guaranteed. No money in advance; pay on delivery. Established 1898. Sonoma County Farm Bureau Accredited Hatchery. MUST HATCH INCUBATOR CO., 438 Seventh Street, Petaluma, California.

BABY CHICKS

**White Leghorns, Anconas, R. I. Reds.** Order now for Fall and Spring delivery

THREE MONTH OLD PULLETS
All selected—no culls

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Santa Ana, California

**Baby Chicks**—Reds, Rocks, Anconas, and White Leghorns. Hatches every week after August 1st. Write at once for price list. Place your order at once, as we have several thousand now sold to old customers. Est. 1915. Hargett & Son, Route 2, Box C, Compton, California.

**Baby Chicks from my pure-bred, heavy laying strain of S. C. White Leghorns,** June and July delivery $12.00 per 100; $33.00 per 300; orders taken now for August and September delivery. Write for particulars. J. R. HEINRICH POULTRY YARDS, Arroyo Grande, California.

**For Sale**—75 of the best Blue Andalusians in California. Will make very low price for the 75. Laying and guaranteed all healthy. Write for prices. J. R. Huddleston, 342 Edgeware Road, Los Angeles, California.

**Finest Hatchery in the World at Pebbleside Poultry Farm. Baby chicks and hatching eggs from our own selected heavy layers.** Visit our farm and have a look. Pebbleside Poultry Farm, Sunnyvale, California.

**Blue Andalusians**—We are now booking orders for fall delivery of our prize winning stock chicks at the reduced prices, 22 and 27 cents. Hatching eggs $2.50. Black and Blue Hatchery, Baldwin Park, California.

**Fall Chicks Pay**—Order now for September and October delivery. White, Brown, Buff Leghorns, B. Rocks, Reds, Anconas, B. Minorcas. McDonald Poultry Ranch, Rt. 1 Box 246, San Jose, California.

**White Leghorn Baby Chix for summer and fall months from stock Accredited by Sonoma County Farm Bureau.** We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Fall Chicks**—Hatches every week. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. Stubbe Poultry Ranch and Hatchery, P. O. Box 67-E, Palo Alto, California.

**Watch Us Grow**—We are now booking orders for fall chicks. Brown and White Leghorns, Rhode Island Reds, Barred Rocks and Anconas. Ohlen's Hatchery, Campbell, Calif.

**Pit Games—Old and young trios. R. H. Crane, Santa Rosa.**

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**Catalogues and Booklets, office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St., Los Angeles.**

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An ideal ranch of 17½ acres, electric pumping plant, 3 H. P. Automatic. Place all under cultivation, and has first ditch rights. Ten acres of Muscat and 3 acres of Thompson seedless, 150 peach trees and family orchard of all varieties of fruit. Large barn, chicken house, garage, boxes, trays, all implements and team of horses included. A modern up to date 6 room house, all built in features, large pantry, bath and electricity. Large Occidental range and linoleum included. This place must be seen to be appreciated—only one mile from Hanford. Price right. Address owner, L. C. Calhoun, Hanford, California. Route C Box 174.

FOR SALE—ALFALFA RANCH

25 acres, 2 miles from Arbuckle, 1 mile from College City. Located on Arbuckle-College City Highway. All in alfalfa. Fenced on three sides and faces on 2 roads. Fine loam soil, perfect grape and fruit land. Good 12 inch irrigating well, at present only a small pump for domestic purposes. Steel tower wind-mill. Temporary house built for garage. You will look a long time to beat this. Price $5250 for the next thirty days.

NELSON REALTY COMPANY
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**For Sale**—Twelve miles east of San Diego in beautiful foothill section, one hundred sixty acres, forty in citrus fruit, balance grain and garden land. Gypsum deposit. Eleven room house, joins La Mesa Country Club. Can be divided into several wonderful home sites. Bring your friends. Court appraisement ninety thousand dollars. Price seventy-five thousand. The Harrison Albright Ranch, Spring Valley, San Diego County, California.

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Fruit trees and vines have made California the second richest farming state in the Union. You can share in this wealth by becoming a fruit grower on our "Irrigated Bottom Lands." Heavy crops show the richness of the soil. Irrigation, transportation and drainage. Very liberal terms for the right men.

SUTTER BASIN COMPANY
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**For Sale or Trade**—Modern dairy in Tulare County, Electric machines, pumping plants, etc. 40 Jersey cows, calves, 2 bulls, etc. Fine cement house and other buildings. 80 acres; 40 acres alfalfa. Easy terms. Good income guaranteed. Poor health reason for selling. $12,000 equity. Price $35,000. Address Box 396, Fillmore, California.

**For Sale**—Settlement of estate, 314 acres good bean,, beet or alfalfa land on Coast Highway in Ocean View District, Ventura County. 37 acres good farm or subdivision land north of Oxnard. Also 140 tons good barley hay, at bargains. See E. L. Carty or Dr. A. Maulhardt, Oxnard, Ventura County, California.

**For Sale**—20 acres near Shafter. The best soil for grapes and fruit. Good well, plenty of water stock and implements. Will consider 5 acres in Santa Clara or San Benito Counties. Must be good land. E. M. McAllister, Shafter, California.

**Ten Acre Income Berry and Vegetable Ranch located in Mendocino County, a** nice home. Write Owner, care Cultivator, Los Angeles.

**For Sale**—10 acres bearing orchard half prunes, half almonds, fully water stocked. Price including good crop $6750. Wm. H. Weinland, Banning.

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**Ranch Land,** 25 acres 180 miles north of San Francisco, rich soil, gentle southern slope, water. Address 5378 Locksley Ave., Oakland, California.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## MISCELLANEOUS

**For Sale**—Approximately 5,800 ft. of 54 inch stock fence with redwood posts. Also 1,000 ft. 26 inch hog fence all good as new at one half market price. Troughs, oilers, etc. Chambers Ranch, RR 4, Anaheim, California.

**Avoid Law Suits by having your property** lines properly surveyed and established by the Engineering Service Company, 1316 Washington Building, Los Angeles, California.

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Get Maximum Income from your land by** having your irrigation and drainage problems properly attended to by the Engineering Service Company, 1316 Washington Building, Los Angeles, California.

**For Sale**—Acetylene plant and fixtures in good condition for a nine room house. Price $25. Mrs. J. G. Robertson, Dudley St., Pomona, Calif. Phone 3951.

**3-Pound Box Absolutely Boneless Codfish,** fine white, new catch fish, delivered by mail, $1. Coffin Fish Co., Seattle, Wash.

## PATENT ATTORNEYS

**WEBSTER, WEBSTER & BLEWETT,** Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

## CATTLE

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys — Grape Wild Farms — Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Herefords—"Veramont Stock Farm,"** H. M. Barngrover, Prop., Stockton, California.

**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

**Registered Herefords**—Anxiety IV strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

## TREES

**For Sale—25,000 Sour Orange** Seed Bed Trees. 1,000 1 year old Valencia buds. Not touched by the freeze. In one of our nurseries near Garden Grove. Southland Nurseries, 1941 East Colorado Street, Pasadena, California. Phone Colorado 6352.

**For Sale**—Grafted walnut trees, also citrus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**For Sale—Grafted Walnut Trees** for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**Beeman Tractor Cheap** — Young man learn trade. Cash Nursery, Sebastopol.

## MACHINERY

**For Sale—Monarch Tractor** in first class condition. 32-20 Type. Moline deep furrow plow, 4 mould boards, automatic lift. A dandy outfit and a good buy at $1,500. Terms. Owner W. H. Rowe, Montrose, Cal.

**Tanks—Redwood, Iron Tanks**—All sizes, new, used, for less. For irrigation, 8,000 gal. $75; 25,000 gal., $150; 50,000 gal., $195. Windmills, pumps, cylinders, surface galv. Irrigat. pipe for less. Why pay more? Demmitt Co., 120 N. Main, L. A.

**For Sale**—Two International 8-16 tractors, plows, harrows and double disk wagon and all tools cheap. G. F. Crowell, Newman, California.

**For Sale**—1 Owen's Bean Thrasher, 26x44 with belts, side feed sacker, etc. $350 at Buena Park Blacksmith Shop, Buena Park, California.

## DUCKS

**30 White Mammoth Pekin Ducklings**—Two weeks old 50 cents apiece. 10 White Mammoth Pekin duck hens one year old $2.00 apiece. A Surtman, Petaluma, California.

**Mammoth White Pekin Duck Eggs** for hatching $1.00 per dozen; $8.00 per hundred. A Surtman, Petaluma, California.

## DUROC-JERSEYS

**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

**For Sale**—Duroc Jersey Weanlings eligible to registration, $5.00 each. Address Fried Ranch, Chatsworth, California or phone 61603 Los Angeles.

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

**Winsor Ranch Durocs**—The best of stock at reasonable prices. BONITA, CALIFORNIA

## WANTED

**Wanted: Men With Spare Time to represent** established California compan selling standard material to ranchers in ten southern counties. Good pay. Address W. S. H., care California Cultivator, Los Angeles.

**Wanted Throughout** California, men with autos to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call. J. H. Yetter, 317 Central Ave. Los Angeles.

**Want to Hear** from owner having farm for sale; give particulars and lowest price. John J. Black, 116th Street, Chippewa Falls, Wisconsin.

**Wanted**—Wild Myrobolan plums. Cash Nursery, Sebastapol, California.

## SEEDS AND PLANTS

BLACK MONUKKA
The Big Grape Opportunity

ORDER YOUR CUTTINGS NOW FOR NEXT SPRING DELIVERY
Guaranteed absolutely true to name
THE HALL NURSERIES
Waterford California

**D. Lotus Seed**—Manchurian stock for Japanese persimmons. Let me include your needs in my 1923 importation from Manchuria. Fred W. Kelsey, Nurseryman & Orchardist, El Monte, California.

**300,000 Stone Tomato Plants** — 300,000 **Sweet Potato Plants;** Nancy Hall, Yellow Jerseys, Large White and Red. Ocean View Nursery. Jordon and Casey, Box 40, Manhattan Beach. Phone 4951 Redondo.

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**Corn Harvester** cuts and piles on harvester or winrows. Man and horse cuts and shocks equal Corn Binder. Sold in every state. Only $25 with fodder tieing attachment. Testimonials and catalog FREE showing picture of Harvester. Process Harvester Co., Salina, Kansas.

## GEESE

**Owing to More Room Needed** for young stock will dispose of some of our yearling geese at $7.50 each, and Wyandotte hens at $5 and $10, and cocks at $10 and $25 each. Pearl Guineas $5 a pair. Paradise Valley Poultry Ranch, National City, California.

## TURKEYS

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

Two new cold storage plants will care for fruits and vegetables of the San Bernardino Valley this year. One at Redlands is completed and another is being built at San Bernardino.


# ECONOMY STOCK POWDER

Is a scientific combination of roots, herbs and sodas. The effect is to sweeten the stomach, purify the blood, regulate the bowels, liver and kidneys, remove the worms, strengthen the nerve centers and aid digestion.

You should take every precaution with your hogs at this season of the year. Do not allow your little pigs to get wormy and constipated. If you do, they are much more susceptible to disease and you are liable to have trouble.

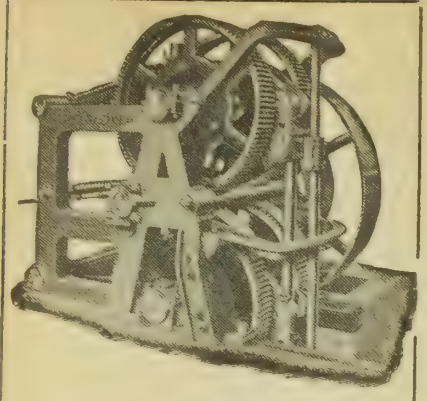
## Economy Germicide Dip

**Disinfectant — Germicide — Antiseptic**

Do not overlook the importance of using plenty of good dip around your hog pens. Spray the troughs and the sheds regularly to kill disease breeding germs. Spray or dip your hogs and keep them free from lice.

We shall be glad to send a FREE SAMPLE of Economy Stock Powder and our BOOKLET on hogs to anyone writing us for same.

**Economy Hog and Cattle Powder Company**
Hearst Bldg., San Francisco, Calif.



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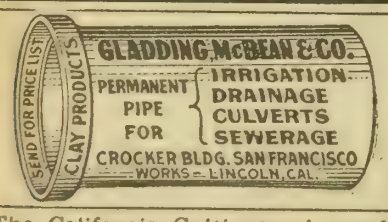



The California Cultivator is only One Dollar Per Year.

# The Egg Market

By J. H. Barber, General Manager Poultry Producers of Central California

The recent slump in the San Francisco egg market from 32 cents to 28 cents on Extras was due to the fact that the price had advanced to a point high enough so that some of the cheaper lots of storage eggs could be taken out of storage and sold at a profit. Between July 1 and 10 there were 3500 cases withdrawn from storage in San Francisco. These were chiefly mixed colors and other cheaper grades. They of course took the place of a similar quantity of fresh eggs, causing an accumulation of the unsold fresh.

Los Angeles, which had been taking a considerable part of the local surplus, declined to buy at the advanced prices, and this threw further supplies on the San Francisco market. With local production still in excess of consumption the pressure to sell the accumulated supplies broke down the market to 28 cents.

At this level some dealers were willing to put away eggs for short holding. The demand for this purpose absorbed the immediate surplus and steadied the market. Dealers interested in moving out and selling the cheaper storage eggs then started a move to get the price up again. It advanced to 29 cents, and on Friday was expected to go to 30 cents, but in the face of liberal supplies the buying support was not strong enough to accomplish this and the quotation remained at 29 cents.

### Prospects

The immediate future of the local market is going to depend on three things: first, the amount of local production; second, the desire to get storage eggs moving out; third, the course of the New York market.

The outlook is that if local production of fresh eggs drops below consumptive needs, the price will advance again to a point where some of the storage eggs can be moved out at a profit. These storage eggs will supply the demand and thus prevent the market from advancing further. Of course, if the New York market, which has weakened in the last few days, should decline further, or if our market should advance to a point where shipments were certain to make a loss, the eggs that are now going to New York—or at least a considerable proportion of them—would be thrown on this market and it would have to come down to a point where they could begin moving out eastward again with a fair chance of at least breaking even on them.

The weakening of the New York market has resulted from the same cause as made the market drop here. New York also had advanced to a point where storage eggs could be moved out and the use of storage eggs in place of fresh arrivals compelled the cutting of prices in order to keep the fresh eggs moving into consumption.

In fact, the situation is just the same all over the country. There are considerably more eggs in storage this year than there were last year, and last year there was the largest amount of storage in the history of the trade, with one exception. It seems to be well recognized that unless the storage eggs can begin to move out into consumption early there is bound to be considerable loss on some of them at the end of the year, just as there was last year. Naturally, everybody who has eggs in storage is anxious to avoid a repetition of last year's losses on the eggs held after the end of the year. It looks very much as if it would resolve itself into a question of whether holders of storage eggs are going to be willing to sell them without profit or at a very small margin in order to get them moving early.

With merely normal production of fresh eggs during the fall, if the storage eggs can be moved out in considerable quantities during the summer and early fall, there is a possibility that the storage deal may close up without serious loss. If, on the other hand, fall production should be as much in excess of last year in the country at large as it has been so far this year, there is no doubt that a good many storage eggs will have to be sold at a loss.

Under these circumstances, it is a matter for congratulation that our association storage holdings are comparatively light. While storage holdings on the Pacific Coast are considerably in excess of last year, and in the entire United States very much so, our association has only about one-third as many eggs in storage as we had last year. When the government storage report of May 1 came out the management decided that the storage outlook was going to be very dubious, and we therefore concluded to store very conservatively.

# Poultry Queries

Conducted by Jean A. Koethen)

### Disinfecting Incubators

Should I disinfect my incubators; if so, what should I use?—Subscriber, Bakersfield.

The incubator should be thoroughly washed and sprayed before and after every hatch. Wash with soap, water and a good scrubbing brush, and a few hours before putting in the eggs spray all parts of the incubator with cresol, or a five per cent solution of carbolic acid or with carbolineum. Washing with water containing a few drops of creolin answers the same purpose.

### Too Fat for Summer.

Our chickens, old and young, are dying by the dozen. They lose control of their legs and die in less than 24 hours. They have free alfalfa range, roost in the open, have plenty of sour milk and have had plenty of corn until three weeks ago when we changed to wheat because they were getting too fat.—Subscriber, Holtville.

It is possible that your chickens have been poisoned by something they found on the range, gopher poison, perhaps, or a spray that had been used on trees, but more likely their overfat condition has caused heat prostration. Of course you are providing shade, and the alfalfa range gives them the best possible feed for hot weather, but you will have to reduce them as rapidly as possible. For a few days alfalfa and milk with whatever fruit and vegetables are available will be sufficient. After a week give a little wheat in the evening. In the hot interior valleys of the state corn cannot safely be fed to chickens during the summer. Half a teaspoon of epsom salts to each bird, given in wet mash, will be a help in reducing.

## CALIFORNIA EGG LAYING CONTEST

### High Pens for June:

Alex Stewart, 243⅛; Hanson, 240⅛; L. A. Thornewill, 239⅓; W. A. Ford, 231⅛; Geo. Gray, 225; Boehm & Noel, 224; C. H. Russell, 220; Kinmont, 219⅜; Geo. Wood, 218; W. J. Neef, 215.

### High Hens for June:

Stewart, 28; Levi Mellon, 28; Neef, 28; Webb, 28.

### High Hens to Date:

Stewart, 241; Thornewill, 230; Stewart, 224; Wm. Marshall, 222; D. B. Walls, 217.

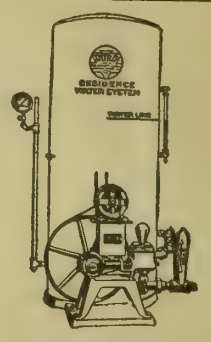
## NATIONAL EGG LAYING CONTEST

The 300 hens in the contest at the state experiment station at Mountain Grove, Missouri, laid 5,197 eggs during June, or an average of 17.32 eggs per hen. Pen S. C. White Leghorns, owned by Homer Collins, Ozark, Missouri, won the cup for June by laying 121 eggs during the month.

Number of eggs laid by the different breeds for the month and to date are: Wyandottes, 857, 7359. Plymouth Rocks, 901, 7347. Leghorns, 911, 7234. Miscellaneous varieties, 868, 7119. Anconas, 937, 6933. Rhode Island Reds, 723, 6257.

Ten leading pens for June are: S. C. White Leghorns, Missouri, 121. R. C. Rhode Island Whites, Illinois, 119. S. C. White Leghorns, New Jersey, 118. R. C. Rhode Island Whites, Missouri, 113. S. C. Anconas, Missouri, 112. S. C. White Leghorns, Washington, 112. R. C. Rhode Island Whites, Missouri, 111. Barred Rocks, Missouri, 110. Barred Rocks, Missouri, 106. S. C. White Leghorns, Missouri, 105. White Wyandottes, England, 105.

Ten leading pens to date are: S. C. White Leghorns, Washington, 888. White Wyandottes, England, 887. White Wyandottes, England, 875. Barred Rocks, Missouri, 857. S. C. White Leghorns, England, 842. R. C. Rhode Island Whites, Missouri, 840. Barred Rocks, New Jersey, 830. White Wyandottes, Missouri, 818. S. C.



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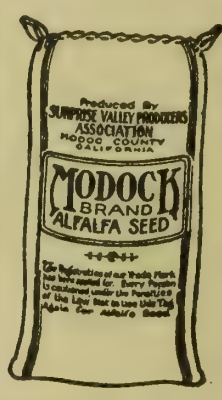


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The Longest Lived of all the Alfalfas.

Get it from your dealer or write to us direct for booklet, etc.

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Bee Hives and Supplies

Headquarters for everything needed in the care of bees. Send for late price list and free booklet.

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We incubate 250,000 eggs every three weeks; the largest and finest equipped electric hatchery in the Southwest. All popular breeds: Rhode Island Reds, Barred Rocks, Black Minorcas, Anconas, etc. Also our famous Oregon-Corvallis White Leghorns. Order now for immediate or future delivery of Baby Chicks, Pekin, Muscovy or Indian Runner Ducklings, Mammoth Bronze baby turkeys. All kinds of pullets supplied—anytime. Incubators and brooders. Careful attention to every order, large or small. Send today for prices.

REDWING HATCHERY
2030 East Florence Avenue
Los Angeles, California

White Leghorns, England, 808. R. C. Rhode Island Whites, Missouri, 808.

Sales value eggs average bird for June. 32 cents. Sales value eggs average bird to date, $3.39. Sales value eggs best pen for June, $2.20. Sales value eggs best pen to date, $25.29. Average price received for eggs during June, 22 cents per dozen.

## LAKE POULTRY CLUB EXHIBIT

The Glenn County club agent has been conducting an egg laying contest in the Lake district, and this formally closed with an exhibit by each club member of three of his best hens, picked by himself, at the regular Lake center meeting on the evening of July 6. Wm. Spiers of the Lake district, who is an old hand at the poultry business, acted as judge and awarded the first prize to a pen of Leghorns owned by Leo Weber, second to a pen of Rhode Island Whites owned by Gladys Brown, third to a pen of Plymouth Rocks owned by Francis Bautsch. One of these Plymouth Rocks was declared the best hen on exhibit.

## FROST PROTECTION ON RANCHO SESPE

(Continued from Page 101)

ready at all times, but to be able to be gotten under fire with the least possible delay. Although not essential to their lighting we have our heaters wicked with excelsior so that they may be more easily and speedily lighted. Sometimes we have only a few moments in which to act, and we must have the slack motion in each operation reduced to the minimum. The thermometers are tested at the beginning of each season for accuracy, and new ones are purchased to replace those found in error one degree or more. We have adopted the policy of purchasing only the best straight tube alcohol minimum thermometers. An inaccurate thermometer can easily cost hundreds of dollars either in fruit or oil. The thermometers are distributed in general about one thermometer to ten acres, with care being exercised to have them placed so that they truly give the temperatures of the groves. They are placed on white stakes between two trees in a spot ordinarily occupied by a heater, with the heater space left vacant, and about four feet from the ground. The white stakes make the thermometers easily located at night. The rows with the thermometers in them are also marked at the outside of the grove with white stakes, so that there is never any difficulty in locating the thermometers. When the orchards are equipped with at least a seven gallon heater to a tree we feel that our reserve oil in storage should be at least twice the heater capacity. This relatively low storage is made possible by our proximity to, and an extremely efficient service of, a neighboring refinery.

### Watch the Thermometers

As soon as the heaters are distributed in the field in the fall a night watchman is employed whose duties are to know the temperature of the groves at all times of the night. He reads thermometers during the entire night, and a record is made at the time of each reading in his record book. We have always been very fortunate in procuring young, active, conscientious men for this position, as we must necessarily repose a great deal of trust and confidence in them. The ranch is rather favorably blessed, if it can be so stated, in having one spot several degrees colder than any other section of the ranch. When this spot reaches a temperature of 29 degrees the writer is called on the telephone, and at this time, if it is deemed advisable, after learning the general condition of the night and temperatures of other groves, about four or five men are called out who are held responsible for reading thermometers and firing the heaters, each in his own particular area. These frost scouts, as they are called, are continually reading thermometers and making observations in their sections and 'phoning in immediately to headquarters. As soon as it is decided to fire any section a crew of torchmen is called. The size of this crew depends upon how fast and the extent to which we wish to fire. We figure one man will cover an acre of ground, lighting every other heater in about 15 minutes. A foreman is in charge of these men, who directs them from one section to another, taking his instructions from the different frost scouts, who in turn are continually in touch with headquarters by telephone. Quite often there are two or more crews lighting different sections at the same time. As soon as any crew has finished firing its section, and there are no other sections at that time to fire, the men fill their torches and then go to one of several firing stations, which are small galvanized iron buildings equipped with benches and stoves. If the men have been up for some time or if the night is still young, they are served with hot coffee and crackers. This hot coffee is stimulating to their morale and nerves and the men all pitch into the work with a new determination. The men all understand the necessity and importance of quick and accurate work, and upon this fact the success of our frost fighting depends.

### Quick Work Essential

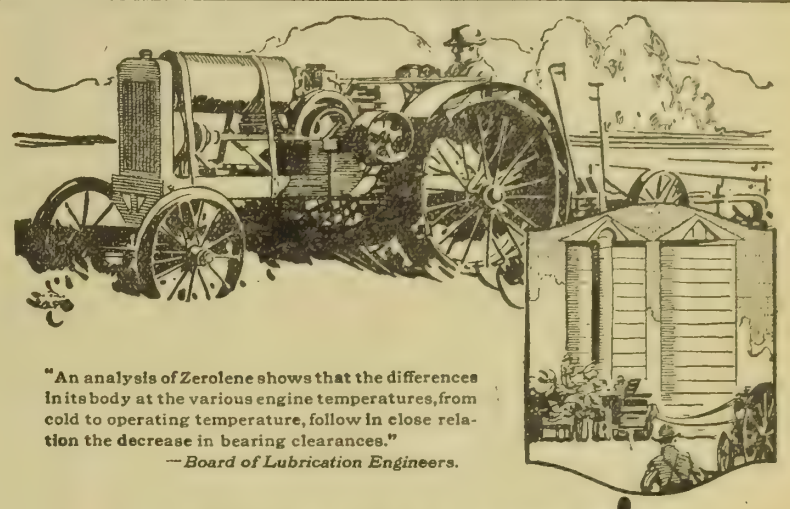
The time to begin to fire depends in a great measure upon how quickly one can fire and handle a particular situation. Whenever our heaters allow it they are wicked and the drafts all set for firing, so that all the lighters have to do is to take off the cover and drop some burning distillate in the draft hole. Although we use the thermometer in a large degree to indicate to us when to fire, still there are other factors which enter into the time of firing. We consider 28 degrees a dangerous temperature for young lemons, yet at times the temperature may drop quickly on a very dry night to a few degrees below this, and if not down too long will do no apparent damage. Then again, where the temperature has stood around 29 degrees for several hours, and particularly on a moist night, the young fruit is liable to freeze. Our experience has been that oranges under similar conditions will stand about two degrees more frost than lemons. On moist nights we watch the vegetation very closely. The malva and mustard leaves will freeze very easily and quickly and much before lemons will be injured. The dark glossy spots in the lemon leaf are the first indications that ice is beginning to form in the leaf of the tree. As soon as these spots get very pronounced, even though the temperature has never been below 29 or 30 degrees, we fire the heaters. We are very desirous to get all the ice out of our trees before the sun gets up. In following the frost game one will find that all nights are different and peculiar unto themselves. All frosty nights are not big freezes, and often these frosty nights can destroy more fruit than we sometimes fully realize. However, many times we will light our heaters and before morning a wind will come up and immediately the temperature will rise and the fires can be put out. In our section of the country we have noted that an east wind saves us from firing many times during the winter. As soon as the wind stops blowing the temperature very often drops below the danger point and it becomes necessary to fire our heaters. In making observations before firing on a dry night we take into consideration the probability of a breeze or wind coming up, and in many cases allow the temperature to remain in the danger zone for a short time. This has saved us from firing on many occasions, yet in taking these chances one must be very cautious and well acquainted with local conditions. As soon as the heaters are lighted and under way we endeavor to hold the temperature at 32 degrees. If the cold continues so that it is impossible to raise the temperature out of the danger zone with half of the heaters lit, the second half are lighted and then if still not enough heat is given out more draft is given to the heaters.

### Refill Heaters Promptly

The fires are extinguished as soon as practicable in the morning. It is generally arranged that the men go home and get breakfast while the heaters are still burning, so that if necessary to work during the daytime they can immediately begin to fill the heaters as soon as the fires are put out. The responsibility for filling the heaters, which is a very important part of the operation of frost protection, rests upon the ranch foreman. We have a rule that all heaters must be filled before coming in at night. During extensive firings this means that sometimes we do not finish filling the heaters until after dark. Extreme care must be exercised not to spill any oil on the ground. The number of wagons and men used in filling depends on the amount of oil consumed during the night, and with a little practice one can soon estimate very closely, as soon as the fires are extinguished in the morning, the amount of oil consumed during the night. One wagon and four helpers with buckets will distribute approximately 4000 gallons of oil per day, and one man will wick and regulate the drafts and clean the accumulated soot from the stacks behind one wagon. The torches are inspected and refilled and put in their proper places, and everything is in readiness for the next night's operation.

Success in frost protection consists not alone in having an adequate heater protection, but also in maintaining eternal vigilance. Care should be taken that the heaters are always filled and the equipment always ready, that there is always in storage plenty of oil for the usual emergency, and, last and most important, that someone is continually watching the weather and that available and willing help is close at hand.

(Continued on Page 119.)

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—*Board of Lubrication Engineers.*

**FLEXIBILITY!**
***Zerolene maintains always the right lubricating body—***

When your tractor engine "warms up" to a stiff job of plowing or belt driving, be sure there's an oil in the crankcase whose "body" will adjust itself properly to those decreasing bearing clearances caused by heat expansion.

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The Standard Oil ZEROLENE For Motor Cars

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**IRRIGATION PIPE**
***durable - lasting***

The same is true with all the other products we manufacture. Quality, material and skilled workmanship.

Water and Oil Casings. Tanks for all purposes. Riveted Steel Water Pipe. Galvanized Troughs.

If you paid more you could not buy better pipe. Write to us for price list, stating your requirements. We give expert advice free.

CONSOLIDATED PIPE COMPANY
Los Angeles: 2440 East Ninth St.
Bakersfield: Union and Truxton Aves.

# Los Angeles Markets

Los Angeles, July 26, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 43 cents.

Prices extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 19 | 20 | 21 | 22 | 24 | 25 |
| | 45 | 45 | 45 | 45 | 43 | 43 |

### CHEESE

Brokers' prices:
California flats, 19@21.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 28, case count, 27; pullets, 23.

Prices extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 19 | 20 | 21 | 22 | 24 | 25 |
| | 29½ | 28 | 28 | 28 | 28 | 28 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 17; colored 30; broilers, 23@27; roosters, 35; old roosters, 14; fryers, 32; ducks, old 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 11@13; old, 8.

### LIVESTOCK

Los Angeles, July 25.—Weighed and delivered off cars without food or water.

Hogs (hard grain fed) 125 to 150 pounds, 10.25; 175 to 225 pounds, 10.50.

Cattle (on foot, gross weight): Steers, good, 6.50@7.00; medium, 5.25@625; cows, good, 4.75@5.25; medium, 4.00@4.50; bulls and stags, 3.00@3.50; calves, 125 to 175 pounds, 8.00@9.00; 175 to 250 pounds, 7.00@8.00.

Sheep, ewes, 4.00@5.00; lambs, 9.00@11.00.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, July 25, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement slow, market steady. New Stock: best, locals, sacked 1.15@1.40, mostly 1.25@1.35 cwt.

Onions: Demand and movement moderate, market steady. Stocktons: Reds, 1.50@1.65; Yellows, 2.00 cwt.

Garlic: Mex. best, 10@12.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, July 25, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: Market slightly weaker. Per lb: San Pedro: Kentucky Wonders, 3½@5; Limas, 9@10.

Bunched Vegetables: Per dozen bunches: Turnips, beets, carrots and parsnips, 35@40. Parsley and spinach, 25@30. Radishes, 20.

Cabbage: Market steady, quality ordinary. Field cr., best mostly 2.25@3.00.

Cucumbers: Local, lug, 40@60.

Celery: Movement moderate, market dull. Wide range in quality and prices; Locals, best, 5.50@6.00; poorer, 4.75@5.00.

Corn: Green, local, lug 75@1.00.

Eggplant: 6@8 lb. Coachella: local, 10@12.

Lettuce: Market slightly stronger. Locals: Ordinary, leafy, 75@1.00 crate. Northern: Fancy, 2.75@3 crate.

Okra: Lb., best, small, 6@12.

Peas: Best, Northern, lb., mostly 7@9; poorer, 5@6.

Peppers: Locals: Bells mostly 20@25 lb.; Chilis, 23@25 lb. Northern: 20 lb.

Rhubarb: Local, best, Crimson, 65@1.00; mostly, 65@75.

Squash: Market steady. Locals: Summer, lugs, 55@60; Italian, lugs, 60@65.

Tomatoes: Demand moderate, movement slow, market steady. San Pedro: Lugs best, green, 1.40@1.50; ripe around 90; poorer, 50@75.

### FRESH FRUIT

These are actual prices obtained July 25 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market slightly weaker. New: White Astrachans, loose, 4½@5½ lb.; packed, 3½@4; tier, 2.75; 4½ tier, 2 box. 3@4; poorer, 1@2; local, lug, 75@1.00; few best high as 1.25.

Apricots: Lb., Northern Royal, best, 3@4; poorer, 1@2; local, lug, 75@85.

Blackberries: Fy., 3.50@4.00.

Cantaloupes: Turlock District: Supplies light, demand and movement good, market firm, standards best, 2@2.25; flats, 90@1.00. Locals: Market slightly weaker, Tip tops, 2.50@2.75. Persian Melons: Demand and movement good, 3 per lb.

Casabas: 2 per lb.

Cherries: Utah Bings, 17@20 per lb.

Currants: Cr. 3.00.

Figs: San Pedro blacks, large, 60@75; medium size 50 flat.

Loganberries: 2.50@2.75 per cr.

Grapes: Demand slow, market slightly weaker. Coachella: Malagas, 8@9 lb.; Black Monukkas, 12. Imperial Valley: Thompson Seedless best, 9@10 lb. Northern: Black Currants, 9.

Peaches: Per lb.: Best, 3@4. Redbirds, fancy, 1.75@2.00 lug; few high as 2.25 lug. Local Freestone, 5@7.

Pears: Market slightly weaker. Northern: Bartletts mostly 10 lb.

Plums: Per lb.: Santa Rosas, 2@4. Tragedy prunes, 5@5½.

Watermelons: Imperials, Angeleno, 1@1½ lb.; Klondike, 1½@2.

### CITRUS FRUITS

These are actual prices obtained between 7 and 8 o'clock July 25 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms, cash on the walk. There may be slight fluctuations during the day's trading. Higher prices are frequently obtained where credit is given or goods are delivered.

Grapefruit: Market steady. Californias: Northern, packed box, 4.00@4.50; market pack, 3.00@3.75; small, 2.25@2.50.

Lemons: Demand and movement light, market firm. Special brands, fancy, 6.75@7.50; choice, 5.50@5.75.

Oranges: Demand moderate, market steady. Valencias, special brands, 9.00@10.50.

### HONEY

The nectar flow from orange has now finished, and the flow from sage is nearly over. Orange yield is reported light to fair, sage flow generally good. Fair eucalyptus flow being secured in Alameda County. Bees in Southern California said to be now gathering mostly alfalfa nectar. Beekeepers are busy extracting. Old crop practically exhausted. Demand light and market dull. Few sales reported. Carload f. o. b. usual terms: White Orange, 9@9¾, few reported quoting 8½; White Sage, 8½@8¾; Light Amber Sage, 6½@7; Light Amber Alfalfa, 5¾@6. Beeswax: Cash to beekeepers, 22@24 per lb.

### BEANS

F. o. b. Cal.:

| | |
|---|---|
| Lima, Standard | 9.00 |
| Lima, Henderson Bush | 9.15 |

Cal. Lima Bean Growers Assoc. reports some sales made in June for Oct. delivery of 1922 Limas and Baby Limas at around $6.25@6.40 f. o. b. Coast. Demand for futures now quiet. Assoc. has been sold out of 1921 crop for some time.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 18.00@23.00 |
| Barley | 16.00@20.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 16.00@20.00 |
| No. 1 Alfalfa | 15.00@17.00 |
| Standard Alfalfa | 11.00@13.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 20.00 |
| No. 1 Dairy | 15.00 |
| No. 1 Alfalfa | 12.00 |

### GRAIN

Prices L. A. Grain Exchange, July 25: Barley: 100 ton lots August Del. 1.27½.

Grain Department California Farm Bureau Exchange:

Wheat: 32 cars arrived on track Monday which supplied the immediate urgent demand which was largely due to the fear that strike conditions would stop shipments. Our market is holding right steady at around $1.90 for Sonora and $1.95 for Baart and Bunyip, subject to federal grades and discounts, in the face of a continual decline in the Chicago wheat markets. We feel that this is largely due to the influence the California Farm Bureau Exchange is having in holding steady the markets for California grain. It is, however, too much to expect that these markets can be held at present levels if the eastern market continues to decline as Utah and Idaho wheat can, within 30 days, begin to replace our California wheat at much lower prices.

Barley: This is the cheapest feed grain. The consumption is enormous. Feeders continue to buy in anticipation of their wants, fearing a shortage on account of the railroad strike. The supply has been equal to the demand in Los Angeles until the last day or two. 18 cars arrived Monday. Prices range from $1.30 for good feed barley to $1.32½ for the top grades. Smutty or light barley is bringing lower prices. The Imperial crop is about half sold. The balance is in storage and in strong hands. There doesn't seem to be any good reason to expect advances but this, of course, will depend largely upon the course of the other grain markets and the rapidity with which farmers let loose of their holdings.

Oats: Los Angeles seems bare of good oats. No immediate prices are available.

Millfeeds: Millfeeds continue high and scarce.

# San Francisco Markets

San Francisco, July 25, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 40 |

Prices Extras last week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 19 | 20 | 21 | 22 | 24 | 25 |
| | 44 | 43½ | 42½ | .... | 41 | 40 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 25½ |
| California Flats, fancy | 18@21½ |
| Oregon Trips | 24 |
| Oregon Young America | 25½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 26½ |
| Extra Pullets | 23 |
| Undersized Pullets | 17½ |

Prices Extras last week:

| | | | | | | |
|---|---|---|---|---|---|---|
| July | 19 | 20 | 21 | 22 | 24 | 25 |
| | 29 | 27½ | 27 | .... | 27½ | 26½ |

### POULTRY

Prices furnished by state department of agriculture division of markets. Sales to retailers:

Broilers: 1 to 1¼ lbs., 27@28 per lb.; 1½ to 1¾ lbs. 28@29 per lb. Colored, 30@32 per lb.; 2 to 2½ lbs. 30@31 per lb. Colored 32@35 per lb.

Fryers: 2½ lbs. 32@34 per lb. Colored, 35@38 per lb.

Young Roosters: Colored, 3 lbs. and up, 43@45 per lb. Staggy showing spurs, 23@30 per lb.

Colored Old Roosters: 17@18 per lb.

Leghorn Old Roosters: 14@15 per lb.

Leghorn Hens: 2½ to 3 lbs. 16@18 per lb. 3 lbs. and over, 18@20 per lb. Large Colored Hens: 28@31 per lb. Off stock, 26@27 per lb.

Ducks: Young, 18@20 per lb.; off grades, 10@15 per lb.

Geese: Young, 20@22.

Live Turkeys: 32@35.

Dressed Turkeys: Young, 36@40. Off stock, 25@32.

Belgian Hare: Live, 13@15. Dressed 18@23.

Squabs: Live, fancy, 50@52 lb.; common, 3.00@3.50 doz.

Old Pigeons: 2.50@3.50 per doz.

Guineas: Young, 8.00@10.00 doz.

Jackrabbits: 2.00@2.50 doz.

### LIVESTOCK

The Western Meat Company quotes:

Steers: First quality, 6½@7 per lb.; second quality, 5¼@6¼ per lb.; cows and heifers No. 1 4¼@5; second quality, 4@4¼; bulls, 3@4 per lb.

Calves: Light weight, 8@9 per lb.; heavy, 5@7 per lb.

Sheep: Wethers, 6½@7 per lb.; ewes and stags 3@4 per lb.

Lambs: 10½@11½ per lb.

Hogs: hard, fat, grain-fed, weighing 125 to 200 lbs. 12½ per lb.; 200 to 250 lbs., 11½ per lb. 250 to 300 lbs., 10½ per lb.; light sows, 10½ per lb.; heavy, 9½ per lb.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: New, 1½@2 per lb.

Sweets: La., Nancy Hall, 6 per lb.

Onions: Gr. 1.00@1.25; Stockton Red, 1.25@1.40 Yellow, 1.50@1.75.

Garlic: Lb., 3@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, July 25, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per large cr., 4.00@6.00; extra large, fy., 8.00@9.00.

Beans: Ky. Wonder, 2@2½; Wax, 3@4; Italian, 4@5; Limas, 8@9.

Bunched Vegetables: Carrots, 60@75 per dozen; turnips, 55@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Celery: Fy. cr. 6.00.

Corn: New, doz., 15@20.

Cucumbers: Lug, 50@75; Bay, 50@75.

Eggplant: Southern, 5@8 per lb.

Lettuce: Local, best 1,00@1.25 cr.; fair quality less.

Parsnips: 3.00@3.25 per sack.

Peas: Half-moon, 3@5 lb.

Peppers: Cal. Bells, 5@8; Chili, 5@8.

Rhubarb: Box, 1.25@1.50.

Sacked Vegetables: Carrots, 1.50@1.75; turnips, 1.00@1.25; parsnips, 2.50@3.00; beets, 1.00@2.00.

Spinach: Lb., 3@4.

Squash: Summer, 50@75; Italian, cr., 65@85.

Tomatoes: Merced, 1.00@1.10 lug; 40@50 crate. Southern, 1.25 lug.

### FRESH FRUIT

Apples: New crop apples, Green, 1.25@2.00 box; Gravenstein 4 tier, 2.25@2.50 box.

Apricots: 6@7 lb. Poorer, 3@5 lb.; 1.25@1.75 lug; 75@1.25 crate.

Bananas: Hawaiian and eastern, 7½@8 per lb.

Blackberries: Dr., 25@30.

Cantaloupes: Imp. Valley, best standard crates, 1@1.25; flats, 60. Turlock Standard, 1.25@1.50; Pony, 1@1.50; flats, 75@1.00. Honey Dew, flats, 1.25@1.50.

Cherries: Royal Annes, 10@13 lb. Black Rep. 10@12 lb. Bings, 12@18 lb.

Currants: Dr., 1.00@1.10.

Figs: Single layer box, 60@75.

Gooseberries: 10@15 lb.

Grapes: Malagas, 3.00@3.25.

Loganberries: Dr. 25@30.

Nectarines: Cr., 2.00.

Pineapples: 5.50@6.00 per doz.

Peaches: 75@1.00 cr.; basket, 75@1.00; lugs, 1@1.25; large, 1.50@1.75.

Pears, Bartlett, 3.25@3.50 box; No. 2, 2.00@2.50.

Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.

Plums: Santa Rose, 1.50@1.75 crate; other, 75@1.25 crate. Lugs, 1.50@2.00.

Raspberries: 65@85 dr.

Strawberries: Local, dr., 65@90.

Watermelons Imp., 1½@1¾.

### CITRUS

Grapefruit: Southern Cal., fancy, spec. pack, 5.00@6.00; choice 4.00@4.50.

Lemons: Spec. pack, 5.50@6.50; choice, 3.50@5.00; Lemonettes, 2.00@3.50.

Oranges: Valencias, fan boxes, 126-216s, 9.50@10.50; 250-288s, 8.50@9; smaller, 7.50; choice, 6@9.00.

### DRIED FRUITS

Apples, 1922 Packers' Quotations f. o. b. Cal.:

| | |
|---|---|
| Choice | 11½@11¾ |
| Extra choice | 11¾@12 |
| Fancy | 13 @13¼ |

Apricots, 1922, Packers' prices f. o. b. Cal.:

| | —In 25s— San Joaquins |
|---|---|
| Standard | @19½ |
| Slabs | @20 |
| Choice | @24 |
| Extra choice | @25½ |
| Fancy | @27½ |
| | Southern |
| Standard | @20 |
| Slabs | @20½ |
| Choice | @24½ |
| Extra choice | @26 |
| Fancy | @28 |

Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:

Opening quotations for the 1922 crop of figs released July 24 by the San Francisco representative of the California Peach and Fig Growers' Association, show substantial advances, particularly in black Missions. This grade is quoted at 11¼ cents this year, as against an opening price of 5 cents a pound in 1921.

The complete price list for 1922 crop Blue Ribbon, dried figs follows:

Adriatic—Price 6¾; standard, 6¾; choice, 8¾; fancy, 11¾.

Calimyrna—Standard, 8¾; choice 11¾; fancy, 14¾.

Black Mission—Standard, 11¼; choice, 14½; fancy 17¼.

These prices are for figs packed in twenty-five pound boxes, ¼c per pound less for packing in fifty-pound boxes.

Adriatics, ungraded, in bags....7¼c per lb.
Adriatic fig paste, 75-lb. boxes 5½c per lb.

| | | | |
|---|---|---|---|
| 12-10 oz., bricks, Adriatics | | | $1.10 per box |
| 24- 8 oz. bricks, Adriatics | | | 1.75 per box |
| 50- 6 oz. bricks, Adriatics | | | 2.80 per box |
| 70-d oz. bricks Adriatics | | | 2.95 per box |
| 24- 8 oz. bricks, Calimyrnas | | | 2.25 per box |

For foil wrap or brick figs add 10c per box.

| Box | Row | | Inches Spread | |
|---|---|---|---|---|
| 10-lb. | 4 layer | Adriatic | 2½ | $1.60 |
| 10-lb | 5 layer | Adriatic | 2 | 1.40 |
| 10-lb. | 6 layer | Calimyrna | 2½ | 1.90 |

PULLED CALIMYRNAS

| | |
|---|---|
| 48-1-lb round box | $10.40 per case |
| 6-5-lb boxes | 6.50 per bundle |

All prices f. o. b. California common shipping points.

For shipment September, October, November, seller's option.

Terms as per dried fruit contract adopted by the National Wholesale Grocers' Association and the Dried Fruit Association of California, April 23, 1919.

Prunes, 1922, Packers' prices f. o. b. Cal.:

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼@11½ | 15 @15¼ |
| 40-50s | 9 @ 9¼ | 12¼@12½ |
| 50-60s | 8 @ 8¼ | 10¾@11 |
| 60-70s | 7½@ 7¾ | 9¾@10 |
| 70-80s | 7 @7¼ | 8¾@ 9 |
| 80-90s | 6¾@ 7 | 8 @ 8¼ |
| 90-100s | 6¾@ 7 | 7½@ 7¾ |
| 100-120s | in 50-lb. boxes, 6¼ per lb. | |
| 120-up | in 50-lb. boxes, 5½ per lb. | |

Peaches, 1922, Packers' prices f. o. b. Cal.:

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | 11¼@11½ | 11½@11⅝ |
| Slabs | @11½ | @11¾ |
| Choice | @12 | @12¼ |
| Extra choice | @12¾ | @13 |
| Fancy | @13¾ | @14¼ |

Peaches, 1922, California Peach and Fig Growers' Assoc. prices :

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @ | @11¼ |
| Choice | @ | @12 |
| Extra choice | @13¼ | @ |
| Practically Peeled— | | |
| Standard | @ | @12¼ |
| Choice | @ | @13 |
| Extra choice | @14¼ | @ |

| | |
|---|---|
| 11-oz. Cartons, 60 per case | 7.00 case |
| 2-lb. Cartons, 24 per case | 8.25 case |
| 5-lb. Cartons, 10 per case | 8.50 case |

Pears, 1922, Packers' prices f. o. b. Cal.:

| | —In 25s— | |
|---|---|---|
| Standard | 13 | @13¼ |
| Choice | 15 | @15½ |
| Extra choice | 17 | @17½ |
| Fancy | | @19 |

Raisins, Sun Maid Raisin Growers' prices, for shipping to August 1:

Seeded—Sun-Maid, 15-oz., 15⅛. Bakers (in 25s and 30s) 13⅜. 1-crown (in 25s and 30s), 13⅜.

Loose Muscatels—4-crown (in 25s), 15⅜. 3-crown (in 25s), 14⅛. 2-crown (in 25s), 13⅛. 1-crown, recleaned (in 25s), 13⅞. 1-crown, not Sun-Maid (in 25s), 13⅜.

Seedless—Thompsons, bulk (in 25s), 15¾. Thompsons, bakers (in 25s), 15⅛. Sultanas, bulk (in 25s), 14¾.

Bleached Thompsons—Choice, sulfur (in 25s), 18⅜. Fancy, sulfur (in 25s), 19⅜. Extra fancy, sulfur (in 25s), 22⅜. Soda dipped, 15-oz., 17¼. Soda dipped, 8-oz., 9⅛. Soda dipped, bulk, 15⅝.

Thompsons, 5c pkgs., six 24s, per case, f. o. b. jobbing points, 3.65. Valencias, bulk (in 25s), 12⅝. Feherzagos, loose (in 25s), 12⅝. Malagas, loose (in 25s), 12⅝. Zante Currants (in 25s), 15⅝. Black grapes, 1920 crop (in 25s), 16⅞.

Layers—All grades, withdrawn.

### BEANS

California Bean Growers f. o. b. Cal. c. r. c.

| | |
|---|---|
| Large Whites | 8.00 |
| Small White | 7.40 |
| Pinks | 5.40 |
| Mexican Reds | 4.40 |
| Red Kidney | 8.00 |
| Cranberries | 7.60 |
| Bayos | 5.50 |
| Blackeyes | 4.25 |
| Henderson Bush Limas | 9.00 |

### RICE

California Rice Growers Assoc. reports sales last week No. 1 Paddy 2.87@3.27. Crop practically cleaned up.

### HAY AND FEEDSTUFF

A. W. Scott Co. reports under date July 22:

Receipts past week 1441 tons as compared with 1658 previous week. San Francisco market is still quiet. Receivers report oversupply of medium and lower grades; high grades are in light supply. Export and coast shipping have done a little better although cut in water freight rates has caused a rush of shipments of general merchandise which has somewhat crowded out space for the bulkier shipments of hay. Interior trading has increased slightly, a few crops of moderate size changing hands at figures quite a bit under the previous asking prices. Some farmers are placing their hay in storage; nearly all hay raisers are actively engaged in stacking and baling and not concerning themselves

as yet about the matter of marketing. The quality of the crop is better than we have seen for many years and balancing one locality with another the general average quantity seems to be about normal. Alfalfa is moving steadily but in rather light tonnage and with no really active demand. The general crop tonnage is reported a little heavier than last year. Millfeeds are higher and advancing, mainly due to the increase in the wheat market prices caused by export orders from Japan and heavier shipments.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions).

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@17.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 14.00@16.00 |
| Wild Oat Hay | 10.00@12.00 |
| Alfalfa Hay, 1st and 2nd Cutting | 13.00@15.00 |
| Stock Hay | 9.00@11.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 28.00@29.00 |
| Oats, Rolled Feed | 38.00@40.00 |
| Bran | 33.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 55.00@60.00 |
| Coconut Meal | 31.00@33.00 |
| Alfalfa Meal | 20.00@22.00 |
| Cottonseed Meal | 50.00@55.00 |
| Sugar Beet Pulp | 32.00@34.00 |
| Molasses, tanks | 17.00 Barr 25.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices S. F. Grain Exchange, July 24, f. o. b. S. F. warehouse and storage charges paid.

Barley Feed. 1.15@1.20; shipping, 1.25@1.35.

Wheat Mill, 1.90@1.95; Feed, 1.85@1.90.

Oats: 1.40@1.50.

Corn: White Egyptian, nominal; colored milo, 1.90@1.95; No. 2 bulk, 1.80@1.90; No. 2 Eastern yellow, 1.58@1.60.

## Citrus Markets

Los Angeles, July 26, 1922.

Valencia market shows no drop since last week. All best grades are eagerly received at good prices.

Lemon demand is still only fair as weather continues cool in East. There are on hand for next 30 days 120,000 boxes of foreigns. This season's crop of foreigns is estimated at 30,000 carloads.

### Citrus Shipments

Shipments of citrus fruits to date since November 1, 1921. Southern California: Oranges, 19,860 cars; lemons, 8,034; total, 27,894. To same date last season: Oranges, 32,154; lemons, 9,235; total 41,389. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,603 cars; lemons, 185; total, 6,788. From Northern California to date this season: Oranges, 372; lemons, 8; total 380. To same date last season; Oranges, 305; lemons, 5; total 310.

AT THE AUCTIONS

**July 19**

New York: 11 or., 1 mixed, 2 lem. Val., 4.85@12.20; grapefruit, 5.45@6.25; lem., 2.90@4.50.

Boston: 6 or., 3 lem. Val., 4.05@10.00; grapefruit, 5.85; lem., 4.50@5.55.

Pittsburgh: 3 or., 3 lem. Val., 3.15@6.95; lem. 2.75@5.30.

Philadelphia: 2 or., 1 lem. Val., 5.20@6.65; lem., 2.75.

**July 20**

New York: 12 or., 2 grapefruit, 1 lem. Val., 3.95@12.85; grapefruit, 3.55; halves, 2.80; lem., 3.25.

Boston: 1 or., 1 grapefruit, Val., 4.50@8.30; grapefruit, 4.10@5.35.

Philadelphia: 2 or., 1 grapefruit, 1 lem. Val., 4.95@9.05; grapefruit, 3.50@5.05; lem., 3.35.

**July 21**

New York: 8 or., 1 grapefruit, 1 mixed. Val., 4.85@12.00; grapefruit, 4.35@5.85; seedless grapefruit, 5.55.

Boston: 6 or., 1 lem. Val., 4.20@11.55; grapefruit, 3.55@4.75; halves, 3.55; lem., 6.20.

Cleveland: 2 or., 4 lem. Val., 5.60¼9.35; lem., 2.00¼4.10.

St. Louis: 1 or., 1 lem. Val., 4.25@6.30; lem., 1.60@2.70.

Pittsburg: 1 lem., 1.80.

Philadelphia: 1 mixed. Val., 4.50@6.10; grapefruit seedling, 4.45@5.25.

Cincinnati: 2 lem., 3.10@4.00.

**July 24**

New York: 20 or., 1 grapefruit, 2 mixed, 1 lem. Val., 2.90@12.18; grapefruit, 3.40@6.10; lem., 3.50@5.45.

Philadelphia: 5 or., 2 lem. Val., 4.90@9.60; grapefruit, 2.15; lem., 3.15@5.50.

Pittsburg: 4 or., 3 lem. Val., 4.95@7.40; lem., 2.60@4.00.

Cincinnati: 1 or., 3 lem. Val., 5.65; lem., 2.60@4.65.

Cleveland: 1 or., 3 lem. Val., 4.55@8.50; lem., 2.90@5.00.

St. Louis: 1 or., 2 lem. Val., 4.40@5.60.

**July 25**

New York: 13 or., 1 mixed. Val., 3.50@12.00; grapefruit halves, 3.50.

Boston: 6 or., 1 grapefruit, 1 lem. Val., 4.40@11.05; lem., 3.10@5.15; grapefruit, 3.10@5.00.

Philadelphia: 2 or., 1 lem., 1 grapefruit, Val., 6.40@11.30; lem., 3.00@4.40; grapefruit, 3.45@4.50.

### CALIFORNIA CATTLEMEN'S REPORT

San Francisco, July 24.—The Chicago market held steady last week although receipts increased considerably compared to the week previous. This situation makes the eastern market continue favorable for shipment east from California if necessary.

The San Francisco market remains steady with sales of cattle averaging 6½ cents to 6¼ cents f. o. b. ranch for steers and 5 to 5½ cents f. o. b. ranch for cows. The packers are willing to pay 7 cents for really choice fat steers, but they are exceedingly hard to find.

The Los Angeles market remains steady, though rather quiet. Sales are reported at 6½ cents f. o. b. ranch for steers and 300 to 400 pound calves are bringing 9¼ cents f. o. b. Los Angeles.

It is absolutely certain that buyers will not pay more than is asked for cattle. If you have good choice fat steers, you can get 7 cents f. o. b. ranch for them. There are very few of this quality in the state, however.

Government figures for June show approximately one-half the normal amount of beef in cold storage holdings, in the United States. Hides continue to increase in value, and offal is worth 12.50 per head compared with $10 per head in February and March of this year. Dressed beef is selling for about 1 or 1½ cents per pound less than at that time.

A transaction of unusual interest has just been announced from Los Angeles. A group of cattlemen have purchased the Lewis Packing Plant and organized a company to be known as the "Associated Packing Company." The purchase includes a modern well equipped packing plant, and actual slaughter of livestock by the new company began on Monday morning July 17. The company is financed entirely by producers who are well distributed over the state, some living as far north as Tehama County. A producer owned packing plant has been discussed for a long time, and this plant at Los Angeles is of great interest to cattlemen all over the state since many cattle are shipped from central and northern California to Los Angeles for slaughter.

The United States bureau of markets announces appointment of Carl V. Maloney and Nelson R. Crow, to be the livestock market reporters at San Francisco and Los Angeles, respectively. These men will begin work on August 1.—R. M. Hagen, Secretary.

### FROST PROTECTION ON RANCHO SESPE

(Continued from Page 117.)

#### Care of Equipment

After the winter season is over the care of our equipment comes in for considerable thought. The oil is pumped from the heaters and every two or three years they are moved to a central depot where they are cleaned, tested, repainted and assembled again. During the years when the heaters are not moved out of the groves the part of the heater where the paint is burnt off is repainted by hand and the heater replaced under the trees. Care must be exercised during the year not to strike these heaters with hoe or implement, as they will puncture very easily. After the cleaning operation is well organized it is rather simple. Each group of men have their own special work to do. The heater is first disassembled and the covers go to one group where they are cleaned. The sombrero hoods take a similar course of cleaning and then are painted by dipping in an asphaltum base paint. They are now drained and stacked to dry. The bowl of the heater, which is the most important part, is first drained of any surplus oil. It is then very carefully heated so that all the paint and asphaltum is melted and burned off. Care must be exercised not to overheat the iron or an injury will take place. The bowls are then scraped and brushed with wire brushes so that the metal is entirely clean of rust and dirt. They are then tested for holes by immersion in distillate, and the leaky ones set aside. The bowls and covers are now assembled and dipped in the asphaltum paint. After they are drained the bottoms of the bowls are dipped in hot asphaltum, known as petrolastic cement. This is allowed to coat the sides for about three inches. Care must be exercised not to trap any air on the bottom of the bowl. The heater is immediately placed on a square of building paper and a perfect seal made. The heaters are now dried, assembled and stacked ready to be put into the field for the next season's use. The bowls with holes in them are repaired by spot welding and are then painted similar to the good heaters.

#### Costs

The cost of cleaning and painting per heater is as follows: Labor, 10.6 cents; material, 5.6 cents; hauling heaters from field, 1.8 cents; total, 18 cents. After eight years' service we still have 13,238 of the original 13,500 heaters, or a loss of only two per cent.

The cost of firing depends naturally in a great measure on the amount of firing done. The cost of firing the Rancho Sespe for the last six years is $36.97 per acre per year. This figure includes the cost of labor, oil, care of equipment and depreciation, and all other operating expenses, but does not include interest on investment.

Our experience although short can be summed up as follows: that lemon orchard heating pays, where followed in a painstaking and persistent manner, and that it should be considered one of the main fundamental operations on any well managed lemon ranch.

### SUGGESTIONS FOR DRYING FIGS

(Continued from Page 99.)

was indefinitely postponed, pending the results of scientific investigation which began in 1908 and which has never been finally reported upon. A reasonable amount of sulphuring is considered quite legitimate in California and, when properly done, does not injure the fruit but rather improves the color and keeping qualities. Careless methods of sulphuring or attempting to make the sulphuring process cover up any shortcomings of the grower and enable him to palm off on the public an inferior article, is, of course to be condemned. The use of too much sulphur results in a large percentage of sulphurous acid in the fruit with the consequent sour and disagreeable taste.

While washing or dipping of the Adriatic figs before sulphuring is sometimes practiced, it is not at all necessary. After the figs are gathered properly, the trays containing the figs are stacked up in the sulphur house which is built of suitable size and made airtight. About one quart of sulphur will be found sufficient for each 100 small trays, if the sulphur house is tight. If wooden sulphur houses are used it may be necessary to burn two quarts of sulphur to get the necessary results. Exposure to the dense fumes until the sulphur is consumed is suggested. If not too much sulphur is used it will do no damage to leave the fruit in longer. In fact the trays of fruit are often left in the sulphur houses over night.

After sulphuring the Adriatic figs are dried in about the same manner as Calimyrna or Mission figs.

#### Sorting

Before boxing, figs should be hand sorted. Bird picked and split figs should be removed and delivered in separate boxes. Sour figs and smutted figs which can be detected, should be picked out and reserved for hog feed or other purposes. Hand sorting is most easily accomplished when the trays are not overloaded, that is, filled too deeply. Figs after sorting should not be sacked for delivery. While sacks have been sometimes used in sections where lug boxes or sweat boxes are not commonly found, the figs are more or less injured in quality by delivering in sacks or storing in sacks for any length of time. After sorting figs, they are dumped into lug boxes or sweat boxes without any further process. Sweat boxes used in the raisin and fig districts are 7½ inches deep, 2 feet wide by 3 feet, ¾ inches inside measure.

### MEANS CHEAPER ORCHARD HEATERS

It is reported that carload freight rates on orchard heaters from the Chicago territory after July 31, 1922 to main line points in Los Angeles territory will be reduced from $2.25 per hundred to $1.00 until December 31, thereby effecting a considerable saving in transportation which the distributors say will be passed on to purchasers of orchard heaters. It is doubtful if the rates will be effective after December 31 as the Transcontinental Freight Bureau has set this time limit on the reduced rates.

### GETTING READY TO FIGHT FROST

Orchardists of California will be interested in the announcement that a contract has just been made by the Geuder, Paeschke and Frey Company of Milwaukee, Wisconsin, with E. W. Dunn of Los Angeles for the manufacture of Dunn orchard heaters under the Dunn patents. This company is one of the largest manufacturers of metal products in the United States and has been engaged in this line of manufacture for more than 41 years. Mr. Phil Kempter, the factory representative, is at the Lankershim Hotel, Los Angeles, and states that the company will be in position to furnish orchard heaters in quantity for protection of orchardists against frost losses during the coming season.

### WEATHER REPORT

San Francisco, Cal., July 22, 1922.

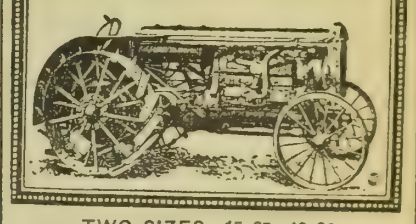
| Stations | Rainfall Week | Rainfall Season | Rainfall Norm. | Temp. Max. | Temp. Min. |
|---|---|---|---|---|---|
| Eureka | .0 | .0 | .11 | 58 | 50 |
| Red Bluff | .0 | .0 | .0 | 108 | 62 |
| Sacramento | T | T | .0 | 94 | 54 |
| San Francisco | T | T | .01 | 66 | .... |
| San Jose | T | T | .0 | 86 | 48 |
| Fresno | .0 | .0 | .0 | 108 | 64 |
| San Luis Obispo | T | T | .01 | 82 | 54 |
| Los Angeles | .0 | T | .0 | 82 | 58 |
| San Diego | .01 | .01 | .0 | 76 | 64 |

### WEATHER REPORT

San Francisco, Cal., July 15, 1922.

| Stations | Rainfall Week | Rainfall Season | Rainfall Norm. | Temp. Max. | Temp. Min. |
|---|---|---|---|---|---|
| Eureka | 0 | 0 | .11 | 60 | 50 |
| Red Bluff | 0 | 0 | 0 | 110 | 62 |
| Sacramento | 0 | T | 0 | 106 | 50 |
| San Francisco | 0 | T | 0 | 74 | 55 |
| San Jose | 0 | 0 | 0 | 94 | 54 |
| Fresno | 0 | 0 | 0 | 108 | 60 |
| San Luis Obispo | 0 | 0 | .01 | 86 | 50 |
| Los Angeles | T | T | 0 | 90 | 58 |
| San Diego | 0 | 0 | 0 | 76 | 62 |

**Allis-Chalmers**
**Farm Tractors**



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Do your harvesting and threshing with an Allis-Chalmers.
Ask our nearest agent or write us and find out how we make it easy for you to buy your A-C tractor.
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**140——REGISTERED——140**
**HOLSTEIN HEIFERS**
A dispersal of the splendid heifers in Willowmead Herd, owned by James McGillivray, Sacramento
**THURSDAY, AUGUST 17, 1922**
These choice heifers range from young calves up to bred heifers. There are approximately 100 open heifers in the lot
THESE HEIFERS WERE RAISED ON WHOLE MILK FROM TUBERCULIN TESTED COWS AND TURNED INTO CLEAN PASTURES AT WEANING TIME. ONLY ONE REACTOR OUT OF 175 HEAD TESTED FOR THIS SALE, WHICH NUMBER INCLUDED ALL COWS FURNISHING MILK FOR CALVES.
This is an opportunity to buy clean, well bred, well grown, well marked heifers of excellent type such as has never before been presented in a single sale in California.
EVERY HEIFER OVER SIX MONTHS OLD SOLD SUBJECT TO 60 DAY RETEST BY THE BUYER.
Place of Sale—On the main highway between Sacramento and Stockton, about 12 miles south of Sacramento, one mile north of McConnell Station.
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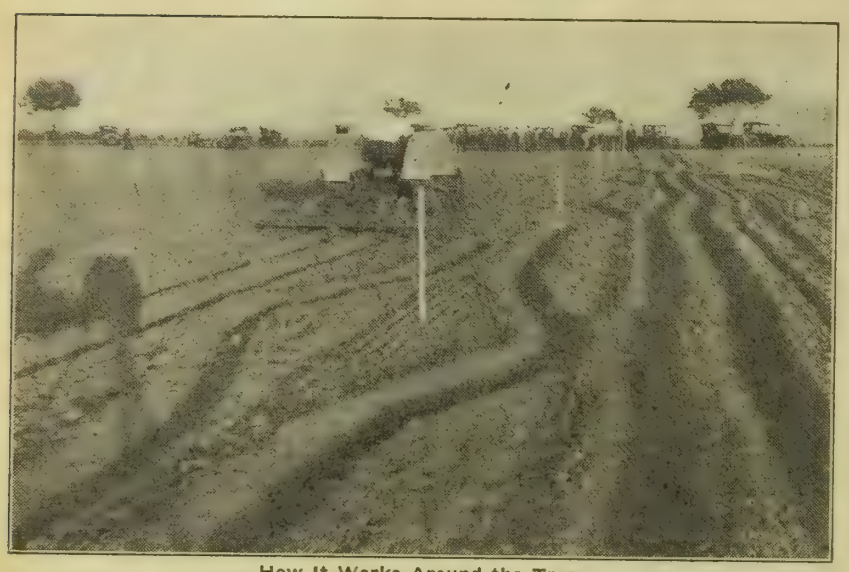
Management
CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
C. L. Hughes, Sales Manager, Sacramento, Calif.

# The Wilson Automatic Furrower

## Saves Time and Reduces Cost of Irrigation Field Work

### One Man on the Tractor With a Wilson Automatic Furrower Can Prepare An Acre in Twenty Minutes

### All Cross Furrowing and Shovel Work is Eliminated and the Dry Middle Between Trees Thoroughly Furrowed

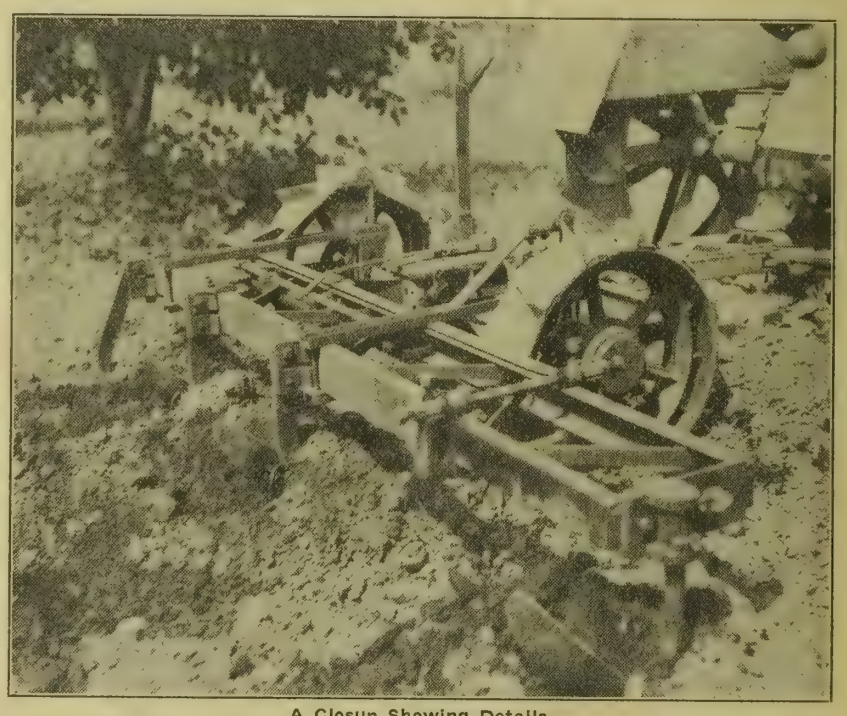


**How It Works Around the Trees**
The Wilson furrower and how the lateral as well as forward motion of the right hand plow or shovel makes impossible "dry centers."

The Wilson Automatic Furrower is the ultimate result of years of study by a practical orchardist, formerly manager of the Luther Burbank Company. This machine has been declared by expert orchardists to be perfect. It has been thoroughly tried for two years before being placed on the market. In 1921 the original machine demonstrated its value by successfully furrowing out more than eleven hundred acres. More than two hundred Wilson Automatic Furrowers were sold before one was ready for delivery. The Wilson Automatic Furrower is adaptable to use with any tractor and the tractor operator handles the tool. Drive in a straight line between the tree rows—a pull of the cord and the traveling shovel extends slowly around the tree to the dry centers between rows. In one minute it can be changed to extend the furrow any desired distance from one inch to 3 feet 6 inches, thereby thoroughly covering a 10 or 12 foot middle. The angle at which the traveling shovel extends can also be regulated to suit the desires of the owner.

### Good Bye Shovel Forever!

Think of the saving in time, money and labor. This tool does all the work usually done with shovel and hoe except cutting in at the stands. Do your furrowing, turn on the water and go to bed. The Wilson Furrowing Machine is the first and only machine to place the furrows down the dry middles between the trees. Once around the row insures equal irrigation to all parts of the orchard.



**A Closup Showing Details**
Near the center is gear case with cord attached to trip which makes possible the side motion. Right hand plow has nearly completed side thrust.

### What the Wilson Automatic Furrower Is

This implement is the most practical, efficient and economical labor saving Furrower ever constructed. It weighs 800 pounds built entirely of steel with a traveling extension shovel operated by a scientifically arranged set of gears enclosed in a dust proof housing. It is easily operated by a trip cord, and the angle of the shovel is adjustable, also the distance of the extension can be changed quickly.

The gears are all steel and every part is capable of carrying many times the load that will ever be put upon it. We guarantee the perfect working and durability of every machine sold with entire satisfaction to the buyer.

The Wilson Furrowing Machine is thoroughly financed. No stock selling campaign was necessary and it is entirely covered by Patents Pending. Warning is hereby given to possible infringers that neither time nor money will be spared in the protection of our rights, both here and in all foreign countries where applications are made. It has been passed upon favorably by all the largest Citrus Organizations and growers, and we can give you almost unlimited endorsements both as to its practicability and economy.

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If you are interested, drop us a line and we will get in touch with some Tractor Agency in your territory, at once, or have our representative call upon you with a demonstration.

# Wilson Furrowing Machine Company

(INCORPORATED)
DEPARTMENT W, WESTERN PIPE & STEEL COMPANY
SLAUSON AND SANTA FE AVENUES, LOS ANGELES
TELEPHONE SO. 7745

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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

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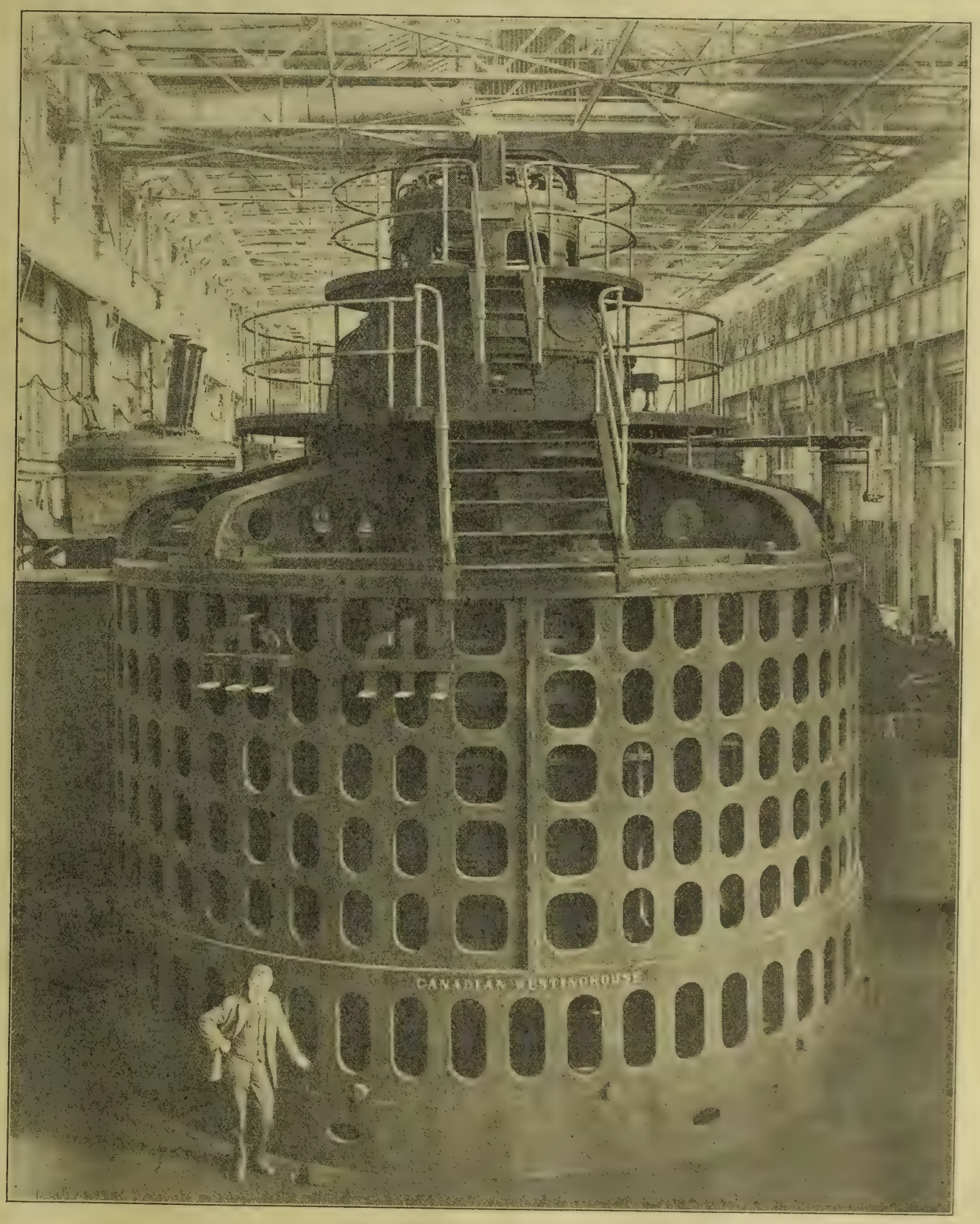
Vol. LIX — August 5, 1922 — No. 6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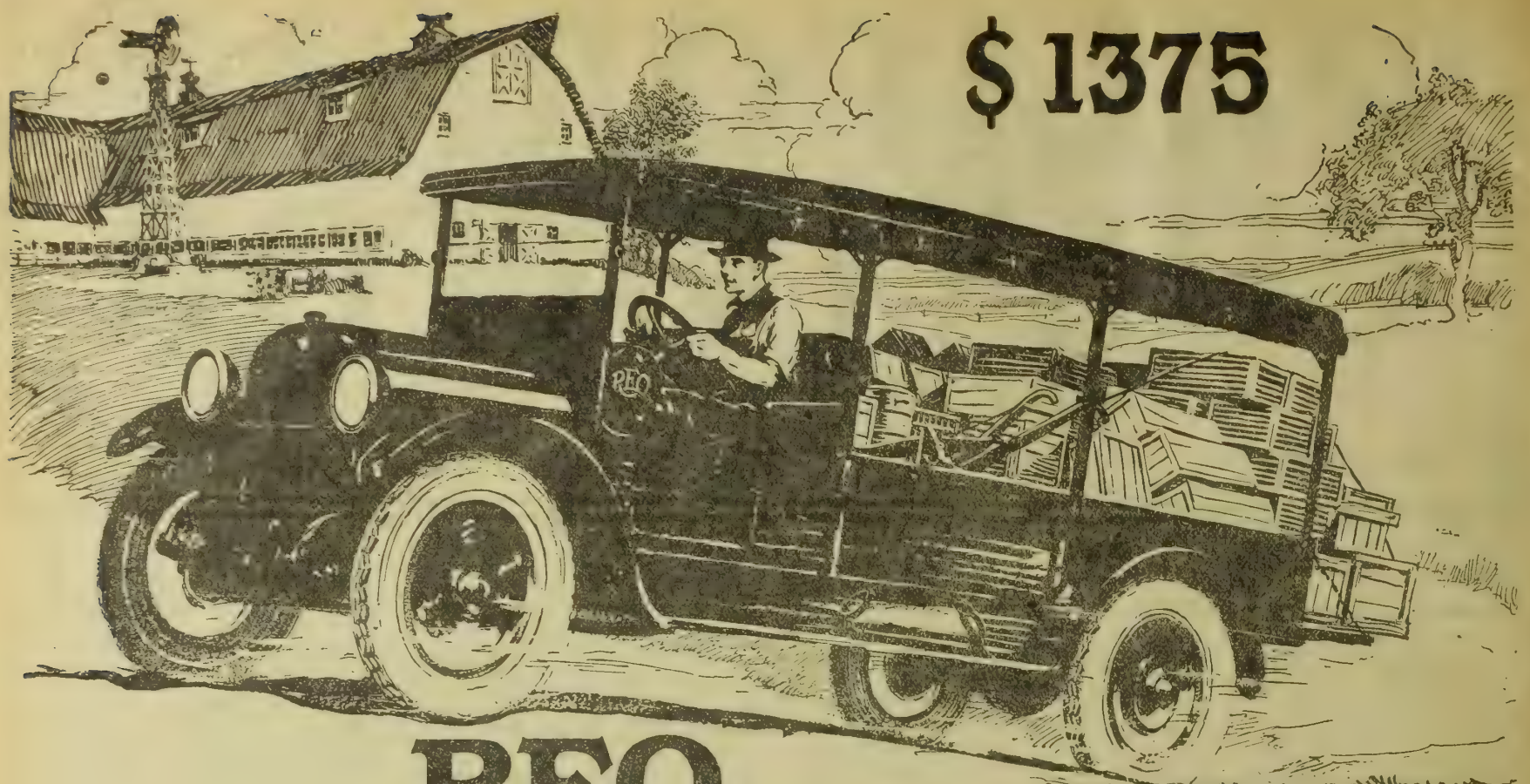


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Stamina and stability are the prime requisites.

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This Reo Speed Wagon was designed expressly to meet your needs.

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That is the kind of truck you need on the farm—chassis, transmission, clutch, axles and other units, on a par with that matchless motor.

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Hauling over all manner of roads—city pavements, macadam, dirt roads—and trails.

At times you must over-load cruelly—alright:

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|---|---|
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# California Cultivator

Vol. LIX, No. 6 | Los Angeles, August 5, 1922 | One Dollar Yearly


# The Kadota Fig

## By Ira J. Condit, Horticulturist in Charge of Fig Investigations, California Peach and Fig Growers

DURING the past few years considerable interest has been aroused throughout the San Joaquin Valley in the commercial possibilities of the so-called Kadota fig. I have already written so much about the variety that I hesitate to add any more to its literature. In discussing, however, the California fig varieties which are being grown commercially, we must not overlook the growing importance of this new aspirant for horticultural honors.

### Characteristics

The Kadota is a rank grower when given an abundance of water. A Calimyrna, Adriatic or Mission tree will practically make as much growth if grown under the same conditions of soil and moisture. The important fact, of course, to consider is the amount and quality of fruit produced. The Kadota fruit is benefited by an abundance of moisture since it is increased in size and amount. The Calimyrna and Adriatic fruits are susceptible to splitting and souring, therefore overwatering must be avoided. Since the two last mentioned varieties are grown primarily at present for dried fruit, it seems to be the best practice to avoid overirrigation during the early life of the tree so that deep rooting will be encouraged. Continued frequent irrigations of the Kadota are practiced to encourage rank growth of the tree and heavy production of fresh fruit. In exposed situations this heavy rank growth is liable to frost damage and growers in such localities may have difficulty in bringing a tree to profitable production on account of winter injury.

### Caprification

Caprification affects the fruit of the Kadota more noticeably than most other common figs. The differences may be noted as follows: The color of the uncaprified fig is a light, lemon yelow, the surface somewhat glossy; of the caprified fig, the color is green or yellowish green and the surface dull. Ribs on uncaprified figs practically absent; on caprified fruit ribbed appearance marked, especially in the wilted specimens. Meat or rind seemingly little affected in thickness and texture. Color of flesh in uncaprified figs amber or pinkish amber to light strawberry; in caprified specimens much deeper. Uncaprified figs, practically seedless, at least seeds small and hardly noticeable; caprified figs with numerous large, fertile seeds. Flavor of caprified figs sweeter and richer.

The value of caprification of the Kadota figs depends upon the ultimate use of the fruit. The fresh fruit shipping quality is somewhat impaired. For drying the caprified figs are much superior to the uncaprified although the skin is still thick and tough. For preserving the uncaprified figs are much more desirable because they are better in appearance, in size and in canning quality. Most growers prefer the uncaprified fruit and avoid caprification if possible.

### Adaptations

On account of the resistance of the Kadota fruit to unfavorable moisture conditions which cause most other figs to split or sour the variety may be planted over a much wider territory than either the Calimyrna or the Adriatic. It is too much, however, to claim that the fruit never splits or sours. I have found sour Kadota figs in three localities and in one case caprified Kadotas were found splitting more or less commonly. Successful young orchards are found on both heavy and light soils. While good dried figs may be produced without the application of any water to land except the natural rainfall, an abundant and uniform supply should be assured throughout the season for the best results with Kadotas. Commercial results so far secured in preserving and canning the fruit seem to show that the Kadota is unexcelled for such purposes.

Immature Kadota figs are more susceptible to heat damage than figs of other common varieties. When summer temperatures range around 105 degrees Fahrenheit or above, the small figs, from a quarter to one-half inch in diameter, seem to be affected so seriously that they wilt and shrivel up. This injury is probably due to the excessive exaporation of moisture from the leaf surface which reduces the water content of the fruit beyond the point of recovery. An ample supply of soil moisture and the growing of summer cover crops should reduce the damage or overcome it entirely.

Another surprising fact regarding the Kadota is the susceptibility of the trees and fruit to the attacks of red spider. Occasionally the Adriatic fig suffers from the ravages of this pest, but in the past most varieties of figs have been considered to be immune or nearly so. The experiences of the past two or three years, however, have shown that Kadota leaves are very well relished by the red spider and that the developing fruit becomes rusty and unfit for preserving unless the infestation is checked by means of sulphur applications.

One thing which intending planters of Kadota figs should consider is the labor problem. From July to October or later there is or should be a steady succession of crop which must be picked in right condition for best results. Steady, reliable pickers must be on hand to keep the fruit picked clean, for, as already stated, the dried product cannot be relied upon for much revenue.

# The Peach Pickers Art

## By H. A. Brandt

PEACH picking is one of those seemingly simple operations that has in it all the possibilities and compensations of an art. The amateur peach picker is inclined to feel of the largest and most highly colored peaches in his effort to get the peach of his dreams. This is a rule of thumb method that has its advantages in the discovery of the first ripe fruits but it is not a method adapted to the handling of peaches when picking is in full blast.

Perhaps first among the factors to be considered in peach picking as an art is the use to which the fruit is to be put. A peach that has attained to a state of soft ripeness is in prime condition to eat immediately out of hand. Such a peach will not stand a trip to the cannery, and much less the trip to Chicago or New York. Thus it is obvious that the use to which peaches are to be put is an important consideration in determining the particular stage in the ripening process at which the fruit should be picked in order to conserve the utmost in texture and flavor. The suggestions that are to be set down here are those that seem of value at the opening of the writer's tenth season in the fine art of peach growing. They are suggestions that are primarily applicable to the situation where the orchard and the cannery are not many miles apart. This paper is not to be a discussion, at least not primarily, of the problem where the fruit must be shipped a distance or marketed as green fruit.

### Picking for the Cannery

In picking peaches for the local cannery the principal factors in judging prime ripeness are color, shape and response to the touch. The peach picker who is an artist at the work does not judge ripeness by softness, but rather by those subtler qualities that obviate damage to the texture of fruit. For example, in the picking of yellow peaches like the Lovell, if the fruit is grown on sandy soil and therefore free from dust, the picker will judge first by color and shape. Color is a variable factor, and here is one place that the art of picking comes into play. Color varies, or is dependent on position and exposure. Peaches in the shade are never so highly colored as those that grow in the sun. The picker will make allowance for this, fully realizing that the pale yellow peaches in the shade may be riper than the gorgeous fruit in exposed positions. Next to the color factor in judging prime ripeness is the shape of the peach. Well rounded plump fruit is mature fruit. It may not be at the exact stage of ripeness that the picker desires, and yet every well shaped peach that is yellow and plump will bear the next test. The third factor in judging prime ripeness is response to the touch. What does the yellow rounded peach do when the picker takes it lightly in his fingers? Does it respond to the touch? If it sticks, leave it. If it comes off easily and clean from the stem in response to a gentle pull the peach is ready to pick for the local cannery. This may not be an infallible rule, but when the picking of the crop is in full swing it is a quick and reasonably certain test of prime ripeness.

### Delivering in Prime Condition

The art of picking peaches includes the delivery of the fruit to the cannery in prime condition. It is therefore evident that a peach must not only be picked at the right time, but that it must be handled with care. There is a large opportunity for improvement in the handling of peaches. There are two factors of importance in this part of the process. These are the actual care in handling and the time element. In the handling it is not only important to refrain from crushing the delicate flesh of the fruit between the thumb and fingers in the effort to judge prime ripeness, but it is even more important to get the fruit to the cannery with as few bumps and bruises as possible. In all of this the time element is important, because in spite of the best practice some bumping and bruising is bound to occur. The evil results of unavoidable bruising may be minimized by getting the fruit to the cannery as quickly as possible after picking. Peaches that have stood over night in the field always look like they had spent a bad night. As for picking containers it is no doubt obvious that something rigid that minimizes bruising is the correct practice. The writer once experimented with a canvas picking sack for a few minutes. The results were disastrous. Peaches cannot stand the constant shifting and pressure of the sack method. The best picker's container should be so constructed as to minimize the bruising of the fruit.

### Three or Four Pickings at Least

It is obvious from the foregoing that a crop of peaches can not all be picked in a once over. Three or four pickings are the least good practice will allow. Frequent picking may seem on first thought to entail additional expense. This is true in one sense, but in another sense it is not. The cost of frequent pickings is more than balanced by the better condition and consequent higher grade of the fruit, by a somewhat higher yield, and by the superior condition of the tree after the crop is harvested. The first of these three considerations is obvious, but the last two may not be so at first glance. The superior yield is especially noticeable where trees are overfull and sizing the fruit with difficulty. In such cases picking for sizes tends to relieve the tree, releasing vital energy for the maturing of the greener and smaller fruit that remains. Thus frequent pickings may furnish just the relief necessary to bring the fruit up to size and better paying grades. Again, frequent pickings tend to leave the tree in a better

(Continued on Page 143)

# Agricultural News Notes of the Pacific Coast

## Northern California

Colusa County will feature rice in its exhibit at the state fair at Sacramento.

A total of 1105 carloads of eggs was shipped East from California during 1921.

Fires on the north slopes of Mt. Diablo have done serious damage to many ranches.

Hop growers in Sonoma County say hops have made good growth and are of excellent color.

Word comes from Sebastopol, Sonoma County, that the walnut crop is in splendid condition.

Calaveras County has been divided into districts for systematic campaign against ground squirrels.

Sutter County is making plans for its third annual peach contest. Already 100 peach orchards have been entered.

Glenn County is divided into 18 local fire units all connected by telephone service so that quick action is possible.

Secretary Wing of the California Wool Growers' Association is planning installation of an exhibit at the state fair.

It is expected that pear shipping from Nevada County will start about the middle of August. The fruit is late in maturing.

The directors of the Sonoma County egg laying contest are drawing up plans for improving the contest headquarters at Petaluma.

Stockmen of Nevada County are talking of holding a big stock sale at Grass Valley this fall under direction of the farm bureau.

The Chico chamber of commerce is urging farmers of the vicinity to get together in working for the formation of Chico irrigation district.

Pastures and ranges are drying up in the section about Fort Bragg, Mendocino County, but there is plenty of dry grass and stock are in good condition.

A field laboratory for the study of disease affecting range cattle in Siskiyou County has been established at Etna Mills by the division of veterinary science of the state university.

Red Bluff, Tehama County: There seems to be plenty of green feed on the higher ranges. Tomatoes and cucumbers plentiful. Peaches should be ripe in about two weeks; indications are for good crop.

At a recent road meeting held at Wilson of representatives from Sacramento and Sutter Counties it was decided to take joint action in putting through a paved highway from Yuba City to Sacramento.

Ranchers of the Alameda County water district have filed suit against the East Bay Water Company to restrain it from further operation of its deep wells at Niles. The plaintiffs allege that the water table has been lowered to the detriment of their crops.

During the first six months of 1922 the United States mint at San Francisco and local smelters anad refiners received from the mines of California $7,721,258 in gold, $371,140 more than during the first six months of 1921, when the receipts were $482,000 less than in the first six months of 1920.

## Central California

San Joaquin Valley orchardists report prunes dropping heavily.

Many Tulare Lake growers are said to be holding out for $2 for their wheat.

Six carloads of Thompson Seedless grapes were shipped from Kern County last week.

Fumigation for control of citricola scale is being carried on in the Lindsay district of Tulare County.

The Spreckels ranch at Aptos, Santa Cruz County, has been sold to a syndicate which will subdivide.

Tulare County reports Thompson Seedless slow in maturing. Shipments will start about the first of August.

Work is being rushed on the Don Pedro dam and engineers say it will be completed, as planned, by next May.

The California Peach and Fig Growers are operating three fig canneries this season, at Turlock, Fresno and Dinuba.

The Stanislaus County Peach Growers contest, under direction of the county farm bureau, already has 33 growers signed up.

Packers are reported paying seven and even seven and one-fourth cents for white Adriatic figs of selected stocks, f. o. b. the packing houses.

Independence, Inyo County, reports corn and alfalfa better than usual. Plenty of water and the last three weeks of warm weather tend to make all crops good.

The California Prune and Apricot Growers Association estimates this year's dried apricot tonnage somewhat less than last year's which was 25,000,000 pounds.

An apple butter plant is soon to be established in Watsonville. A building has been leased for five years and installation of machinery will begin in about 30 days.

A new confection has made its appearance—glazed olives. The olives are pitted and glazed with candy coating and are being put out by a Lindsay packing plant.

Apprehension as to the railroad strike situation has caused peach growers to hunt up drying trays so that if necessary the freestones may be dried instead of shipped fresh.

Fresno County's first annual Pork Day will be held at Kearney Park, under the auspices of the Fresno County farm bureau, October 20, 1922. Prizes offered aggregate $1211.50.

Kern County members of the grain department of the farm bureau exchange expect to ship 25 carloads of barley and wheat. They will handle a much larger crop of milo.

There is talk of building a road from Florence Lake through Piute Pass to connect with the road from Bishop to the summit. This would give connection between the San Joaquin and Owens River Valleys.

Six hundred head of hogs, the largest shipment on record consigned to Honolulu, left Tulare July 24 for San Francisco where they will be loaded aboard ship for the Hawaiian Islands. The hogs were shipped by Kendrick & Baldridge of Tulare to Hold & Locey of Honolulu.

## Southern California

The Hemet Valley estimates its apricot crop at 10,000 tons.

The peach canning season opens at Hemet, August 8 for a ten weeks' run.

A total of 1650 tons of apricots will be packed by two canneries at Pomona.

The Anaheim district of Orange County expects to harvest one of the largest walnut crops in its history.

Permanent site for the Valencia orange show has been purchased by the Anaheim chamber of commerce.

Lima beans in Santa Barbara County are somewhat spotted as a result of unfavorable weather in the planting season.

Escondido, San Diego County, sent out four carloads of cattle on Tuesday of last week.

Cotton is in excellent condition in Imperial County, putting on squares in fine shape.

A dairy survey is being made of Riverside County through the office of the county agent.

Westmoreland Imperial County, has shipped 250 carloads of watermelons this season and 1350 carloads of cantaloupes.

San Pasqual Valley in San Diego County, reports the largest apricot crop in many years. Drying is about finished.

It is planned that part of the waters from the great Warners dam in San Diego County will be available by January.

The new date packing house at Indio will be finished in time for the coming crop. The plant will be provided with two maturation rooms.

A vacuum fumigator for treatment of nursery stock has been installed on the property of the Lemon Heights Nursery Company at Tustin.

A market reporting service for livestock will be instituted at San Francisco and Los Angeles by the U. S. department of agriculture.

Special meeting for poultrymen of Southern California at Pomona, August 4, to be held under direction of the Los Angeles County farm bureau.

The Riverside cannery of the California Growers closed its run on apricots, having handled over 600 tons. This cannery will handle 4000 tons of peaches.

Thousands of sheep are being moved from the Antelope Valley of Los Angeles County through the Tehachapi to grazing lands in the foothills near Bakersfield.

A reduced freight schedule between Imperial Valley points and Los Angeles has been ordered by the state railroad commission. The new rates will be applicable both ways.

An almond warehouse is nearing completion at Paso Robles, San Luis Obispo County. This is said to be the largest almond warehouse in the state outside of the big central plant of the state exchange at Sacramento.

Irrigating companies of Azusa, Duarte and Glendora have collected 300 cast off smudge pots and presented them to Supervisor Charlton of the Angeles reserve to be used by campers for cook stoves. This in endeavor to lessen menace of forest fires.

## The Coast and General

Orchardists in Oregon are finding some difficulty in securing sufficient labor.

Extensive plantings of dates are being made in the Salt River Valley of Arizona.

Pure bred dairy cattle and milk goats from America are being introduced in South China.

Condition of wheat in Oregon is the poorest in years, considerable areas not being worth cutting.

Lightning has caused an unusually large number of fires in the Tonto national forest in Arizona.

The Lower Columbia Dairymens Association (cooperative) is handling the cream of 400 shippers.

Alfalfa seed growers in the Yuma district of Arizona report dry weather favorable and yield running fair.

The Oregon Dairy Council will take charge of the dairy exhibit at the Pacific International Stock Show this winter.

Cantaloupe shipping is over from Arizona except for Honey Dews. Melons came on oversupplied market in the East.

Work has started on the diversion dam across the Gila River at Sacaton, Arizona. $600,000 is being expended on the work.

Dairymen of Pima County, Arizona, have organized a marketing association with W. A. Knapp of Jaynes Station president.

Thousands of live quail are being shipped from the Nuevo Leon and Coahuila districts of Mexico. The quail are caught in nets.

Growers of seed potatoes in Western Washington and Eastern Idaho are making plans for their second annual show this fall at Spokane.

Trial shipments have been made from Brazil to New York of several hundred cases of oranges, tangerines, pineapples and avocados.

The Alaska salmon catch will exceed that of last year by 50 per cent. Canning is still in progress at Bristol Bay and in southern Alaska.

Ranges and pastures have improved east of the Rocky Mountains, but are generally poor in and west of these mountains, the deterioration in Washington and Oregon being considerable.

The sweet potato crop is excellent in the southeast and generally good elsewhere, although late in Mississippi and Arkansas. The commercial crop is being harvested in Florida and Alabama.

Report of the Tempe, Arizona Cow Testing Association for June shows average for the 430 cows tested of 27.8 pounds fat. The highest testing cow was a grade Holstein which gave 63.5 pounds fat.

Wheat is being threshed in Virginia, the Ohio Valley, Iowa, Nebraska and California. Some excellent yields are reported, but the out-turn is usually less than the quantity expected and the quality is rather low in places.

Arizona sent its first carlot shipment of Thompson Seedless grapes to Eastern markets last week. Packing is now in full swing. Midseason peaches and plums are ripening, while tomatoes are at their peak of production.

# "Hydro" As Is in Ontario, Canada

By C. B. Messenger

THE world is looking to California for information as to cooperative fruit marketing. It is asking how we have done it and how others with other products to market and other conditions to meet may apply the principles and secure the success given to California. Even as I write these words here in the beautiful little city of Hamilton, Ontario, at the extreme western tip of Lake Ontario, Aaron Sapiro of San Francisco is here inspiring Canadians as he has Californians. The fruit growers of Ontario, especially those of that wonderfully productive strip of land along the northern shores of Lakes Erie and Ontario, are already cooperating and erecting cooperative canneries to handle the fruit which the market interests have heretofore dumped into the lake—when occasion seemed to make that procedure profitable to them. Yet the growers need more and a higher community spirit in order to more completely cooperate. Hence Mr. Sapiro is here.

Yet in one line of cooperative effort or community work the Canadians are leading the world. They are harnessing the God-given waters of Niagara and turning the flood into blessings.

"But are they?" "That may depend on the point of view."

Possibly. However, I know of no more important point of view than that of the fellow who is getting the advantage of the development and paying the bills. So I have stolen a few busy days from an already long trip and taken a little side diversion by stopping off at Buffalo, thence down to Lewiston, taking a short boat ride across the head of Lake Ontario to Toronto, visiting the Commission, also consumers, in Toronto, then breaking away into the rural districts and learning at first hand as to the use made of "Hydro" by those who have not heretofore had the advantage of electric light or power. I have likewise talked with some who are not using it, and asked why. It has all been wonderfully interesting and will, I believe, furnish a few short stories of "Hydro" as it is in Ontario.

But stories of "Hydro" will mean little till a bit of explanation is given. The official title of the commission which has to do with hydro-electric development in Ontario is "Hydro Electric Power Commission of Ontario," which is too much of a mouthful for a busy Canadian, so it's all cut down to the five letters. Again, in asking a farmer as to whether he is using electricity for lighting and power as supplied by the commission, he invariably replies: "O, yes, I use (or sometimes do not) Hydro."

Again the word is sometimes used with an exclamation mark, for, frankly, there are those in the Province of Ontario who are intensely opposed to state management of hydro-electric power. When asked as to their opinion these people usually reply: "Oh Hydro!" The one inquired of sometimes explodes with the "Hydro" in such a way that it sounds as if he were wishing it were spelled Hydra and that the pleasure of cutting off each of the nine heads might be his. If this privilege were granted him I doubt not each head would reproduce two and possibly more, and hydro-electric development thereby be increased. I had more than an hour's interview with one of the most bitter opponents of the commission. He is attorney for the "U. F. O." U. F. O. means United Farmers of Ontario, but I soon learned this, that in representing the United Farmers as attorney he was not representing them in the matter of hydro-electric development. But a few paragraphs from his story will be given another day.

I will endeavor to give the people's own expression and show so far as possible their own viewpoint. I wish first of all to express appreciation for valuable aid given by Hon. R. T. Jeffrey, by J. W. Purcell, assistant engineer in charge of the engineering problems of rural districts, His Worship C. Alfred Maguire, Esq., Mayor of Toronto, Mr. Miller of the Toronto Telegram, A. A. McLaren, Mr. Waldron of the U. F. O. and to many others, officials in the province and farmers and other consumers.

* * *

### Peculiar, But Real Cooperators

In the long long ago, somewhere in Europe, there gathered together a number of people somewhat peculiar in their religious beliefs, and there they laid the foundation for a religious organization which, while not large, has continued to this day. Its branches exist in nearly all parts of the world. One of the fundamentals of their belief as to dealing with each other is that brotherly cooperation leads to the upbuilding of the entire community and the greatest success and best opportunity for advancing God's kingdom here on earth. Those belonging to that organization have since become known as Mennonites. They are not the originators of the cooperative idea, but they have been factors in its advancement. To give an example of the extent to which they carry the cooperative idea I may say that they never carry any insurance, trusting to the wisdom of God and to the cooperative spirit of the people who are neighbors. If the house or the barn should burn the neighbors, without previous agreement and purely voluntarily, contribute a sum sufficient to cover the construction of a new building to replace the old. This is possibly hardly equivalent to cooperative mutual fire insurance organizations of California, but the protection is there and the cooperative spirit has been encouraged.

### Not Berlin Any More

Amongst other places in which these people settled is a community the center of which is known as Kitchener, in the Province of Ontario, Canada. Lest some readers of the Cultivator get down the old atlas to look up the location of Kitchener, let me suggest that a recently made map will be required to locate the town. However, if the possessor of the older map will locate "Berlin" in the county of Waterloo, Province of Ontario, some 30 miles west of Hamilton, he will find "Kitchener." Kitchener was Berlin since its founding until the recent World War. The settlement was made by Mennonites and others of German origin. They and the younger generation learned to love their adopted flag, and most of them were intensely loyal people. The World War changed opinions and the change in the name of the city was suggested. Naturally there was much opposition. The fight waxed hot but ultimately resulted in a change from Berlin to the thoroughly English name of Kitchener.

This bit of a story may have little to do with hydro-electric power. It does, however, have much to do with the cooperative spirit of the people of Ontario. It has made possible the putting into operation of the greatest hydro-electric power concern in the world. It is a concern which has already spent in excess of two hundred millions of dollars in installation work, has supplied a couple of hundred cities and communities with electricity and has added to the comforts and livableness of rural communities, many of which were entirely without till hydro came.

### But They Are Cooperators

One of the principles also approved by the religious sect to which I have referred is: "There shall be no pampering or allowing of members to indulge in luxuries." Many of these people to this day deny themselves and their children the right to ride in an automobile, to adorn themselves with jewels, or even to provide the simpler comforts, or what many of us consider necessities in the home. Yet with these two sentiments opposed to each other, the community, or cooperative spirit triumphed. More than a score of years ago some two or three gathered in the home of one and discussed the matter of the awful waste of power and the comforts which it would give if a harness were put on the waters of Niagara, a hundred miles away. This informal conference resulted in others, and still others, until ultimately the Provincial Government was approached with a suggestion that the problem was altogether too big for any one community to handle. The campaign was one of education, then of agitation and finally of accomplishment.

### A Big Job for a Little Country

The Province of Ontario covers 260,862 square miles, and has a population, or rather had in 1901, of 2,182,947. Considerably larger in territory, but smaller in population, than California. The harnessing of the Niagara seemed too big an effort to many of the people. Opposition was fierce. To make a long story short, cooperation prevailed, and today there are electric installations in the homes in many parts of the province. The installations are under the direction of 14 "systems." These systems are required to handle power and lights as generated from different centers. Of course the one greatest of all, greater than all, is the "Niagara System." Then there are the Central Ontario, Essex County, the Eugenia, Muskoka, Nipissing, Ottawa, Rideau, Severn, St. Lawrence, Thorold, Thunder Bay and Wasdell systems. The smallest of these is the Thorold system, which serves a population of only 5,514 and secures its power from a small waterfall.

Al of these systems are under the direction of the Hydro-Electric Power Commission of the Province of Ontario. This commission consists of three members, viz., Col. Sir Adam Beck, chairman; Honorable D. Carmichael, and Honorable J. B. Lucas.

### Rural Installation

Without touching upon the steps by which this great movement has grown, let me refer for a moment to the pro-

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# This Month in the Ornamental Garden

## Southern California

By Ernest Braunton

AUGUST is the month when the cautious gardener begins to "nibble at the bait." Some of the most experienced sow cineraria seed; some wait until September. The time is sometimes dictated by the weather. Directions for sowing and care are printed on the seed packets, but remember that cinerarias are cool weather plants and must also be grown in the shade. They require a damp soil and should be well fed when vigorously growing, preferably with liquid manure.

California poppies may be sown any month in the year but the list of seeds for August is about one-tenth the length of that for September, so better bide a wee. If good care will be given one may plant seeds of hardy perennials, coreopsis, dianthus, delphinium, foxglove and hollyhock. During the past month hollyhocks have come from seeds in the writer's garden as a volunteer crop, so they certainly may be started now. It must be the natural time. Some plant sweetpeas and pansies late this month, also snapdragons and stocks.

August is often a vacation month, but neglect of gardens should be avoided for the need of water particularly is great, and plants quickly show lack of it while weather is so hot and dry. If this one supply is given, however, the garden will otherwise endure neglect without serious harm. But lack of care often results in injury from insect pests so that periodic patrol is advised. While hot and dry for seeds plants of the following may be set out if the soil is a loose one, retentive of moisture and the water supply is sufficient: calendula, candytuft, carnation, centaurea, coreopsis, cosmideum, cosmos, daisy, digitalis (foxglove), gaillardia, marigold, phlox, petunia, salpiglossis and scabiosa.

If roses have been set out for one or more years do not water until some time in September—later if bushes are old and large. Do not hold water from plants set out last spring, but still cut it down some and allow a rest. They will respond better with a fall crop. Quite to the contrary, water chrysanthemums heavily—they can hardly have too much. Also feed them well; they are now gathering strength for the supreme effort. Until the buds show color, feed heavily. Then stop, but still continue flooding until blossoms are picked or faded. If dahlia bulbs are available and planted now the flower crop will be just as satisfactory as that of spring. Some growers cut down stalks in July or August, after spring crop of flowers, water and fertilize heavily and secure a splendid show of autumn flowers.

## Northern California

By A. R. Gould

THE garden should still be well supplied with bloom of zinnias, asters, dahlias, cosmos, marigolds, hardy asters, ageratum, godetia and stocks, and these, with a few other subjects coming on in the perennial border, will last for some weeks yet. Chrysanthemums will be making strong growth and a watering of liquid manure will be very helpful once or twice weekly. Where the plants are grown for large blooms they will need some muslin cover for protection from the sun. The clumps of the bush plants should be thinned out to about three shoots. Spray with black leaf 40 for aphis which usually gives trouble. The chrysanthemums will need stakes for support. Tie up all climbing plants and mulch with manure.

### Begonias

These will require feeding with liquid manure.

### Roses

The rose beds will need some attention and should be dug and mulched with manure while the bushes if pruned back now will provide a fine display for the fall.

### Perennial Border

This should be looking gay with many of the summer flowering subjects, some of which will require staking. Dead blooms from the iris and foxgloves should be removed.

Seeds for the following may be sown now for the future supply of bloom:

### Winter Flowering Sweetpeas

Of these there are numberless varieties. These if sown now will give all the winter bloom required but the soil must be well prepared and trenches deeply dug if large blooms are desired.

### Other Useful Subjects

Sow these on a warm border or in boxes: Forget-me-not, cineraria, violet, pansies, snapdragon, clarkia, dianthus, Sweet William, Canterbury, bells stock, alyssum, silene, eschscholtzia and primula in variety of the hardy types. These will provide a successional display for many months, but no time should be lost in sowing the seed, and the seed beds or boxes must be well prepared with fine soil

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### THIS WEEK'S COVER

One of the units of the Queenston plant of the Ontario hydro-electric system. When completed there will be nine of these units, each with capacity for 45,000 k. w. h. or 55,000 horsepower.

The water in the penstock has 305 feet fall and a pressure of 190 pounds per square inch. The rotar, or revolving part, weighs 500,000 pounds (lest the proofreader thinks that's a mistake, it may be added that it is a half million pounds), and that half million pounds is revolved at the rate of 187½ revolutions per minute. There are two 150 ton cranes in the plant and two are required to lift the rotar. It is 71 feet from bottom to top of the generator. The structure is 178 feet high. The voltage at generator is 12,000 but is immediately "stepped up" in transformer to 110,000 volts for long distance transmission. These generators are part of them from the shops of the Westinghouse Company and the others from the General Electric.

### DANGEROUS PESTS

The weekly news letter of July 29, issued by the state department of agriculture, contains the following statement which shows the constant danger that confronts the California fruit growers from importation of infested fruit and vegetables. Those interested in fruit and vegetable production in this state should lend every assistance possible to Director Hecke in his efforts to keep the melons and other fruit flies from gaining admittance.

"With the knowledge that should the melon fly or fruit fly of Hawaii or the fruit flies of Mexico become accidentally established in California the great fruit producing and shipping industry would suffer appalling if not complete loss, no effort should be spared to protect the state from invasion, especially through its maritime ports. At present in Hawaii the marketing of melons, cucurbits and all fruits, except pineapples and bananas, is prohibited because of the destructive work of the melon fly and the Mediterranean fruit fly. The only exceptions are in the case of Chinese gardeners who "bag" the individual fruits and melons and thus protect them, and who demand correspondingly exorbitant prices for their products. Like Hawaii, California has an abundance of host fruits in which both melon and fruit flies would propagate the year round.

"During the period, July 1-17, the bureau of plant quarantine at San Francisco intercepted the melon fly. Bactrocera cucurbitae in a lot of five boxes of tomatoes from Honolulu and the Mexican fruit fly, Anastrepha ludens in one lot of mangoes found in the stores of an English steamer. An interception of the sweet potato weevil, Cylas formicarius was made in sweet potatoes found in passenger's baggage coming over from Papeete. Many other interceptions of contraband horticultural shipments were destroyed."

### CALIFORNIA FRUIT

California has the soil, water and climate in the forms necessary to grow all of the different varieties of fruit from tropical to the most hardy, and with these natural advantages there is no reason why we cannot make her the fruit supply source of North America.

We are continually hearing the cry of "over production," and no doubt this keeps many of the more timid ones from engaging in the fruit business. Perhaps this is as it should be for no one should engage in that business (or any other for that matter) unless he has enough faith in the undertaking to, if necessary, give it all the energy, thought, and financial assistance at his command, ever looking forward with confidence in the ultimate outcome and pausing only long enough to use each failure as a stepping stone to attain ultimate success.

We well remember how dismal the future of the citrus industry looked some 35 years ago when it seemed impossible to get anything but red ink returns on citrus shipments and the cry went up that we had too many oranges. Today we are shipping carloads where we were shipping boxes at that time, and they are all consumed at prices remunerative to the producer. People are learning the value of fruit as a diet and each year the consumption of fresh fruit per capita increases. A well known fruit shipper advised the writer some years ago that a certain eastern town where he used to ship ten boxes of oranges per week was now taking three carloads per week. This just shows the normal increase in the consumption of oranges in one town in about 30 years' time.

We presume that this holds true in the case of all other fresh fruits, and we believe with Mr. Bergtholdt that there will be a market for all the fruit that can be raised on every available acre of suitable fruit land in California. This, of course, provided those varieties are planted that are best suited to the soil and climatic conditions of the locality. Also provided the growers of California continue to strive to maintain our reputation for supplying good fruit, well packed and delivered in an attractive condition.

Let all Californians stand together for better orchards, more prolific production, and higher quality of fruit, and the demand will surely come for all the good fruit we can supply.

### AFIELD

They're wonderfully mixed up as to their time in many places. They have all the time there is, but the arranging of it to suit every one and their understanding what the other fellow understands is most embarrassing. I have lost out on important events on this trip because of the exasperating changes in time.

Take the case of Cleveland and of many small towns nearby. It is a section which was formerly on the eastern edge of the central zone where "central" time prevails so far as railroad operation is concerned. Being on the edge of the zone the "sun time" proved to be about 30 minutes faster than the railroad or standard time. Some refused to program for their clocks were as correct as the sun and should stay with it. War time regulations with national daylight saving program and the loyalty of the people saved the day for a time and harmony prevailed. Later some of the roads operating out of Cleveland changed from central to eastern time, which is one hour faster than central. Some roads running west retained the central.

Practically all the cities from Chicago east are pushing the clocks ahead one hour on the regular daylight saving schedule. Practically all small towns and all rural communities are not programing.

So here you are: 12 noon, central time; 12:30, more or less, sun time; 1 o'clock, eastern standard; 2 o'clock, daylight saving.

It creates a situation which in connection with this humid heat leads to anything but "goose flesh," believe me!

In southern Ontario and northern New York I have seen more liberal use of tractors in haying operations than farther west. Seems to be quite a common practice to hitch the smaller type tractor to a wagon, to which is attached the loader, and the whole operation of raking and loading is completed. This requires two loaders and one driver of the machine.

By the banks of the Genesee River I noted several of the old time grist mills and, from all appearances, some of them at least were still in operation.

The Mohawk and other valleys below provide one of the greatest milk supplies for the city of New York. The black and whites prevail, although Guernseys show a liberal sprinkling, with occasional herds of Jersey markings.

At Syracuse a cluster of buildings covering many acres, plainly indicated it was a fair ground, and soon in passing what was apparently the principal entrance, there was a great sign noting the beginning of the New York state fair on September 11. Syracuse also appeals for attention to its merits by erecting great bulletin boards along the railroad, stating: "This is Syracuse which has the lowest of electric power rates." Lower power and light cost is the material factor in the advancement of any community.

The roadway running parallel to the railroad, or as it is known, "the New York State Turnpike," is a remarkably fine road and appeared to be fully equal to California's best, but in no section have I seen average roads which in any way equalled those of California.

I have long heard of the beauty of the Berkshire Hills, but never imagined it until we pulled out from Albany and, after crossing the Hudson, began to climb up to Pittsfield and other beautiful little cities nestling in most picturesque hills which are covered with the "forest primeval." I understand these hills are filled with summer homes of millionaires, but still believe there is plenty of opportunity for delightful summer homes for the millions who can not come and enjoy the breezes of the Pacific.

At Boston I experienced a most delightful two hours in a trip through the vacuum fumigation plant of the federal horticultural board. Boston is the port of the greatest importation of cotton in the United States. Doubtless this is because of the many cotton mills located in the New England states. I am also to take a trip through a similar fumigation plant in New York, and will speak of that, also of this Boston plant more fully in another letter. The office Kodak was also busy and will have some interesting photos to add to the effectiveness of that article.

The ships which enter Boston bring cotton from India, Egypt, Argentina, China and other points. There is, perhaps, but slight probability of pest introduction through that port since there is no cotton grown within a thousand miles, but the destruction which has been wrought by pink boll worm and the ordinary boll weevil has meant so much to the south that a repetition of the disaster because of the introduction of any other pest is avoided by this excess of caution.

The method of procedure is to bring the bales of cotton direct from the wharf to the vacuum plant and, as they are unloaded from the road truck, they are placed on a train of small cars, running on a track which extends into a great tube nine and one-half feet in diameter and 116 feet long. This tube is of heavy steel plate and solidly riveted, having the appearance of a great boiler for the generating of steam. There are four of these vacuum tubes. After the train is loaded to the full limit of the steel tube it is operated by an electric controller and run into the tube. The great iron door is closed and three monster air pumps set in operation to remove the air. When the gauges indicate a 25-inch vacuum the pumps are stopped, the generators of hydrocyanic acid gas are started and the chamber or cylinder is filled with the death dealing gas. Instead of one ounce of cyanamide per hundred cubic feet, as deemed sufficient by orchardists of California, the cylinder is given a charge of gas at the rate of six ounces of cyanamide to every hundred cubic feet. Other details will be given later, but be assured it was a most interesting sight.

Running from Boston down to New York, one finds the principal product, for a time at least, to be stone fences and innumerable wood lots which apparently have been abandoned, as to intensive production at least, and they are now being reforested in nature's own way. Frequently through these woodlots, or "slashings" as they would have been called a few years ago, there were to be seen gatherers of huckleberries and wild raspberries. Again there is proof of the still further use of this type of agriculture in a large factory for the manufacturing of extract of witch hazel, which is abundant all over the hills.

Near New York, through southern Connecticut, there were literally hundreds of acres of rich black soil covered with truck farms, where some of New York's lettuce, radishes and other garden products are produced. There were no Japanese gardeners, but there were many from Southern Italy.

I have taken a short journey through one of New York's nine large fruit markets. This includes Pier No. 21 of the Erie system, on which the daily auction of California's oranges, lemons and grapefruit is conducted. I have seen a quantity of California fruits exhibited in many different stores. At the present moment the principal ones observed are plums and "Vacaville" appears perhaps more often than others. California cherries are out, but all the United States has, this year, proved a wonderful producer of cherries.

Saw one lot of Imperial Valley cantaloupes, but it was not in any sense equal in appearance of crates, etc., to those which come from North Carolina, but of course, it goes without saying that Imperial has finished her season and many of these claimed to be from Imperial were in rather weather beaten crates which must have been in use several times and had the general appearance of a repack proposition.

Ordinarily California packages in appearance, and the fruit in quality, had the true California standardized appearance. One bunch of imported Mediterranean oranges, just opened, was literally alive with purple scale. Apparently eastern fruit growers have no fear of the introduction of this pest or the incinerator would have received this shipment. Such an exhibition in California markets would call for the furnace before it had been exposed many minutes.

# THE REASON WHY—

## California will supply the world's requirements for fruit food

Facts compiled from U. S. Government reports which prove that California is rapidly becoming the World's source of supply for fruit food.

**By J. E. BERGTHOLDT** Secretary and Manager of Silva-Bergtholdt Company, Nurserymen, and one of California's most extensive growers of fruit.

### *The First of a Series of Three Vital Messages to Fruit Growers*

EVERY PRODUCER has vivid recollections of the slump in the price of farm commodities during the fall of 1920. It is easy to remember how we entered the spring of 1921 with warehouses filled with the carry-over of the previous season's pack of dried and canned fruit—how dealers' shelves were loaded—how prices had gone to smash.

Being not only nurserymen, but extensive growers of fruit as well, and above all vitally interested in the prosperity of the industry, we applied ourselves to an intensive study of the situation.

The prospect was not assuring at that time. Conditions warranted the anticipation of a long cycle of depression in the fruit industry.

When the crop of 1921 had been harvested and growers had realized the proceeds from its sale at exceptionally good prices, one marveled at the rapid recovery to a status of prosperity on the part of California fruit growers; *whereas other producers, not alone in the East, but throughout the West, were still in the dumps.*

BUSINESS IN CALIFORNIA WAS GOOD BECAUSE THE FRUIT GROWER HAD MADE MONEY. Business elsewhere was poor!

While the spring of 1921 was one of gloom and depression, the spring of 1922 found every vestige of the 1921 crop gone into consumption and warehouses clean. The California fruit grower is harvesting his crop of 1922 with prosperity assured.

Why this marvelous recovery of the California fruit industry in advance of every other producing industry? There is a reason!

### *Figures Prove State's Advantage*

I have many times reiterated, in statements concerning the California fruit industry, that California, by reason of her natural climatic advantage, fertility of soil and abundant water for irrigation, was by Nature favored for Fruit Growing, as against the enormous climatic handicap imposed upon the fruit grower of every other state—that eventually California will supply the fruit of America in ever-increasing quantities, and not alone of America, but to a large degree, of the world!

In studying this situation, and seeking to verify my conclusions, I obtained figures from Washington and made a comparison of the census of 1910, as compared to 1920, so far as they related to fruit growing.

THESE FIGURES CONFIRMED MY SURMISE! Of themselves they tell the story. They are of vital interest to every fruit grower. They prove that by reason of the natural climatic handicap placed upon the Eastern fruit grower, his business is decreasing; while, by reason of the natural advantages accruing to the California fruit grower, his business is increasing!

### *How Condition Affects Growers*

It is not the intention to gloat over the misfortune of our brother producers in the East. Yet, by reason of the annually *decreasing acreage* devoted to fruit growing in nearly every state of the Union, there is being created a vacuum in the production of fruit throughout the United States. At the same time there is *an increase* in the consumption of fruit in the dietary of the American people. This condition will, in the years to come, *require every acre of land in California adapted to fruit growing, to supply the demand for this essential food!*

In view of these circumstances, California fruit growers should not go to sleep on the job. We should so organize our distribution and so exploit the potential consumption of our products to the American people, that California fruit products and their use will be as familiar to housewives and chefs as Cream of Wheat, Crisco or Ivory Soap.

### *Figures of Vital Interest*

IN 1920 THERE WERE 44% LESS FRUIT TREES BEARING AND NON-BEARING IN THE ORCHARDS OF THE UNITED STATES, OUTSIDE OF CALIFORNIA, THAN THERE WERE IN 1910!

According to the census of 1910, there were in orchard in the United States outside of California, bearing and non-bearing, 510,154,042 trees. According to the census of 1920, there were in orchard in the United States, outside of California, bearing and non-bearing trees numbering 285,326,973—making a decrease in the number of trees in orchard of 224,828,069, or a decrease of 44.07%.

This decrease, tabulated in the four leading varieties of deciduous fruits, is as follows:

NON-BEARING AND BEARING IN ORCHARDS IN ALL OTHER STATES OF THE UNION, NOT INCLUDING CALIFORNIA:

| | 1910 | 1920 | Percent Decrease |
|---|---|---|---|
| APPLES | 213,576,136 | 147,229,603 | 31% |
| PEACHES | 124,433,986 | 76,837,916 | 38% |
| PEARS | 22,205,334 | 16,214,668 | 27% |
| PLUMS AND PRUNES | 21,614,834 | 15,821,652 | 27% |

THE DECREASE IN ALL VARIETIES OF FRUIT GROWN IN EACH STATE, TABULATED BY GROUPS IS AS FOLLOWS:

| | Percent Decrease | Percent Increase |
|---|---|---|
| **NORTH ATLANTIC** | | |
| Maine | .263 | |
| Massachusetts | | .161 |
| Connecticut | .115 | |
| Rhode Island | | .14 |
| Vermont | .308 | |
| New Hampshire | .313 | |
| New York | .097 | |
| Pennsylvania | .066 | |
| New Jersey | | .033 |
| Delaware | .222 | |
| Maryland | .098 | |
| Virginia | .052 | |
| West Virginia | .043 | |
| **SOUTH ATLANTIC AND GULF GROUP** | | |
| North Carolina | .218 | |
| South Carolina | .264 | |
| Georgia | .005 | |
| *Florida | | .574 |
| Texas | .518 | |
| Alabama | .317 | |
| Louisiana | .458 | |
| Mississippi | .397 | |
| **MIDDLE EAST** | | |
| Wisconsin | .139 | |
| Michigan | .295 | |
| Illinois | .444 | |
| Indiana | .486 | |
| Ohio | .297 | |
| Kentucky | .312 | |
| Tennessee | .351 | |
| **MIDDLE WEST** | | |
| Arkansas | .559 | |
| Oklahoma | .524 | |
| Missouri | .586 | |
| Kansas | .712 | |
| Iowa | .581 | |
| Nebraska | .686 | |
| Minnesota | .242 | |
| South Dakota | .518 | |
| North Dakota | .209 | |
| **INTERMOUNTAIN STATES** | | |
| Arizona | | .132 |
| New Mexico | .487 | |
| Colorado | .482 | |
| Utah | .444 | |
| Wyoming | .148 | |
| Nevada | .351 | |
| Idaho | | .019 |
| Montana | .423 | |
| **PACIFIC COAST** | | |
| Washington | | .019 |
| Oregon | | .111 |
| California | | .296 |

The above increase in Florida was mainly in Citrus trees, of which there were in orchard in 1910, 5,242,375, and in 1920, 8,923,911 or an increase in Citrus alone in Florida of 70.2%.

By this grouping of States, you can readily note the sections wherein the local production of fruit is most rapidly decreasing. Even in such states as Georgia, Texas, Alabama, New York, Missouri, Arkansas, Michigan, Tennessee, Oklahoma and Ohio, which comprise the principal competitive fruit growing states, the number of trees in orchard is enormously decreasing, while no important fruit growing State shows any *increase* in trees in orchard excepting Florida (on Citrus) and Oregon and Washington.

THE AVERAGE ANNUAL PRODUCTION OF CALIFORNIA MEASURED IN DOLLARS AND COMPARED WITH THE ENTIRE UNITED STATES:

| | Production of California | Production of all United States |
|---|---|---|
| 1919 | $267,000,000 | $669,000,000 |
| 1920 | 233,000,000 | 744,000,000 |
| 1921 | 182,000,000 | 545,000,000 |

Measured in dollars, the production of California was 35% of that of the whole United States.

### *Production Per Tree*

Figured on a basis of the number of trees, bearing and non-bearing, in orchard in the United States, per the census of 1920, and the production in dollars of orchard trees, aside from Grapes, for the year 1919, 285,326,973 trees bearing and non-bearing in orchard in all of the United States, excepting California, produced $371,486,807 of tree fruits, or an average production in dollars of $1.30 per tree.

For the same year 64,387,338 trees, bearing and non-bearing, in orchard in California produced in tree fruits, not including Grapes, $202,037,218, or $3.13 per tree

This comparison is significant of itself, showing that in 1919, for every $1.30 that the fruit grower in other States produced from trees in orchard, the California grower produced $3.13, or an income in California of two and one-half times per tree the production of the average in the other States!

This information is of vital importance to the fruit industry and, in order that it be given out verbatim, and that it be given the largest possible circulation by using all farm papers, I am spending our own funds in the purchase of this space, in order to disseminate these facts and figures.

There are three angles to the story that I want to tell This is the first. Watch for the next.

J. E. Bergtholdt

Secretary and Manager,
Silva-Bergtholdt Company, Nurserymen, New Castle, California.

S-02-8-1

### DIP FOR SEED POTATOES

**A two minute treatment of seed potatoes has given splendid results in several eastern states in checking disease. The disinfection is accomplished by soaking them for two minutes in water at 118 to 122 degrees Fahrenheit which has received for each 30 gallons 2 pints of commercial formalin (40 per cent formaldehyde), then covering for one hour and drying. This formaldehyde method is said to equal mercuric chloride in effectiveness and to exceed other methods in other respects under farm conditions.**

**Field tests in Iowa showed tubers grown from treated seed to rank 75 per cent higher in setting qualities and in freedom from disease than those from untreated seed. In a cooperative community test 530 bushels were treated in less than six hours at a cost of 7 cents per bushel.**

### INCREASED OCEAN TRAFFIC

**During July 1-16 the bureau of plant quarantine of the California department of agriculture notes an appreciable increase in the number of passengers and lots of contraband material arriving from fruit fly ports.**

**A report received July 21 from San Francisco shows a total of 59 ships and nearly 5000 passengers from ports under fruit fly quarantine.**

**Fair Oaks, Sacramento County: Grapes fine and very little burn; past week with cool weather has been of great help to fruit men.**

## "HYDRO" AS IS IN ONTARIO, CANADA

(Continued from Page 125)

cedure required to secure installation in a rural community. The rural service is handled in a way materially different from the cities. A municipality usually controls its own distribution and even owns its distributing system. The commission delivers the required K.-W. hours to the municipality, which not only distributes but makes collections and handles its own financial system. A rural district which may wish to organize presents a petition to the commission which must be signed by at least three consumers for every mile of line to be constructed within the district, these consumers agreeing to pay a certain minimum.

The most complete information as to this procedure is given by quoting a circular which is sent from the central office to each prospective consumer:

### A Letter to the Prospective Consumer

In respect to certain petitions received from your township through your council from time to time, requiring estimates on the cost of supplying power to such petitioners, I am instructed to advise you that all estimates forwarded by this commission are hereby superseded on account of certain revisions adopted in the manner of serving rural districts, and chiefly on account of the recent legislation bonusing rural lines.

I am instructed to advise you that the supplying of power in rural districts shall be conducted after a manner outlined in the revised legislation, part 11-B of the Hydro-Electric Power Commission Act.

It is required that a proper contract be executed between your council and the commission for a supply of power and to permit of the commission constructing and operating the lines necessary to serve the customers.

The commission will conduct the business associated with the rendering of service to your customers, and will properly account to your council for all charges and revenue connected therewith.

Users of power in your township will be required to sign a contract with the township, and may choose, with certain limitations, classes of service outlined as follows:

Class I—Hamlet service includes service in hamlets, where four or more customers are served from one transformer. This class excludes farmers and power users. Service is given under three sub-classes as follows:

I-A—Service to residences where the installation does not exceed six lighting outlets or 12 sockets. Use of appliances over 600 watts is not permitted under this class.

I-B—Service to residences with more than six lighting outlets or 12 sockets, and stores. Use of appliances over 750 watts permanently installed is not permitted under this class.

I-C—Service to residences with electric range or permanently installed appliances greater than 750 watts.

Special or unusual loads will be treated specially.

Class II—House lighting includes all contracts where residences cannot be grouped as in Class I. This class excludes farmers and power users.

Class III—Light farm service includes lighting of farm buildings, power for miscellaneous small equipment, power for single phase motors, not to exceed 3 horse power demand, or electric range. Range and motors are not to be used simultaneously.

Class VI—Medium single phase farm service includes lighting of farm buildings and power for miscellaneous small equipment, power for single phase motors up to 5 horse power demand, or electric range. Range and motors are not to be used simultaneously.

Class V.—Medium three phase farm service includes lighting of farm buildings and power for miscellaneous small equipment, power for three-phase motors up to five horse power demand, or electric range. Range and motor are not to be used simultaneously.

Class VI—Heavy farm service includes lighting of farm buildings and power for miscellaneous small equipment, power for motors up to five horse power demand, and electric range, or ten horse power demand without electric range.

Class VII—Special farm service includes lighting of farm buildings, power for miscellaneous small equipment, power for three phase motors from 10-20 horse power demand, and electric range.

Class VIII—Syndicate outfits include any of the foregoing classes which may join in the use of a syndicate outfit, provided the summation of their relative class demand ratings is equal to the kilowatt capacity of the syndicate.

| Name— | Demand Rating K.W. | H.P. | Average Monthly Consumption K.W.H. | Est. An. Service Charge | Est. An. Charge | Total Est. An. Cost |
|---|---|---|---|---|---|---|
| Hamlet service (a) | ½ | ⅔ | 10 | $7.32 | $17.08 | $24.40 |
| " (b) | ¾ | 1 | 15 | 10.80 | 19.74 | 30.54 |
| " (c) | 2 | 2⅔ | 150 | 76.92 | 34.42 | 111.34 |
| House | 1 | 1⅓ | 15 | 12.48 | 25.40 | 37.88 |
| Light Farm | 3 | 4 | 40 | 34.56 | 55.76 | 90.32 |
| Medium single phase | 5 | 6⅔ | 70 | 60.48 | 60.00 | 120.48 |
| Medium three phase | 5 | 6⅔ | 70 | 60.48 | 76.04 | 136.52 |
| Heavy farm | 9 | 12 | 150 | 119.28 | 115.79 | 235.07 |
| Special farm | 15 | 20 | 200 | 220.32 | 170.08 | 390.40 |

The estimates on the cost of power delivered to users as herein set out as has been based upon certain assumptions, some of which are as follows:

The construction of the lines shall be undertaken and paid for by the commission. The farmers in the vicinity of the roads along which the lines pass will assist in the construction and assistance will be paid for at a suitable wage. Lines constructed from the line on the highway to customers' premises will be paid for by the customer. The commission proposes to supply the necessary expert labor to direct the construction of the lines and the installation of the equipment. It has been assumed that three farmers per mile of line, or the equivalent, are obtainable as an average for the entire district to be served. The supply of poles at low prices in the district or the vicinity of the district by efforts on the part of those desiring service will result in the reduction of the cost of construction and corresponding reduction in the cost of service. Cooperation resulting in the reduction of cost of construction is desired. The rates herein set out are also based upon a government bonus of 50 per cent of the cost of primary lines constructed on the highway or along the right-of-way.

Charges for power delivered shall consist of two parts, namely, the service charge and the consumption charge. The service charge which constitutes the greater portion of the total cost of power delivered, consists of the operating, maintaining and fixed charges of the lines and equipment required to deliver the power to the users in the district. Consumption charges will be determined by a meter at each customer's premises, which will measure the quantity of power used, to which a suitable rate will be applied. This cost can only be arrived at when the amount used has been determined. The rate used in the district will be determined by the cost of power at the transformer station supplying the district. The amount of power supplied to the district will be metered at the transformer station.

The meter rates for users in that part of your township which will be supplied from ....., are estimated as follows: 8c per kilowatt hour for the first 14 hours per month of customers' class demand rating; 4c per kilowatt hour for all remaining uses; less 10 per cent for prompt payment.

The following table gives class demand rating, average monthly kilowatt hours, estimated consumption charge, estimated service charge, and total estimated annual cost for each class:

The above costs are calculated from our knowledge of the use of electric power in rural districts under average conditions. They have been adjusted by applying the rates as set out herein.

For those unfamiliar with terms used in power measurement, it is to be noted that one kilo-watt (K.W.) is approximately equal to 1⅓ horse power (H.P.) or 3 K. W. equals 4 H. P., and a kilowatt hour (K. W. H.) is the amount of electricity equivalent to one kilowatt used for one hour.

The rates will be readjusted by the commission from time to time in your district to cover cost. Increase in the average number of farmers per mile or lower cost of power will reduce annual costs to all.

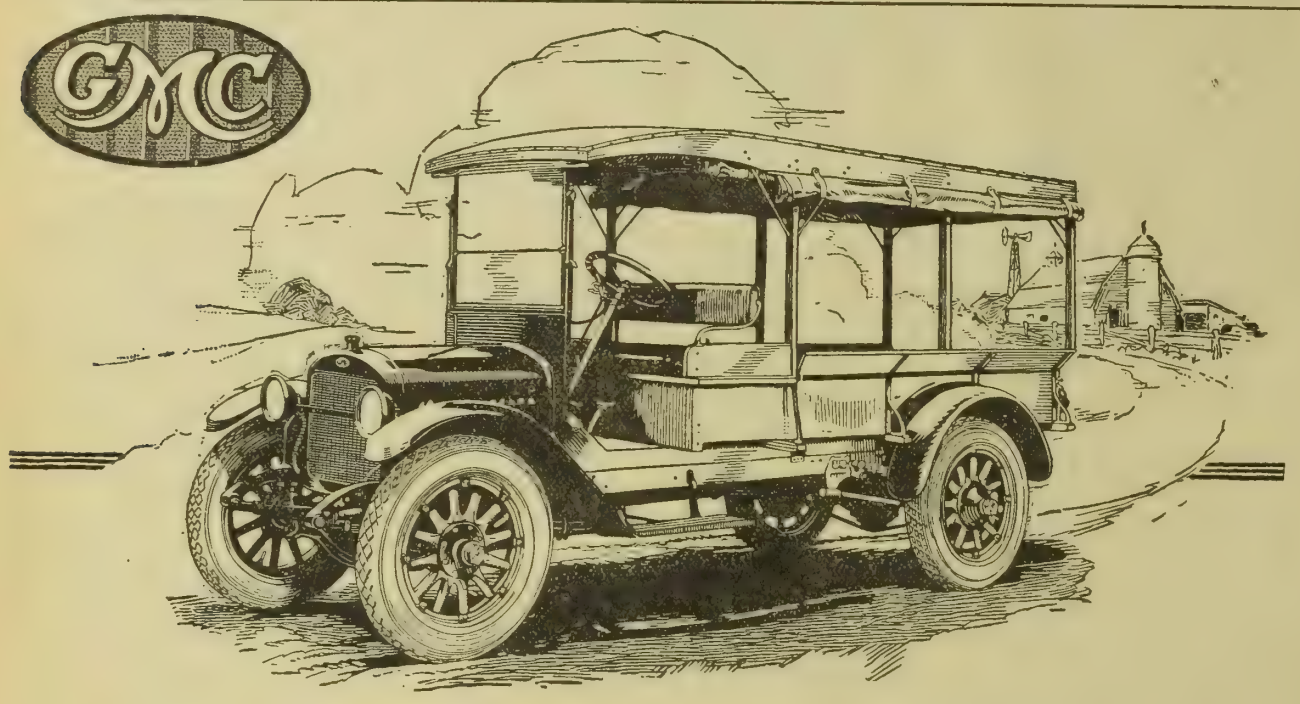
The commission upon request by your council will send a representative to explain the method of rendering service to rural communities, and will assist your council in securing contracts with individuals desiring service.

(Signed) F. A. GABY,
Chief Engineer.

### As to the Bonus

A word as to the bonus referred to in the circular letter above. From the very first the commission has insisted that "cost" should be borne by every district. This put a handicap on rural districts where consumption is slight. The burden was so great that many districts refused to participate. To overcome this the commission is using from the hydro rentals fund and is bearing one-half the installation expense in rural districts. Not one cent of provincial or other tax money has


GMC



# A "Jim-Dandy" Truck

## *Model K-16 One Ton*

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Fast on the road, powerful in the hard going and economical all the time, this sturdy honest-to-goodness truck is just a "Jim-Dandy" for the farm.

It will haul produce, stock, milk and any other kind of load better and cheaper than a motor truck has ever done before.

For this GMC has improvements which are away in advance of ordinary motor truck construction and which make possible more continuous haulage, lower operating and lower maintenance costs. Such features as Removable Cylinder Walls, Pressure Lubrication, Removable Valve Lifter Assemblies and Instantaneous Governor, are all designed to produce the kind of performance that is vital to the success of a motor truck on the farm.

Model K-16 is a real motor truck, built entirely of truck units—no passenger car parts used.

In addition it is built in the most approved designs of motor truck construction. For instance, this one ton truck has Magneto Ignition, admittedly the most reliable type.

The Ignition is simple, just four wires leading from the Magneto to the spark plugs and all in the open where it can be readily inspected.

The Model K-16 also has Electric Lights, Starter and Generator with a Storage Battery built especially for motor truck use and of extra capacity. The wiring is all carried in metal conduits and is entirely separate from the Ignition System.

Demountable Rims, Cord Tires, Pressure Gun lubrication of the chassis. Extra Switch for spot light and Interchangeable Brake Rods are other GMC refinements.

No truck of like quality has ever been offered at as low a price as this chassis—$1295 at the factory.

Write for an illustrated booklet "Motor Trucks on the Farm."

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ever been taken to bear any of the hydro expense nor in any way used in the development work. It must pay its own way, its own interest and provide for its own replacement in another 20 years.

### The Next Letter

The next letter—possibly not next week, but soon—will touch upon the thrill which comes to a fellow when he sees the equivalent of fifty five thousand horses on one "drawbar." Note I am promising to "touch upon" only. I'm reading the dictionary for synonyms of thrilling or any other word which will help me describe one's feelings when he sees a 55,000 horse power team on the job. And along side that team is another and another, each with 55,000 horses unleashed from old Niagara.

## NEMATODES

**By R. R. Snowden**

The nematode is surely getting to be a factor of destruction to be reckoned with. I saw a beet field in Utah that looked as if a fire had swept over it. At another place I was told if something is not found to successfully combat the nematode the beet sugar industry is doomed. Here I saw a beet field in which the plants averaged about 8 feet apart, due it was said, to nematodes, and I found the roots of the plants left badly infested with them.

Potatoes and many other crops are also subject to its ravages. I have been successful in several attempts to combat the nematodes, the tests being made on beets and potatoes (Irish). In the first trial, in Los Angeles County, the treated beets had no nematodes while the others did have them. The second trial was in the beets that looked as though blasted by fire. A number of plants in different parts of the field, about 15 in number, were treated in June of last year. Examination in October showed the treated beet roots to be about double the size of the others.

The tests on beets this year in nematode infested fields are very favorable at this time but are not yet completed.

In a test on potatoes this season in a badly nematode infested area the treated plot had no nematodes and the tubers were reported larger than the untreated, and there were not so many small ones.

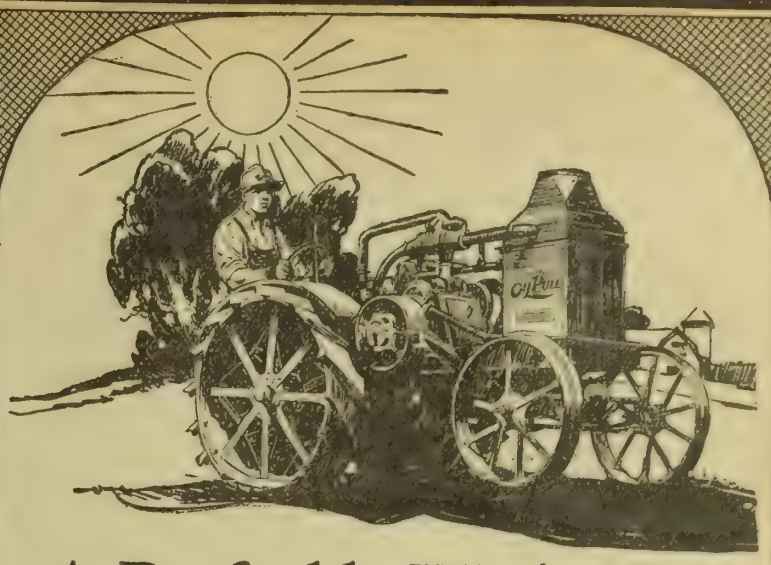
The material used in all these tests was nitrate of soda, which is destructive to all small animals by contact with them. A small toad was accidentally brought in contact with it, and although it was carefully brushed off at once it was dead in five minutes. There is, however, no danger whatever to persons handling it with the hands.

## FUMIGATION IMPORTANT THIS FALL

Climatic conditions, insect enemies and fungus diseases have had a part in causing a high natural mortality of black scale in Los Angeles County citrus orchards during the past winter. Inspector J. R. Hodges of Covina reports a large mortality of black scale because of the attacks of the Isaria fungus. Although the present infestation of black scale in defioliated citrus groves is lighter than normal there is every reason to expect that the unusually large percentage of the new hatch in such orchards will live because of the ample food and protection afforded them by the abundant tender new growth. It is, therefore, more than ever important that groves of this type be fumigated while the scale is at a minimum.—H. J. Ryan.

## CAPRIFICATION SUCCESSFUL

Growers of Calimyrna figs in practically all sections report successful caprification of their trees, which appear to be in excellent condition. Last season growers were not sufficiently interested in figs, in many cases, to caprify their trees, but this year both the supply and the demand for caprifigs was good, indicating a healthier condition of the industry. The Adriatic crop has undoubtedly been reduced one-half in some orchards, although the total crop will probably not be reduced more than one-quarter. The larger sizes of the figs may make up for the lack in numbers.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# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Subsoiling and Deep Irrigation

I would like to get information along the lines of deep irrigation and persistent subsoiling with land that is of a cement nature and adobe together with a red sediment mixture. In other words, I want to put my irrigation down in the soil, not on top as previously, and I have peaches, oranges and some vines. I was under the impression that I might use a subsoiler every time I did a job of irrigation, especially the way the land would irrigate, not crosswise, and the crosswise subsoiling would be done every fall. Trees are set 22 feet apart. Could I run a subsoiler, single standard, through this space every three to four weeks, and follow in the path with the water, and still not add too much water to the soil or to the trees or vines? Vines are 11 feet apart, and here it would require only a single standard one way at each period of irrigation. Would this deep irrigation and tillage be harmful by cutting feeder roots? Trees are from four to nine years of age and vines about three.—Subscriber, Visalia

A single standard subsoil plow could no doubt be used to advantage on this land, but unless the land is very much inclined to run together it will not be necessary to use the subsoilers every time the irrigation is done. That, however, can be determined afterward. One subsoil furrow in the center of each tree space and across the furrows carrying the water will be better than to run the water in the subsoil furrow. The single standard subsoiler can be run in both directions once, in the center of each tree space, but in beginning it will be better to go in one direction only the first year. Some of the feeder roots will be cut in any event, but if the subsoiling is practiced the roots of each tree or vine will be confined to its particular square and have the use of as much soil as it would have with longer roots and other trees encroaching on the space around that particular tree, with advantage of more water and better distribution of water. The furrows carrying the water should be made as deep as can be conveniently done. Eight to ten inches will not be too deep and they should not be more than three feet apart. Use very small streams of water which should run slow enough to be clear when it reaches the lower end of the furrow. The water should be kept running in the furrows until it has reached the depth of four feet, which can be determined by digging. Cover the furrows with a cultivator, or whatever implement will fill them with fine earth, as soon as a team can get on the ground, and then work up your mulch to a depth of four to six inches with whatever implement will do the best work. Repeat the irrigation whenever the soil taken from six inches below the surface cannot be compacted into a ball by the pressure of the hand. In this way you will keep the soil in good condition without danger of injury from too much water. Strawy manure plowed under deeply, or, better yet, successive crops of a deep rooting leguminous cover crop will improve the water holding properties and at the same time enrich your soil. The first subsoiling should be done when the trees are dormant, but if the same furrow is followed each time no damage will be done at any time of year.—J. B. N.

### Melon Wilt

Am sending part of watermelon vine. Please note that it is a gum disease. What is it and what will cure it. It has killed nine vines and others are going.—Spbscriber, Ontario.

This is clearly a case of melon wilt, a fusarium by name. As is the case with all diseases having similar effects, there is nothing to do for this season's crop. Growing melons where none have been grown for several years and where water cannot wash from infected area is the only plan that offers success.

### Apricots on Coast

I am considering the planting of apricots on a mesa about 200 feet high. This mesa is on the coast, descending precipitously to the water. Needless to say we get considerable fog at certain seasons, notably in the month of June and early in July. Are these conditions unfavorable to apricots? Also is speckled fruit the result of too much fog and is the fruit quality injured by this skin spotting? I have heard that in some coast regions brown rot is prevalent; if so, should this be ascribed to coast conditions?—Subscriber, Carpinteria.

We do not consider your location favorable for the successful growing of apricots. No doubt the trees will grow well and may fruit abundantly but your crop will be inclined to be of poor quality. It is also difficult to sun dry apricots near the coast. The eating quality of the fruit may not be injured by skin spotting but its appearance will seriously affect the selling of such fruit.

### Rotating Beans

I have seen repeatedly the statement that the culture of beans indefinitely without rotation benefits the soil and increases the yield. In your issue of July 22 Manager R. H. Frazer of the California Bean Growers Association again makes this statement. Within the week I have noticed an interesting condition in one of my bean fields. This field has been planted to beans continuously for the last 20 years. Until this year there has always been a large rock pile in the center of the field. Last fall we hauled off these rocks and a day or two ago in walking through the field I saw in the distance a circular patch of beans that stood out from the others like a dark green island in a light green sea. When I reached it I found it to be the erstwhile rock pile. The plants were easily twice the size of those all around them and of a more healthy color. It would seem to me that the error in these statements regarding the successive cropping of beans is that all the emphasis is laid on the increase of nitrogen in the soil. Humus is also an important element in the growth of any crop and unless the bean straw is returned to the soil or some other form of humus is added it would appear that in time the soil must suffer.—R. W. Bates, Carpinteria.

### Both Self Fertile

I have planted three Wickson plum trees and ten Bartlett pears among the orchard. Will it be necessary to plant other varieties near them before they bear fruit? If so, what kind?—Subscriber, Nipomo.

No. Both the Wickson plum and Bartlett pear are self fertile.

### How Much Lime?

I have some wet bottomland, about a quarter of an acre, which is very sour and weedy and to which I would like to apply some lime. Will you kindly advise me through your paper how much lime to use; would it be proper to plow the lime in with a small one horse plow? Will airslacked lime do?—Subscriber, Arroyo Grande.

The best lime for the very sour and weedy bottom land is freshly slaked lime applied at the rate of one ton to the acre. A one horse plow would be as good as any to plow it in with, since this form is soluble in water and will find its way to greater depths.—R. R. S.

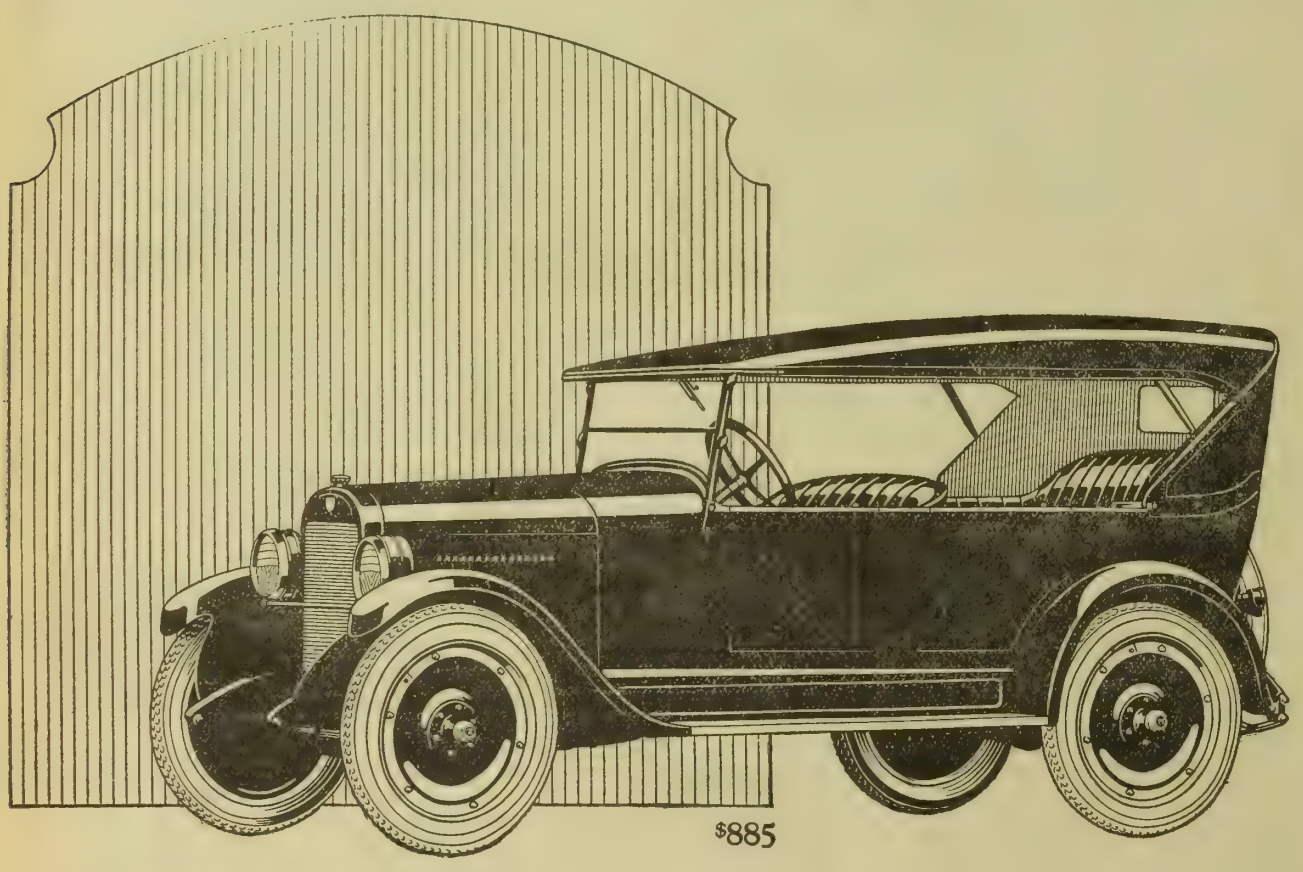
### Ornamental Plants

Where can I get the vine Tecoma grandiflora, also a yellow climbing rose known as Cloth of Gold? I presume I can get Climbing Kaiserin Augusta Victoria and Caroline Testout at almost any plant nursery?—Subscriber, Lodi.

The roses will be found in all nurseries where roses are grown except, perhaps, the Cloth of Gold. Although on old rose, of fine color, in many sections it grows poorly, flowers but little and climbs less. It really is a "pillar" rose, scarcely a climber. The trumpet flower, Tecoma grandiflora, is really rare, but dealers should be able to find it for you as some aways have it. We will be pleased to forward to our correspondent the name of anyone having this vine for sale.

### Stock Destroys Dodder

In a recent issue of Cultivator I noticed some one asking a way to get rid of love vine or dodder. In answer, will say that hogs, cattle or sheep will eat readily either green or in hay. So last spring I fenced off several acres of alfalfa badly infested with love vine. I pastured the field with hogs and a few cows. All love vine is gone. In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small patches one could make a panel pen for hogs or sheep and kill out small patches. As to feeding value of love vine I know nothing.—Will Bigelow, Poleta.

### For Milk Goats

I am feeding my goats green morning glory, alfalfa meal and bran, and they do not seem to give the milk they should. Can you give me a standard ration for milk goats?—Subscriber, San Jose.

A good many goat people use a prepared goat feed, which is a mixture of rolled barley, crushed corn, dried beet pulp, oats and perhaps other ingredients. This, with alfalfa hay, makes a very satisfactory ration. If you do not care for a prepared feed you might try a mixture of bran and rolled barley, or soak a handful of beet pulp overnight, and dry with bran in the morning. Some goats will not eat beet pulp, but it is one of the best feeds if carefully used. Bran makes milk, but, like beet pulp, must be fed with moderation. The goat is a finicky animal, and it pays to consult her tastes. Of course you know goats are crazy for any kind of tree prunings, and young grape shoots are their greatest treat. They need a great deal of roughage, and alfalfa hay is indispensable when there is no range.—J. A. K.

### Grape Leaf-Folder

My grape vines, of different varieties of table grapes, are being seriously injured by a worm which rolls itself up in one side or edge of the leaf. It does not eat very much of the leaf, but seems to have a blighting effect. Later in the season so many leaves have turned brown and dead as the result of their work that the vines look very far from ornamental. I fear they will soon die, as the amount of injury increases each year. When you unroll the leaf you may sometimes find a small green worm, three-fourths of an inch, or perhaps an inch long. It quickly wriggles out. Usually you will find that it has done its work and departed. Only its droppings remain. Sometimes there are little webby threads that hold the leaf rolled. I do not see how we could spray with poison even if that would do any good. No one would like to use the grapes. What are the life habits of this insect and what can we do for it?—E. W. D., Tancred.

The insect affecting your grapevines is, undoubtedly, the grape leaf-folder. While this insect does not fold the leaf, it rolls it and probably should have the name of grape leaf-roller. In any case it is not considered a serious pest, although occasionally it becomes so numerous that practically all of the leaves of grape vines are rolled and thus prevented from functioning properly. It is impossible to practice control measures after the appearance of the curled leaves. Arsenical sprays, if applied early enough, are effective, but it is not often that one can anticipate the unwelcome visits of this pest in time to apply a remedy. The grape leaf-folder is reduced in numbers very materially by the activities of a small parasite. Consequently it does not often appear in great numbers two consecutive seasons, and you will probably have nothing to fear from its recurrence next year. You should give your vines additional care that they may successfully withstand the present attack. Other than this we can give you no advice.—F. K. H.

### Thrips and Spider on Beans

What shall I do for an insect on my beans? It begins at base of plants, gradually taking all the plant, plants turn yellow and leaves fall off. Under microscope two insects show, one reddish yellow similar to aphis but much smaller. The other is larger, grayish black, with white markings. I inclose infested leaf.—Subscriber, Paradise.

Your beans had both thrips and red spider. Both were injurious, but the thrips did most damage. Both are gone now (and perhaps beans are too.) Neither pest remains long and remedial measures, to be effective and protective, must be applied early. Spray to be used is made of commercial lime-sulphur five and one-half gallons; black leaf 40 (a tobacco decoction) 14 fluid ounces; water, 200 gallons. Four gallons of flour paste, made with one pound of flour to one gallon of water, to every 100 gallons of any spray will prove an aid.

### Citrus Dying

My young citrus trees are continuing to die apparently from the effects of last winter's freeze. Trees that look strong and vigorous and that came through the freeze in good shape suddenly wither and die. I followed the instructions of the farm advisor by wrapping all trees with twine, several months later painting the entire trunk with Bordeaux, cutting out the dead and wrapping with yucca. I water and cultivate every three or four weeks and the soil seems to contain plenty of moisture. Can you offer an explanation of the cause of this condition and recommend any action to take at this time for treatment?—Reader, Monrovia.

Evidently your young trees were more seriously hurt that appeared at first. A careful examination of the trunks will no doubt show dead bark extending nearly, if not entirely, around the tree at some place between the surface of the ground and the branches. Trees injured in this way very often show a healthy top and make some growth from the limited circulation of sap that for a time passes through the uninjured tissue, but this supply is gradually reduced as the injured cambium dries and suddenly the apparently healthy top withers and dies. There is nothing that can be done now to prevent this but if the injury is above the bud so that a healthy shoot can be grown, we would suggest cutting off the old top and training up one of these and forming a new head.

### HATPINS AND BUTTONHOOKS

Returning from school, a little girl proudly informed her mother that she had learned to "punchtate." "You see, mother," explained the child, "when you write 'Hark!' you put a hatpin after it, and when you ask a question you put a buttonhook!"

### PRUNE PRICES IN WASHINGTON AND OREGON

Prices announced late in May by the Washington Growers' Cooperative Association for 1922 prunes range from 6½ cents per pound for 80-90s to 11 cents for 40-50s, in 25-pound boxes, f. o. b. Vancouver, Washington. The price will be uniform in Washington and Oregon, but charges for packing and freight will be deducted from the amount due grower members on this basis. About 40 carloads had already been sold in advance of the announcement.

### BARTLETT PEAR BULLETIN

We are just in receipt of Bulletin No. 1072, sent out by the department of agriculture on the handling, shipping and cold storage of Bartlett pears in the Pacific coast states. This bulletin should be of particular interest to pear growers, especially in regard to the cold storage recommendations.

Copies may be had by addressing the department of agriculture, Washington, D. C.


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| 31 x 3.85 " | 15.95 | 32 x 4½ " | 37.70 |
| 30 x 3½ S.B. | 15.95 | 33 x 4½ " | 38.55 |
| 32 x 3½ " | 22.95 | 34 x 4½ " | 39.50 |
| 31 x 4 " | 26.45 | 35 x 4½ " | 40.70 |
| 32 x 4 " | 29.15 | 33 x 5 " | 46.95 |
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| 30 x 3 "55" | $ 9.65 | 32 x 4 S. B. (Safety) | $21.20 |
| 30 x 3½ " | 10.65 | 33 x 4 " | 22.35 |
| 32 x 3½ S. B. (Safety) | 16.30 | 34 x 4 " | 22.85 |

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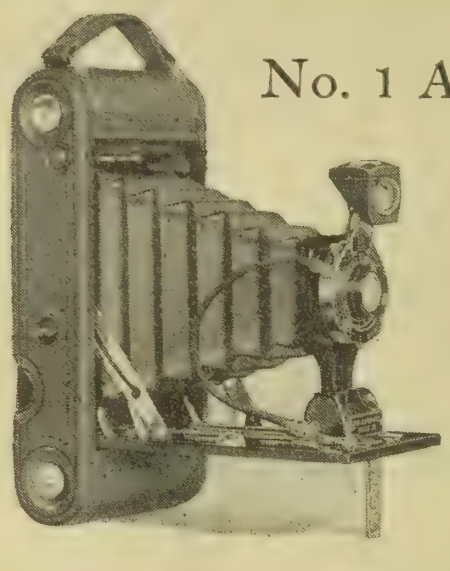

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# Household Department

### A LITTLE WORD

The breath of spring was in the air;
My heart was light and free;
Sweet flowers nodded everywhere,
And, oh, so merrily.
I trod the path I loved,
For life was bright and gay—
But some one spoke a bitter word
And all the world seemed gray.

Thick hung the heavy clouds o'erhead;
My aching heart was sore;
The nodding flowers were long since dead.
As wearily once more,
I trod the path to home;
All life was dark as night—
But some one spoke a loving word,
And all the world seemed bright.
—Irene Judy.

### HOW THE KING TRIED TO TAKE THE "A" OFF "ROBERTA"

By Clara Peterson

THE king of Candelabra had always wanted a boy, but he had a girl instead. Her name was Princess Roberta. She was eight years old and healthy and strong and smiling. She even had brown cheeks and straight bobbed hair like a boy, but she had one habit which made the king ever so sad. She was continually dressing up.

Just when the king had gotten himself to thinking that perhaps after all Roberta was nearly as good as a boy, along she would come, dancing across the marble floor or tiptoeing across the velvet rug, with the kind housekeeper's lace scarf wound around her rompers and a wreath of clover blossoms on her head.

Or, the king would find her in the nursery with the white bear rug for a cape and orange satin ribbons tied around her wrists and ankles.

One day he even found her in the purple throne room which was supposed to be kept closed. She must have been there because the throne room held the very largest mirror in all the palace. Roberta was standing at the corner of the mirror, which was as low as the crimson carpet and as high as the golden ceiling. There was a pile of shaving curls on the floor beside her.

"Great jumping jacks!" cried the king, peering over his spectacles. What are you doing now?"

Fourteen snap clothespins from the laundry stood up on the little head of Princess Roberta, or drooped over her neck and ears. Each clothespin had closed very tightly on a lock of straight brown hair.

"My shaving curls kept falling off," said the Princess Roberta. "I'm just standing here waiting for real curls to come. I think my hair will be quite wavy."

The king thought about his daughter all night. He was sure that she would be unhappy if she grew up to be just a girl, so he decided to change her at once and have it over with.

Away up on the third floor of the palace was a sunny room with one window. There was nothing in it but a plain brown rug and a plain brown chair and a plain brown table.

The king nodded his head at the room. He went down stairs and climbed into his largest automobile, and away he went honk! honk! to the largest toy store in all the city.

The store people were quite excited when they saw the king. Even the newest clerks knew at once that he was the king for he had on such a shabby old suit that anyone else would have been ashamed to wear it.

"Ho, hum," said the king to the tallest clerk, the one with the striped trousers and handsome green vest. "Ho, hum! Show me everything you have in toys for boys!"

It was lucky that that was a big automobile, for when the king drove back to the palace, it held:

One small steam engine which really steamed.
One train which flew around in circles through tunnels and over bridges.
One set of building blocks.
One sled with a dandy brake
One box of steel parts which could be built into just about everything.
One scooter.
One football.
One baseball and a hickory bat.
One tool chest.
One pair of stilts.
One air-gun.
One wigwam and an Indian outfit of leather.

When the king walked into the nursery the princess had just finished her breakfast of oatmeal and milk. She was trying to make her napkin into a nurse's cap.

"Come with me, Roberta," said the king. I am very glad that you have on plain white rompers and plain white shoes and stockings. It is as I like to see you."

He thought to himself that the princess would have been trimmed up in some way if he hadn't caught her just in time, but he didn't mention that—just took her by the hand and led her up to the sunny room.

All of those wonderful, exciting toys were scattered about the room. There was also a bed in it now and on the plain brown table a lamp with a plain pink shade.

"I'd like to have my little daughter live here for two days and nights," said the king. "Enjoy yourself, my dear. I shall see the cook about lunch for you—corn on the cob and lemon pie and plenty of other things."

The princess had heard all her life that corn and lemon pie weren't good for little girls, so she knew that her father was trying to be kind indeed. She heard him turn the catch on the door and she walked over and looked out the window.

Roberta couldn't see anything out of the window except four of the palace dogs having a terrific fight near the fountain, so she turned around and began to look over the room.

"This must be a sort of attic," said Roberta. "Oh, dear, I want my Angeline Rosemary Marie." This was her rag doll.

She sat down on the bed, fingering the coverlet. In a moment her eyes began to smile and smile.

The king could hardly keep away from that sunny room with the one window. He didn't exactly feel sorry for his little girl because he knew that she had a dozen fascinating things to play with. He kept wanting to peep through the keyhole to see what a good time she was having, and he might have done it if the footman hadn't found him on the second stairway and announced the Earl of Snappergrass from over the mountains.

The king and the Earl of Snappergrass sat down in the dining room and lunched on peacock pie and bread pudding. They were very glad to see each other for they were old school friends, and they talked about the weather, and how to keep servants, and a great many important matters. The earl didn't have any children and finally the king just couldn't keep still about Roberta a moment longer.

He cleared his throat and began: "Roberta is a very different child from when you last saw her. She is very much like a boy, strong and healthy, and her hair is as straight as sticks."

Just at that moment the butler refilled the king's coffee cup and the king couldn't help saying to him:

"Sam—just send some one up to the brown room for the Princess Roberta; I want the earl to see her."

He went on talking, not even knowing that his chest was puffing out with pride, just like the pigeon's outside the window.

"Yes, Snappergrass, you will be surprised at Roberta. Even now she is up in the brown room entirely surrounded by toys for boys."

The earl put down his cup and patted the king very gently on the back.

"Never mind, old fellow, I dare say she'll get over it. I know how sad you feel about having a girl who is like a boy, but don't talk about it, don't worry about it. She's young yet. Give her dolls and ribbons and—"

The king's mouth was wide open as he looked into the pitying face of the earl. Then he turned his head, for the Princess Roberta stood between the silver curtains of the doorway.

"Great jackingjumps!" cried the king.

A pink and blue princess was bowing to them. She wore a lovely kimona of striped silk like roses and the sky all mixed together. It was tied with a golden cord, and on her head was a pale pink bonnet like a crown. Her blue eyes sparkled when she saw the

earl. She danced over and held out her hand.

"How do you do, Mr. Snappergrass. I remember you!"

After Roberta had been kissed and kissed and her father had heard and seen how very sweet she was and what an enchanting big princess she was going to make, he unwound her arms from his neck and set her down on the pale green rug.

"And now, Miss Roberta," he said rather feebly, feeling again of the silken kimona to see whether it was real. "Now tell me what you thought of all the toys I bought you."

"What toys?" said the princess, tying her golden cord into a bow.

"You shut me in that room and it was just filled with old attic things. There wasn't anything to do, so I ripped the center circle out of the coverlet on the bed and slipped the coverlet over my head. I didn't hurt it a bit, daddy, for I did it carefully with a pin and it can be sewed right in again. Then I untied the curtain cord for a sash and put the lamp shade on my head. Now may I have some lemon pie?"

The king sat perfectly still. Then his head began to shake with laughter.

"Ha! Ha! Ha! Ha! Ho! Ho! Ho" screamed the king, holding his sides.

The earl laughed as he finished his pudding and the princess laughed as she took her first bite of lemon pie, but no one but the king knew what it was all about, and that it was very fine after all to have a girl for a princess.

## HOUSEHOLD QUERIES

### Beautiful Rugs from Old Carpets

Can anyone tell me what I can do with an old faded Brussels carpet to make it presentable for another year or so, until I can go to the city on a buying trip?—Subscriber, Rohnerville.

Beautiful rugs can be made from these old carpets no matter how faded and napless they have become and they will last for many years. They are cut in strips as for rag rugs, the weaver washes and ravels them out and weaves into heavy handsome rugs that outvie the costliest velour and last almost forever. If there is no weaver doing this kind of work in the immediate neighborhood we can send address by mail to this inquirer. These rugs are really very beautiful. If old and worn the colors are merely toned down and the result is rugs of the costly neutral shades that harmonize perfectly with any room. If rugs are made of the carpet this necessitates finishing the floor by painting or staining. The household department will be glad to help with suggestions in this line.

### Sweet Pickles Shrivel

Please tell me how to make sweet cucumber pickles. How much sugar to a quart of vinegar? And mine always shrivel up so badly. What is cause? Should I soak them in salt and how long? How strong salt water, and should one use the vinegar on them hot or cold? I am a reader of your Cultivator and enjoy reading it so much. What size should the pickles be for home use?—Subscriber, Hermosa.

See answer to similar question on Page 62 of the Cultivator of July 15. Note there that pickles should be pricked in several places to permit penetration of sweet vinegar. This will prevent shriveling. Most people prefer to make sweet pickles of the small cucumbers 2 to 3 inches long.

### Dill Pickles

Can you give me a recipe for making cucumber dill pickles.—Subscriber Orange Cove.

From Cruess "Home and Farm Food Preservation:" Wash cucumbers. Prepare a crock, keg, barrel or wooden bucket. Do not use metal. Place layer of dill plant in the bottom of the container and a small quantity of mixed dill pickle spices. These can be obtained from a grocery. On these place two or three layers of small cucumbers. Add another layer of dill plant and spices and two or three layers of cucumbers, repeating the alternation of layers until the container is almost full. Cover with layer of beet leaves or grape leaves at least an inch thick. Fill and cover with a brine made of one pound salt, ten quarts water and two-thirds quart vinegar. Allow to stand until fermentation ceases (three to four weeks). Seal with paraffin. Dill pickles may be kept indefinitely by heating to boiling in the brine in which they are made and sealing boiling hot in glass jars.

### Keeping Butter

I have been a subscriber of the Cultivator for nearly a year and enjoy reading the paper immensely. How can I put up butter so it won't spoil?—Subscriber, Lodi.

It will keep well if dry salt is worked into it or if packed in brine. Use fresh sweet butter, weigh carefully and for each 10 pounds butter take 1 pound salt and work in thoroughly. Pack tightly in crocks and cover with salt. Store in cold place. When butter is to be used it may be freshened by working in cold water.

If brine is used: To each 10 pounds butter add ½ pound salt and work in thoroughly. Make brine of 3½ pounds salt per gallon water. Pack butter in this brine so that it will be well covered and store in cool place. It may be freshened as above.

## HINTS FROM HOUSEKEEPERS

### Some Comment and Suggestions

I was glad to see the recipe for strawberry clabber. If any one else has unusual recipes for the use of clabber milk or whey I shall be very grateful to see more as I am making a collection of these—so healthful we know, and the germ of the lactic acid needed to destroy intestinal bacteria. At any rate I am making a specialty of using some every day on our table. Another housekeeper gave some good recipes for using mint which I was glad to see, realinzing the need of using more "green" in our daily diet, also the value of learning of less harmful flavors and spices, so I will give a recipe that includes both whey and mint.

Mint-Whey Gravy—One large tablespoon grease or oil, 1 tablespoon cornstarch or flour, 1 tablespoon white sugar. Blend all over fire, add 1 cup whey, boiled as thick as desired, add 1 tablespoon each of chopped onion and parsley and ⅓ cup chopped mint, pinch salt. Boil just long enough to blend flavors. May have a little mint coloring if desired. Serve with lamb, potatoes or fish. The same recipe makes a lovely imitation mayonnaise dressing by leaving out the mint, and adding a little lemon juice and butter coloring and will keep a long while if much oil is used. Garlic or chives may be used also.

Try this hot with sliced potatoes, radishes and onions and poured over a bed of lettuce. Hot salads are just as good as cold and served with an omelet and desert make a full meal.

To have dry mashed turnips, carrots or squash add a tablespoon of dry flour to a quart of vegetables after draining well and mash all together. The flour takes up the balance of the moisture. After carrots are mashed this way one may add pumpkin pie spices and make a carrot pie.

I put new potatoes, also young carrots in a pail of water and whip them around with a coarse rasp for a minute and believe me, they are scraped well when I take them out.

### Maraschino Cherries

Noting directions for making the real Maraschino cherries, given by Mr. Cruess, a reader sends in a favorite recipe for making pickled cherries with Maraschino flavor.

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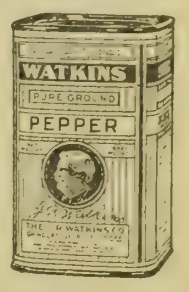


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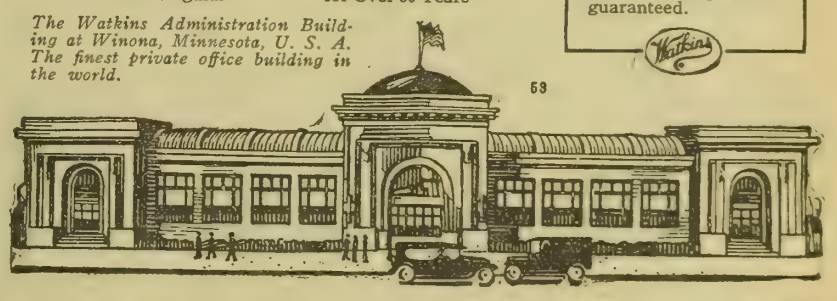

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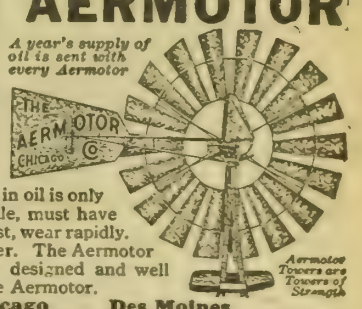


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Plant now for February's high-priced market. Should return up to $1000 per acre first year. The California Rhubarb Association could have used the output of 1000 acres this season.

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1550 EAST VILLA STREET Dept. C "Originators of the Giant Winter Strain" PASADENA, CALIFORNIA

They make a nice addition to a salad, or they may be used simply as a relish. Select the large Royal Ann or the deep red Oxhearts for this pickle; wash, pit and cover the fruit with vinegar and let it stand for 24 hours. Then drain the vinegar from the fruit and arrange the latter in layers in a stone jar with sugar generously distributed between them. One-half or even three-quarters as much sugar as fruit should be used. Heat the vinegar, not to the boiling point, but very hot, and pour over the fruit and sugar. Cover and let stand for a week, stirring occasionally and then add almond extract in the proportion of half a teaspoon to each quart of vinegar. If the Royal Ann cherries are the variety which you have selected for your pickling and you care to make them of deep rich red tint, resembling the bottled Maraschino cherries one buys, add also just enough red fruit coloring to produce the desired tint. But whether colored or not the cherries so prepared are a delightful embellishment to a salad.

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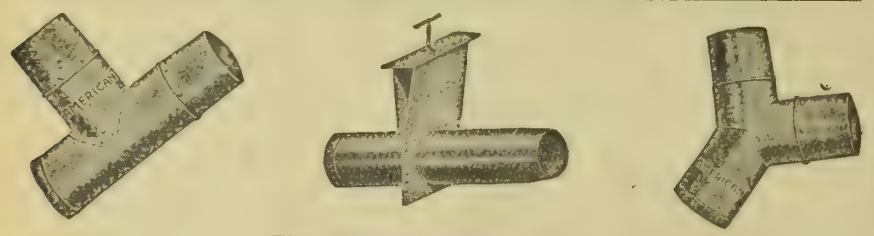


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You are contemplating the purchase of a service bull next year. Why not save 50 per cent of the purchase price by buying a registered Holstein bull calf now? Pay for him next year when he is ready for service.

Sons of SIR VEEMAN KORNDYKE PONTIAC, who has 27 A. R. O. daughters, and of BURR WALKER SADIE VALE, whose seven nearest dams average 29 lbs. of butter in 7 days, included in this offer. Call or write at once.

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GUERNSEY CATTLE
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Have a couple crackerjack sons of the $10,000 bull, Pencoyd's Golden May Secret, ready for service.
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produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

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### Lemon Ice

Make a strong lemonade of the juice of 3 lemons and 3 cups water. Add 2 cups sugar. Partly freeze 1 quart of milk, then add the juice and freeze until hard.

### Fig and Apricot Conserve

Another fig recipe that you can not beat: Put white figs through meat grinder, add ¾ pound sugar for each pound fruit and 1 teaspoon salt for 3 or 4 quarts of the mixture. Boil about 20 minutes, then add 1 cup ground walnuts for each quart (more if you have lots) boil up and seal.

Apricot Conserve—Seven pounds ripe apricots put through grinder, 5 pounds sugar and 1 medium can pineapple, 1 small handful of the pit kernels ground.—A Riverside Subscriber.

# Straloch Farm

About two years ago G. Harold Hopkins began the development of Straloch Farm which is located on the highway about two miles west of Davis. Its progress has been watched with much interest, not alone by the breeders of purebred livestock but by the farming public in general.

Those who saw the farm at its inception wonder that so much has been accomplished in so limited a time. It is devoted chiefly to breeding Shorthorn cattle, Hampshire sheep and Poland China swine, and the active management of both farm and livestock has been in charge of J. I. Thompson, formerly of the university farm.

That great care and ability was shown in the selection of the foundation animals is amply exemplified not only by the show record of last year, their first, where every entry was placed, but by the heavy demand for breeding stock the past season.

Manager Thompson in speaking of sales stated that not a bull remained on the farm older than nine months, that was for sale and that they were now making their first offering of females in 12 bred heifers. Every Hampshire that could be spared found ready market and ten could have been sold for every one that was disposed of. Forty more Poland China gilts could have been sold had they had them and the demand for boars was even greater than the demand for females. Three or four times as many boars could have been sold and at very satisfactory prices.

This certainly shows a healthy condition of the livestock industry and should be a source of encouragement and inspiration to breeders in other sections of the state.

This year's show herd in Shorthorns will consist of full strings of the two younger groups, young herd and calf herd, with a complete flock of Hampshires. Junior yearlings will be their principal showing in Poland China's, consisting of four sows and a boar, being the same animals shown last year as junior pigs. They are all by the same boar, Frisco Boy and out of the two sows, Liberty Girl 3rd, grand champion in 1920, and Black Beauty C., junior and reserve grand champion 1918 at the state fair. Fat barrows will also be shown here and at Portland, Oregon.

# Livestock News Notes

LIVESTOCK SALE CALENDAR

Shorthorns

August 9, Carruthers Farm, Live Oak.

Guernseys

August 4, L. D. Smith, Riverside Fair Grounds.

Holsteins

August 17, Jas. McGillivray, Sacramento.

August 30-31, Dispersal, Maxwell Farms, Hollywood.

Jerseys

August 20, Dispersal, W. H. Rough herd, Riverside.

The report of the Kern County Testing Association for July shows that 854 cows were tested, yielding an average of 732.2 pounds milk and 27.3 pounds butterfat. The high cow was a grade Holstein owned by B. S. Baldwin of Bakersfield which made 59.7 pounds fat from 1494 pounds milk. The hot weather has been hard on the cows, and the records of the summer months show a considerable falling off in production.

Judges who will officiate in most of the departments at the state fair, September 2 to 10, have been appointed as follows: Shorthorn cattle, John C. Burns, Texas. Herefords, James Painter, Colorado. Angus, Alex McDonald, Davis. Dairy cattle, John L. Smith, Spokane, Washington. Prof. P. M. Bandt, Corvallis, Oregon. Horse show, George A. Heyl, Washington, Illinois. Sheep, Prof. Andy Patterson, Kanhattan, Kansas. Swine, W. J. Carmichael, Chicago; C. M. Talmadge, Salem, Oregon. Poultry, Robert V. Moore, San Leandro; Chas. G. Hinds, Oakland. Pigeons, William J. Head, West Berkeley; Robert V. Moore, San Leandro. Pet stock, Lewis H. Salisbury, Pasadena. Agricultural and horticultural departments, George P. Weldon, Ontario; J. J. Fox, Berkley; R. E. Hodges, San Francisco. Draft horses, Prof. Andy Patterson, Manhattan, Kansas.

Two more splendid yearly records have been completed in the choice herd owned by Earl Graham of Compton. S. V. K. P. Lenita of Sunnyside, calving at 3 years 3 months, made 922.04 pounds butter and 20,127.2 pounds milk in 365 days. S. V. K. P. Daphne of Sunnyside, calving at 4 years 2 months, made 721.89 pounds butter and 15,770.8 pounds milk in 270 days, carrying a calf 235 days of the time. Both of these are daughters of the great Burr Farm bull, Sir Veeman Korndyke Pontiac.

The great Maxwell Farm herd of registered Holsteins will be dispersed at public auction on the farm at Hollywood on August 30 and 31. The announcement of this sale has created something of a sensation in California Holstein circles, as the moving of the famous herd to California from Iowa only a couple of years ago was taken to indicate that Mr. Maxwell would build up one of the very largest herds in California. However his Chicago business has kept him there practically all of the time and the valuable land of Maxwell Farm is right in a high class subdivision district. Many proposals for profitable subdivisions have been made but the cattle have always proved a stumbling block, and the decision to sell has therefore been made.

Princess Contenta Walker, a five

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— AUCTIONEERS —
Los Angeles Calif.

year old daughter of Prince Gelsche Walker, owned by A. W. Morris & Sons Corporation, Woodland, has completed an official record of 32.06 pounds butter in 7 days from 680.1 pounds milk, milking 101 pounds her best day. She is a most promising candidate for a large yearly record this year.

An effort is being made to assemble a California state show herd to compete at the Pacific International Exposition at Portland, Oregon, this fall. A committee of breeders representing various sections of the state will look out for likely candidates in their respective localities, and an expert judge will be called upon to pass on the comparative merits of the cattle from the various sections. It is intended to get the real line on the most promising ones at the early local fairs. President F. L. Morris of California Holstein-Friesian Association has appointed on this committee Kenneth W. Abbott for Southern California, W. J. Higdon for the lower San Joaquin, Harry V. Bridgford for Central California, and De Lancey Lewis for the coast section.

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With 15 heifers on yearly test it looks like old times at Tulare Holstein Farm, owned by W. J. Higdon, Tulare. Most of these are first calf daughters of the famous young sire, King Korndyke Pontiac 20th, and it is a foregone conclusion that before another year rolls around he will have a most substantial list of yearly record daughters to his credit. Prince Riverside Walker is away from home for the time being, doing service in the herd of F. S. Borror & Son, Tipton. This grand old sire has a splendid lot of daughters, one of which recently made over 1,000 pounds butter in one year as a senior two year old at Santa Anita Rancho.

---

Walter F. Mitchell, Visalia, again has a herd of upwards of 100 head, that has just naturally multiplied following his sale in 1919 when all the milking cows were sold and the heifers retained. About 35 head are now in milk, including some fine daughters of Segis Pontiac Crane De Kol, Prince Hiske Walker and Sir Veeman Korndyke Pontiac. The younger things are all daughters of King Abbekerk Johanna Segis, the great son of Adirondac Wietske Dairy Maid. This bull has developed into an individual of commanding merit and his heifers are exceptionally promising.

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The present situation in Holstein circles in California is one which may well be regarded as highly satisfactory. Never in the history of the state have there been so many prospective buyers of registered cattle. It is true that many unfamiliar with Holstein values are influenced by past unsettled conditions in other lines. But once they become convinced that prices are on the ugrade, as they unquestionably are, there will develop such a demand for breeding animals as the state has never seen.

---

Ormsby Segis Marie, formerly world record milk producer as a senior three year old, and who made over 30,000 pounds milk in one year at five years old, lately dropped a fine bull calf by Sir Toyon Fleta Johanna Mercedes, son of Cascade Fleta Johanna, second heifer of the breed to make over 30,000 pounds milk in one year. This is good news to the many breeders who admire this great cow, for she had been given up as a non-breeder by a number of good veterinarians. It is due to the patience and care of Frank Hatch, Modesto, her present owner, that she is back in breeding condition again and as she is only a young cow it is hoped that she still has a long life of breeding usefulness before her.

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The correct figures on the three splendid records recently completed at Santa Anita Rancho, owned by Anita M. Baldwin, are now available. Anoakia Pontiac Beets 2nd, calving at 3 years 14 days made 1,158.19 pounds butter from 27,481.3 pounds milk. She is a daughter of King Korndyke Pontiac 20th. Lady Lilith Walker De Kol, calving at 2 years 8 months made 1,016.56 pounds butter from 22,876.1 pounds milk. Blanche Nudine Clothilde Walker, calving at 3 years 8 months made 960.90 pounds butter from 26,193.9 pounds milk. Both of the last named heifers are good daughters of Prince Riverside Walker, the grand old son of Prince Gelsche Walker and Aaggie Acme of Riverside, owned by W. J. Higdon, Tulare.


# EASY NOW TO RID YOUR PLACE OF FLIES

**Widely Known Scientist Discovers Wonderful Chemical That is Fatal to Flies. Not a Poison—Harmless to Stock.**

Flies are one of the most dangerous and annoying things with which the farmer has to contend. Now, through the discovery of E. R. Alexander, widely know scientist, you can rid your house and barns and livestock of these pests almost instantly, and with no trouble at all. This discovery is in the form of an organic chemical that is fatal to flies, and similar pests, such as chiggers, mosquitoes and moths.

This new discovery, which is called Alexander's Rid-O-Fly, is not a poison. Though it kills flies like magic, farm animals and human beings are not affected by it at all. In addition to killing these insects, Rid-O-Fly is a strong repellant. Flies will not come near stock or buildings where Rid-O-Fly has been used. Rid-O-Fly is particularly valuable for cows and horses, as it is a known fact that flies do untold harm to these animals.

So confident is Dr. Alexander that his discovery will rid your house, barns and live stock of these pests that he offers to send a $2.00 supply for only $1.00 on the guarantee that if Rid-O-Fly does not solve your fly problems it will cost you nothing. Two big Kansas City banks guarantee the reliability of this offer.

SEND NO MONEY—just your name and address to the Alexander Laboratories, 1577 Gateway Station, Kansas City, Mo., and this introductory offer will be mailed at once.

## 400 Gallons of Sterilizer for $3

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One ounce of B-K is diluted with three gallons of water to sterilize cans, pails, strainers, separators, etc.

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52 Peoples Gas Bldg., Chicago

A 40 Lb. PACKAGE MAKES 1200 GALLONS

# A Wonderful Opportunity to Buy Clean Registered Holstein Heifers

Never before in the entire west have so many registered Holstein heifers been offered in one sale, and the offering affords a choice such as comes very rarely.

COMPLETE DISPERSAL
140 — REGISTERED — 140
## HOLSTEIN HEIFERS

WILLOWMEAD HERD, Sacramento, Calif.,
Owned by Jas. McGillivray

**Thursday, August 17, at 9:30 A.M.**

These heifers are from one of the longest established California herds. It will be remembered that a few years ago when Mr. McGillivray was increasing the size of his herd through purchase, he appeared several times as a buyer of $1,000 females, at a time when those were top prices. Only the highest class herd bulls have ever been used, and the heifers in this offering represent a long time of constructive breeding.

KEEP THIS IN MIND!

These heifers have been raised on milk from tuberculin tested cows, turned into clean pastures at weaning time, and in testing for this sale only one reactor out of 175 was found, that one a calf lately brought over from another ranch. And in addition to that every heifer over six months old is sold tuberculin tested and subject to 60 day retest by the buyer.

UNIFORM BREEDING

The entire 140 head in the offering are sired by just eight bulls, permitting a selection of uniform breeding. Of these approximately 100 are sired by just four bulls, Colony Zarilda Newman, whose dam has twice made over 1,000 lbs. butter and over 30,000 lbs. milk in one year; Prince Echo Sylvia Segis, sired by the greatest proven son of May Echo Sylvia; Yolo Valdessa Hengerveld, a 30 lb. son of the 41 lb. bull King Valdessa; and Yolo Mead Paul, one of the good sons of King Mead of Riverside.

THIS IS THE OPPORTUNITY OF YEARS TO BUY CLEAN HEIFERS OF POPULAR AND HIGH RECORD BREEDING. NONE ARE YET IN MILK, BUT SOME ARE SPRINGERS, ABOUT 100 SELLING OPEN.

**Place of Sale:** On the main highway between Sacramento and Stockton, about 12 miles south of Sacramento. Watch for sign on highway.

**Headquarters of Sale:** Travelers Hotel, Sacramento, from which point transportation will be afforded out of town buyers morning of sale.

Write to Sale Managers for Catalog
**California Breeders Sales and Pedigree Company**
C. L. Hughes, Sales Manager, Sacramento, Calif.
Auctioneer: COL. BEN A RHOADES, Los Angeles

# Rare Dispersal!

**Maxwell Farms Registered Holsteins**

**Hollywood, Calif. August 30-31, 1922**

*120 Registered Cows, Heifers and Bulls*

Absolutely the greatest offering of high record Ormsbys ever made in the west. Cows with records up to over 1,100 lbs. butter in one year and up to over 37 lbs. butter in 7 days.

**Tuberculin Tested—Guaranteed Breeders**

**Watch for later detailed announcements of this great sale.**

Management
California Breeders Sales and Pedigree Company
C. L. Hughes, Sales Manager, Sacramento, Calif.

# AUCTION

**20 Head of Purebred Holsteins 20**
Tuberculin Tested

**At the Rhoades & Rhoades Sales Pavilion at HYNES**

**Friday, August 11th, at 10 a.m.**

Including several ARO cows with records up to 24.52 lbs. of butter in 7 days. A number of well bred, typey bred and unbred heifers. Every head in the sale is a splendid individual. A high class young herd sire will also be sold. Sold subject to tuberculin retest on the grounds. Arrangements for liberal credit can be made by responsible parties.

R. F. BRADLEY, Owner

**RHOADES & RHOADES, Auctioneers**
1505 South Main St., Los Angeles

Your appreciation of the California Cultivator can be shown best by writing to and buying from Cultivator advertisers.

# Milking Cows for Profit

By Jack Klein

SOMEHOW as one travels about the state and visits with the dairymen he gets the idea that, although they are in the dairy business for what they can get out of it, they are not just sure that it is a business which they can expand beyond a certain place and therefore the profits to be made are limited. Only a few days ago a noted educator along agricultural lines in an address voiced the opinion that the backbone of the dairy business was the family herd which was just large enough to be cared for by the members of the family as a side line to the general farming operations. It is true that this kind of a herd is the most profitable because labor and overhead expenses are seldom figured, but it is on the big commercial herds that the cities have to depend for their milk supplies. These herds are necessarily operated at a greater expense than the small ones. They must be carefully supervised if they are to last, and the frequent failure of such a herd to make good has led people to think that the risk is too great. Generally the failure is due to mismanagement or misjudgment more than to any other factor. The business is of necessity run on a small margin of profit and must be administered severely.

Out in the San Fernando valley near the city of Los Angeles H. E. White is operating a large dairy herd on a 300 acre farm and making money. He is admirably situated from a shipping standpoint and the land, much of which was formerly a willow covered slough, has proven exceptionally fertile. Seventy acres in alfalfa provides sufficient hay for the herd of 330 high grade Holsteins. The barns are situated on a knoll and the water used to wash the barns is all carried out on the alfalfa. Pipes used to distribute it are moved about frequently, and there is no danger of burning the alfalfa nor of drowning it. The soil is sandy and the fertilizer thus applied is invaluable. The land yields seven cuttings of alfalfa a year and an average of nearly two tons per cutting to the acre. A considerable portion of this can be sold as rabbit hay at a price very much above the market for dairy hay and the owner finds it profitable to sell some of his product and buy feed for the cows.

Although he owns 300 acres Mr. White has but about 200 available as the balance was under lease when he purchased it and he will not be able to use it until next year. The 125 acres other than the land planted to alfalfa yielded a fine crop of oat hay this spring which is used for the young stock and dry cows. It is now planted to silage corn and if it yields up to its usual amount will turn off about 18 tons to the acre. Silos of sufficient capacity to care for the entire amount stand ready to receive it.

Mr. White has gathered together a herd of big cows of exceptional individuality and they are repaying him for his trouble in selecting them. Nearly all are heavy milkers and his herd averages 4 per cent in fat. All of the cows are tested in the Los Angeles County cow testing association, and for the year ending June 30 last the average production was 418 pounds fat per cow. This was a gain of 19 pounds a cow over the previous year's average. The five high cows of the herd had an average of 637 pounds fat.

Of the 330 head 182 are cows in milk and they yield an average of about 6800 pounds of milk a day. This is sold at the wholesale rate of 90 cents a pound butter fat or $3.60 a hundred for 4 per cent milk and the monthly milk check amounts to something over $7500.

The equipment on the White ranch is adequate for the production of grade A milk under the strictest supervision in the country, but is not expensive. His milking barn is regulation width, two rows of 30 stanchions each. One side is given over to the heavy milkers which are included in two strings of 30 cows each and are milked three times a day. Two milkers feed, milk and clean after each string of cows. The hours are arranged so that cows are being milked nearly all hours of the day and night as the two time strings of 30 cows each which make up the balance of the herd are alternated on the other side of the barn. Experience has taught that milking three times a day causes a cow to produce more milk and to hold up longer than under the two time method. A cow which started off at 80 pounds a day was recently taken out of the three time string in her tenth month and only five weeks away from calving still giving 65 pounds a day.

Mr. White is adding another row of stanchions to his barn in preparation for 70 heifers which will freshen this fall. With 90 stanchions available he will be able to milk 300 cows following his method of stabling.

The cows are given all the alfalfa they can eat in the corral and in the barn are fed silage and wet beet pulp with a grain mixture much the same as has been advocated in recent feeding articles in this paper. The mixture is fed in proportion of one pound grain to 4 pounds milk. If possible the cows are allowed 8 weeks of rest before calving.

The milk house is large and well equipped. The milk is cooled by brine which is kept at low temperature by a compact two ton ice machine which is operated by a 3 horsepower motor. The brine tanks are inside the big ice box and hold it at a temperature around 32 degrees. The cost of operation of this machine is about $5 a month. Before it was installed Mr. White paid out over $100 a month for ice which failed to provide sufficient refrigeration to do the work and he figures the ice machine a big saving.

### Uses Good Bulls

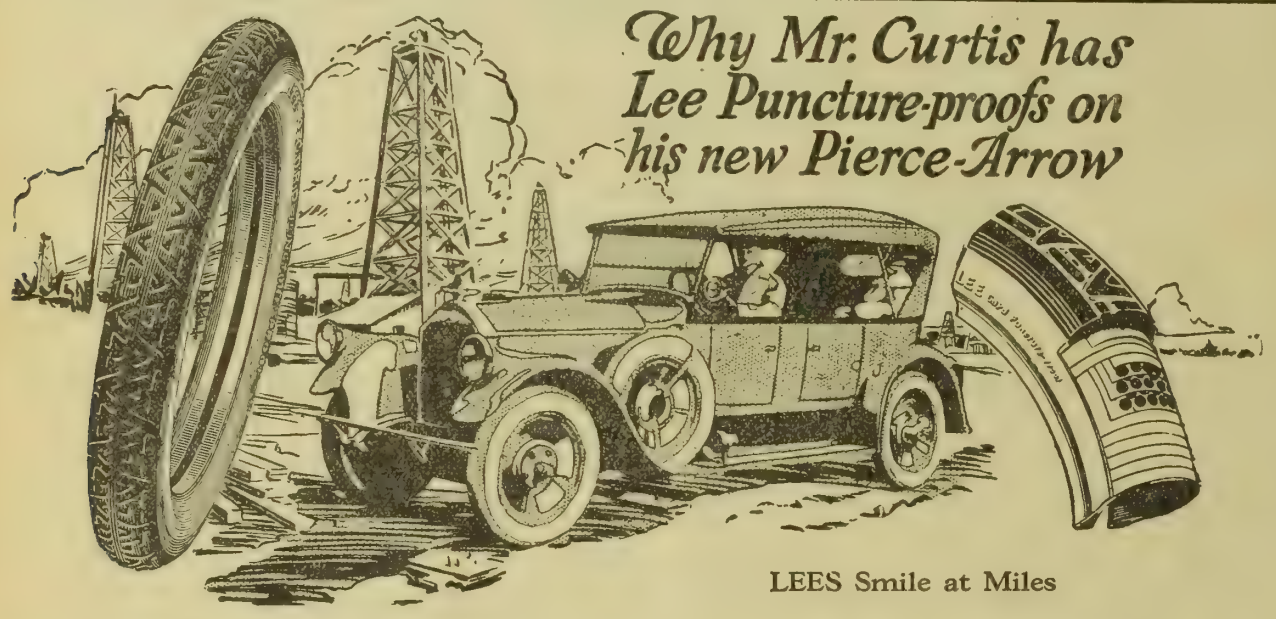
Mr. White is increasing the value of his herd by the use of the best pure bred Holstein bulls he can buy. At the head of the herd is a son of King Marco Alcartra out of a 100 per cent full sister of Miss Valley Mead De Kol Walker. This bull formerly headed one of the big pure bred herds of Southern California.

Two young bulls were recently purchased from Fred Hartsook of Lankershim. One is out of Ciruela Juliana De Kol, a junior two year old who made 732 pounds butter last year, and the other is sired by Hazelwood Finderne Fayne and out of the 900 pound record cow, Henrietta Roderick. All three of these bulls are splendid individuals and will help the type of the herd.

Here is a dairy farm, depending entirely on the sale of milk and a small amount of hay and fertilizer for its income, making a handsome profit for its owner. It sets at rest all rumors that a big herd cannot be run profitably. It can be done if it is done right and small herds given the same treatment will yield proportionately greater. Everyone should follow Mr. White's lead and get into the business in such a way that there is no need to worry about finances. Plan carefully and work hard and success is sure to come.

### LOS ANGELES COUNTY FARM BUREAU COW TESTING YEAR CLOSES

The cow testing year of the Los Angeles County farm bureau association closed on June 30 and the new year started July 1. Much interest has been evident in this work throughout the year with an increased number of members. More cows are under test than ever before. There has been much interest in the county dairy cow competition maintained in connection with the testing association. There has been special interest in the sweepstakes cup which is awarded to the dairy winning the greatest number of points in the monthly and yearly classes. At the present time at the close of the year's work the monthly classes show Fred Hartsook to be in the lead with 90 points, Maxwell Farms being second with 69 points, Arden Dairy third with 68 points, and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LEE *Puncture Proof Tires*

LEE

*"I cannot pass this opportunity to tell you of the wonderful service and mileage received from Lee Puncture-proof Cords put on my 5500 pound FIAT touring car, over a year ago. I drive this car all over the Kansas Oil Fields, in all kinds of weather and over all kinds of roads and have ye to be delayed by any kind of tire trouble, and the speedometer shows that they have been driven 11,298 miles. So, you can see why I equipped my new Pierce-Arrow with P. P. Cords."*

IN this letter, Mr. Ed. T. Curtis, of Curtis & Wells, Kansas City Live Stock Commission Merchants, sums up the feeling of security enjoyed by Lee Puncture-proof tire users, everywhere.

Lee Puncture-proofs are the only pneumatics especially adapted to automotive equipment on the farm. Every farm vehicle, including passenger car and truck, is used for business, and it has long ago been proven that every business car gains efficiency from Puncture-proof tire equipment.

Even the regular Fabric and the Cord tires of Lee manufacture are of exceptional quality—equal to the best the market affords.

The Lee Dealer will demonstrate the safety and saving advantage of this different type of pneumatic—show you why it carries a cash refund guarantee against puncture.

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# Dog Days—

"Dog Days" are at hand when dairying is most difficult without a separator, and when the increase in quantity and improvement in quality of cream and butter are greatest through the use of a good separator.

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**Sooner or later you will use a**
**De Laval**
**Cream Separator and Milker**



**KRESO DIP No. 1**
(STANDARDIZED)
WILL
**PROTECT YOUR PROFITS**
BY KEEPING
**All Livestock and Poultry Healthy**

**Effective. Uniform. Economical.**

Kills Lice, Mites and Fleas.
For Scratches, Wounds, Scab, and Common Skin Troubles.

**HELPS PREVENT HOG CHOLERA**

Experiments on live hogs prove that a 2 1/2 per cent dilution of Kreso Dip No. 1 will kill virulent hog-cholera virus in 5 minutes by contact.

FREE BOOKLETS.

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We have issued a convenient little book for the keeping of breeding dates of cattle, hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly mail you a copy free if you request it. A postal will do.

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O. L. Hughes, Sales Manager
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PORTABLE MOTO **MILKER**
NEVER HAS HURT A COW
Inexpensive Operation—Long Life
INVESTIGATE
SEND FOR CATALOG
**JORDAN-HILL CO.**
112 MARKET STREET SAN FRANCISCO, CAL.


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E. L. White, Burr Farms, Santa Monica Dairy, Adohr Stock Farms and County Farm running a very close race. It is impossible to tell from these figures, however, who will be winner as the yearly classes count a great many more points than the monthly classes. The annual report of the cow testing association is about completed and will be published in the near future. It will announce winners in all yearly classes and will also announce the winner of the sweepstakes cup. These 29 beautiful loving cups will be awarded to dairymen winning them at the annual meeting of the Los Angeles County farm bureau in the early fall.

A dairy cow competition has been lined out for the new year which will have two more classes than formerly and will allow a wider distribution of prizes among dairymen of the county. All men who are interested in testing should get in touch with the farm advisor's office in the court house at once so that they may get a full year's work.

## REASON FOR OPTIMISM

**By R. M. Hagen, Secretary California Cattlemen's Association**

Because of high costs of production and relatively low price of cattle many cowmen have become somewhat discouraged over the future of the industry. Within the past month of two, a number of cattlemen have seriously discussed with me the possibility of going out of the business.

It is these confidential talks which make it seem worth while to put in writing some facts which seem to indicate that better times are ahead for the cattleman. It seems to be a rule that conditions look most discouraging just before they begin to improve.

A study of the economic conditions influencing the cattle business would seem to indicate that we are at the bottom of the depression and that the next seven or eight years should be an upward climb in advancing prices and more especially in the profits from the cattle business. We have been saying for some time that cattle have hit the bottom as a result of the financial pressure of 1920 and 1921 and that the actual price of cattle will not go to lower levels. We still believe that is true. We believe that the shortage of cattle will keep up the price of breeding stock and that there is a sufficient shortage of actual beef so that with the meat councils which have been organized at centers of population, increasing the demand for meat, and with the National Livestock and Meat Board collecting funds for the national advertising of meat, we will very shortly experience a real shortage of beef cattle compared with the stimulated demand.

A study of cattle prices for the last 75 years shows that beef prices were high in 1871, 1885, 1900 and 1919. Beef prices were low in 1877, 1895 and 1909. It will be noted that there seems to be a regular fluctuation in periods of 15 years. This being the case, cattle should again be at a relatively high price in 1930, and conditions should steadily improve between the present and that date.

We need not depend entirely however upon any law of chance or law of averages, but there are plenty of facts which substantiate this belief and which make it appear reasonable and logical.

Costs of production are being reduced, costs of marketing are being reduced, the supply is admittedly short, and there are several agencies at work increasing the demand. We believe that the cattle industry is now in the period of greatest depression and that each of the next few succeeding years will show considerable improvement over the year previous.

This is by no means the time to go out of the cattle business, but on the other hand is the time to buy cattle and stay with the business. Constantly, however, there must be exercised good judgment and good management. The quality of cattle produced must be improved. Every economy must be practiced, but there is reason for optimism.


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## READ MY BOOK
## IT'S FREE

**I have made a real study of fences. Wherever I go the first thing I look for is fences. I have talked to farmers everywhere about their fences. I know what they are up against. I have worked out their problems for them. I have saved them real money by giving them practical information about fences. You, too, can have this information free. I will work out your fence problems if you will write me about them. In the meantime, read my book, "Fencing Facts for Farmers."**

## Every Farmer Should Know
## These Facts About Fences

*How to build a serviceable fence that will increase the value of your farm.*
*The comparative value of steel and other materials in fences.*
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*Which takes more fence material, a square or rectangular farm?*
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**46 REGISTERED 46**
# SHORTHORNS
## At Public Auction
## Carruthers Farms, Live Oak, Calif.
## Wednesday, August 9, at 1 P.M.

In this offering Mr. W. M. Carruthers will sell all of his heifers above weaning age, some choice cows, and a group of good bulls, mostly all of attractive Scotch breeding.

31 HEIFERS—4 COWS—11 BULLS

Guaranteed breeders, tuberculin tested, and sold on terms of one-half cash, balance in six months to all who make arrangements for such credit with sale managers prior to sale.

Write to Sale Managers for Catalog

**California Breeders Sales and Pedigree Co.**
C. L. Hughes, Sales Manager, Sacramento, Calif.
Auctioneer—COL. BEN A. RHOADES, Los Angeles



# You Should Not Buy a Bull Unless:

You have seen his dam and know that she is the type you want his daughters to be.
Or you have seen a good picture of her with a close-up picture of her udder.
She is a big producer of milk with a high percentage of fat.

Our cows are the tops of all the big sales in the state for the past three years.
Practically all of them have high 7 day and yearly records. They hold 4 world's records. Our herd bull is Sir Aaggie De Kol Mead, whose five nearest dams average 1130.66 pounds of butter in a year testing over 4%.
You should have one of his sons out of a high record dam.
Call or write for our long-time, easy payment plan.

Lankershim, Cal. Fred Hartsook RANCH Visitors always welcome.



# This Good Yearling Holstein Bull

**Ready for Light Service** **A Good Individual**

Bred for several generations in the popular light color. Sire, KING KORNDYKE PONTIAC MEAD. (You know him.)
Dam and sire's dam heifer records average 1062 lbs. butter.
Paternal sister, 3 yrs. age, Butter, 1151 lbs.; Milk, 27000 lbs.
Maternal sister, 3 yrs. age, Butter, 1113 lbs.; Milk, 22021 lbs.
Son of "20TH" from the famous "De Kol of Valley Mead 2d."
Dam, a good individual, has made 21 lbs. butter in 7 days at 3 yrs.
By a proven grandson of King Segis, with two 38-lb. sisters. This is the only son we have of King Korndyke Pontiac Mead that is near service age. Price reasonable.

**LOS ANGELES COUNTY FARM** **Hondo, California**
Three Miles South of Downey on the Downey-Long Beach Boulevard


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## Will Control Citrus Pests

You can depend upon Universal Brand Sprays. Your use of them in combating Red Spider, Citricola and Black Scale will convince you of their prompt effectiveness and marked economy.

What is more—Universal Brand Sprays stimulate the trees and increase their resistance to the climatic conditions thereby setting a good crop of fruit.

Right now is the time to use the following spray:

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| B. T. S.....15 lbs.<br>TRIUMPH.....1½ to 2½ gals.<br>K-SEEN GLUE.....1 lb.<br>(for citricola and black scale) | per 200 gal. tank. | B. T. S.....12 lbs.<br>TRIUMPH.....1 gal.<br>K-SEEN GLUE.....1 lb.<br>(for red spiders) |

(patented formulas)

4 Gals. Lime Sulphur Solution can be substituted for the above B. T. S. dosage.

Remember that Mr. Herbert, our assistant entomologist, is ready to inspect your trees and give specific advice relative to spraying. Call on him at our Los Angeles office.

Insecticide Department

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BALFOUR BUILDING

## Wheat Winter Oats and Rye

**should receive the right kind of fertilization if they are to be profitable under the present trying conditions on the farm.**

**Use a fertilizer containing**

## 3 to 5% POTASH

**and 6% to 8% if these grains are to be followed by grass or clover. There is plenty of Potash in the country at much lower prices than last year, and if you insist on getting it, you will again find that**

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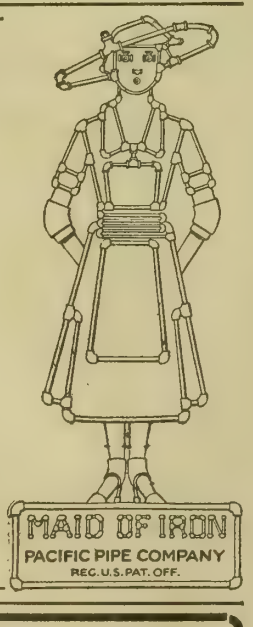
Send us your pipe requirements. You will find our prices right and shipments prompt. Remember that we carry a full line of new and used pipe, screw casings, valves and fittings.

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## The Fresno Nursery Co.

FRESNO CALIFORNIA


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### THE ORNAMENTAL GARDEN FOR AUGUST IN NORTHERN CALIFORNIA

(Continued on Page 125)

and as soon as the seedlings are large enough they must be transplanted.

**Lawns**

These must not be neglected with regard to watering and any dry spots will soon spoil the appearance of any lown if sprinkling is not carried out evenly and regularly. Attention must be given to weeding also. A good dressing with dried blood or decomposed lime shell will help to maintain a good color in the lawn.

## Southern Arizona

By M. E. Bemis

LATE frosts make it possible to plant some of the annuals which in the eastern part of the United States are commonly planted in the spring. One of these many possibilities is the hardy, easily grown flower called the cosmos. These sturdy plants grow to a height of four feet and over, making them most effective for garden walks. The flowers are beautifully colored and of dainty daisy like appearance and the feathery foilage gives a very pleasing effect. This is a plant that loves the sunshine, hence, no shade is needed and comparatively little care.

The phlox is another plant which makes quick growth in the southern sunshine. Its variety in color, its quick growth and hardiness all help to make it attractive for late summer planting. It reaches a height of about one foot, making it particularly useful for ribbon garden beds of contrasting colors, and it is also suitable for borders. It is also useful as an undergrowth for tall, bare stemmed plants.

The zinnia is the most easily grown of all summer plants for Arizona. August is not too late for planting.

Of all flowering plants perhaps there is none that comes nearer to being a universal favorite than the sweetpea. Here in Arizona we can have the flowers of the sweetpea almost continuously from November to July. The so-called Christmas flowering sweetpea may be planted in the latter part of August. If planted in rich soil, well cultivated, and irrigated frequently, it will begin to bloom in the latter part of November. It will stand only a limited amount of frost, hence for continuous blossom throughout the winter must be protected. These are now grown in such great variety that the most exacting may have his choice of colors.

# This Month in the Vegetable Garden

## Northern California

By A. R. Gould

MANY crops will be ready for harvest this month, chief of which will be potatoes, onions, corn, beans, carrots and beets. These should be cleaned and stored in a dry cellar or barn and the root crops such as potatoes, beets, and carrots may be covered with sand and kept dry. Corn and onions may be hung up or laid out on mats while the beans should be shelled for use in the winter. As these crops are cleaned off the plots should be limed and dug over ready for later planting.

Some careful thought must be given to irrigating this month. Such crops as lettuce, turnips, leeks, celery, beans and corn should all be given a good supply. During the hot dry weather a considerable amount of water is lost by transpiration through the plant itself and also through evaporation from the soil.

**Lettuce**

May King and Los Angeles may be sown thinly in rows. Those sown last month should be now thinned out to six inches apart and irrigated, this being followed up by the use of the cultivator.

**Leeks and Celery**

These should now be getting well established in the trenches and the soil will need cultivating between the plants. About the end of the month a liberal watering with liquid manure should be given. Careful watch must be kept for cutworms.

**Corn**

Make a sowing of Country Gentleman and Golden Bantam which will come in for use late in the fall. Sow two or three seeds about 2 feet apart in the row which should be three feet apart. Cultivate and irrigate between the rows of established plots and frequently dust with dry lead arsenate the tassels of maturing crops to destroy the corn worm.

**Beets**

A sowing of Detroit Dark Red and Crosbys Egyptian may be made for a successional supply in fairly rich soil in rows 2 feet apart.

**Tomatoes**

This is one of the most important of crops and is fairly easy to grow when grown on a soil retentive of moisture. Very large acreages are grown for canning in Santa Clara Valley and in Alameda County. If these plants are allowed to ramble they need very little attention but if trained to stakes they will require tying up and the lateral shoots pinched out. A watering with liquid manure weekly after the fruit has set will prove very beneficial. At the first appearance of aphis spray with black leaf 40.

**Beans**

Make a sowing of Canadian Wonder and Golden Wax for late fall supply and sow in rows 2 feet apart. Keep the cultivator busy between the rows of those sown last month and thin out the seedlings, leaving the plants one inch apart in the row. Collect all beans now matured and put away after drying for storage.

**Cauliflower**

Secure strong plants of these for planting out in well prepared soil which should be heavily manured. Plant 18 inches apart in the row the best varieties, Autumn Giant and Early Snowball.

**Onions**

These will be ready to harvest as the tops become yellow, and they must be pulled and dried in the sun before putting in storage. Such long keepers as Australian Brown and Prizetaker will then be safe for winter use.

**Kale and Brussels Sprouts**

These useful green crops if sown as advised last month should be ready for transplanting about the end of the month on a well prepared plot which should be well irrigated before the plants are put out. Plant at least 18 inches to 2 feet apart in the rows which should be three feet apart.

**Squash, Melons and Cucumbers**

If the squash bug is troublesome dust with lead arsenate frequently and cultivate carefully around the roots of each plant.

**Strawberries**

The everbearing will need a continual water supply if the crop is to be maintained, and a dressing with dried blood and bone meal will be very helpful just at this time.

## Southern Arizona

By M. E. Bemis

AUGUST is really the beginning of the fall garden activities. There is always some trouble with germination of small seeds while the nights are still warm as they are likely to be through the greater part of the month, but the early start, especially for the home garden, is worth the effort. After all seeds are not so very expensive, and if the first planting fails it is not so serious. The commercial gardener can hardly afford to take too long a chance on losing both time and seed although the early vegetables bring prices that are compensatory for considerable extra cost.

The list of plantable things is:

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Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.

Write for prices.

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**White Leghorn Trapnest Stock, our own famous Yesterlaid Egg Ranch strain.** Cockerels from hens, records 200-301 eggs, mated to males whose mothers laid 250 and up to 316 and 333. Buy your stock now. We have cockerels 8 weeks old and up. Also offer for sale several thousand pullets, yearling hens and good breeding hens and cock birds. Write for circular. Yesterlaid Egg Ranch, Kent, Washington, "Home of the 300 egg hen."

**For Sale**—We have fall chicks hatched from Mr. Craig's flock Sept. 1st. This flock has proven itself the most vigorous breeding flock in California. We have not had a single poor hatch all season. Price Sept. 1-10, $130 per 1,000; balance of Sept. $140, and October, $150 per 1,000. Rocks and Reds $15.00 per 100. L. Brahmas $25.00. Send for new circular. P. Cook Chick Ranch, 1717 Valley Blvd., Alhambra, California.

**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

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**Certified White Leghorn Baby Chicks.** Booking orders now for Summer and Fall delivery. Safe arrival, live vigorous chicks guaranteed. No money in advance; pay on delivery. Established 1898. Sonoma County Farm Bureau Accredited Hatchery. MUST HATCH INCUBATOR CO., 438 Seventh Street, Petaluma, California.

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**White Leghorns, Anconas, R. I. Reds.**
Order now for Fall and Spring delivery

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All selected—no culls

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**Baby Chicks**—Reds, Rocks, Anconas, and White Leghorns. Hatches every week after August 1st. Write at once for price list. Place your order at once, as we have several thousand now sold to old customers. Est. 1915. Hargett & Son, Route 2, Box C, Compton, California.

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25 acres, 2 miles from Arbuckle, 1 mile from College City. Located on Arbuckle-College City Highway. All in alfalfa. Fenced on three sides and faces on 2 roads. Fine loam soil, perfect grape and fruit land. Good 12 inch irrigating well, at present only a small pump for domestic purposes. Steel tower wind-mill. Temporary house built for garage. You will look a long time to beat this. Price $5250 for the next thirty days.
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**Paradise, The Orchard Home Place**—Water, electricity, telephone, good roads, healthful climate, reasonable prices. Box C. Publicity Committee, Paradise, California.

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**Smoked Salmon**—5 pound box, $1.25; salt salmon bellies, 5 pounds $1.25, delivered by mail. Coffin Fish Co., Seattle, Washington.

**For Sale**—Retail dairy—50 cows—good locality. Milking machine, bottle filler. D. H. Dillon, Compton, Calif.

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**Holsteins**—For Sale—Jane Garden Nero Abbekirk, a son of Sir Aggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

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**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Registered Holsteins For Sale**—Four bred heifers and 1 cow due to freshen early in the fall. All good ones. Tuberculin tested. T. B. Mings, El Monte.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls of various ages for sale. Millbrae Dairy, Millbrae, California.**

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**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

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**For Sale—25,000 Sour Orange Seed Bed Trees. 1,000 1 year old Valencia buds. Not touched by the freeze. In one of our nurseries near Garden Grove. Southland Nurseries, 1941 East Colorado Street, Pasadena, California. Phone Colorado 6352.**

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**Beeman Tractor Cheap — Young man learn trade. Cash Nursery, Sebastopol.**

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**For Sale**—Two International 8-16 tractors, plows, harrows and double disk wagon and all tools cheap. G. F. Crowell, Newman, California.

**For Sale**—1 Owen's Bean Thrasher, 26x44 with belts, side feed sacker, etc. $350 at Buena Park Blacksmith Shop, Buena Park, California.

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**For Sale**—500 sacks choice White Rose seed potatoes. I. Vanderlic. Phone Puente 225. Address, Baldwin Park, Cal.

**Seed Potatoes**—Certified White Rose No. 2 grade for $1.50 per cwt. Chester Barton, Temecula.

## DOGS

**For Sale**—Beautiful White Collie pups—pedigreed and eligible to registration. Box 724, Huntington Beach, California.

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**Wanted: Men With Spare Time to represent established California company selling standard material to ranchers in ten southern counties. Good pay. Address W. S. H., care California Cultivator, Los Angeles.**

**Wanted Throughout California, men with autos to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call. J. H. Yetter, 317 Central Ave. Los Angeles.**

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**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

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**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

## FOR LEASE

**For Lease**—167 acres improved, one mile northwest of Westminster, eleven miles east of Long Beach, known as Creedmoor Gun Club Ranch—would be ideal for dairy. Plenty buildings, two artesian wells, one pumping plant. Can be leased for term of years at fair rental, part of which can be paid in labor. Possession of buildings and part of land any time. W. F. Marks, 1318 West 3rd street, Los Angeles. Phone 52471.

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Beans, beets, cabbage, carrots, cauliflower, cucumbers, kohlrabi, kale, lettuce, onion seed, parsnips, peas, turnips and corn for roasting ears.

Table beets for the family garden should be planted in rows 18 inches apart, and most gardeners here prefer to plant on the sides of ridges just above the water line. Where the rows run east and west, if the seeds are planted on the north side at this season of the year there is probably some advantage. Beets should not be covered more than one inch deep, and when plants are well developed they should be thinned to six inches apart. Crosby's Egyptian and Extra Early Eclipse are favorites. A row or two of Swiss chard should be planted, many people use the green leaves for cooking like spinach and the stalk like asparagus. It will stand cutting back frequently. Probably the principal use of Swiss chard here is for green feed for the chickens. Some use stock beets for this purpose and grow a few rows in the garden of both spring and fall plantings.

Beans should be planted in August and September. The Pink bean, or Frijole, is becoming a favorite with many American people who have learned of their Mexican neighbors the excellence of this variety. This should be planted at once. John Schlolas recommends planting on level ground, with plenty of moisture in the soil, an irrigation just as the plants are breaking through, and frequent irrigations after, with cultivations following each irrigation. Other varieties that do well here are Burpee's Bush Lima, King of the Garden Pole Lima, Kentucky Wonder Pole Bean, Scarlet Runner Pole. Burpee's Stringless Green Pod, Improved Yellow Six Weeks and Improved Golden Wax.

Cabbage and cauliflower seed should be planted in beds for transplanting later. These should, of course, be of rich soil and well shaded. Varieties of cabbage that have been proved here are Early Winningstadt, selected Early Jersey Wakefield, Danish Ballhead, Selected Early Flat Dutch, and Selected Late Flat Dutch. Cabbage is easily grown and should have a place in the home garden, although owing to heavy transportation costs it is not probable that for some time to come cabbage will become of the commercial importance here of lettuce and some other crops. Henderson's Early Snowball cauliflower is recommended.

Parsnips are sown much like beets except that the seed should not be covered more than a half inch deep. The Hollow Crown is the best for this vicinity. Peas should not be planted until the latter part of the month, and unless there are some cool nights probably it is better to wait until September, alhough the advantage of a good start makes the effort worth while on a small scale. The early varieties are the ones to plant for fall maturity, such as American Wonder and Alaska. These varieties may be planted 18 inches apart in drills. Early plantings should be covered rather more deeply than the later or winter plantings.

(Continued on Page 143)

# REMCO TANKS

We will ship you, immediately on receipt of order, any standard Remco tank of the dimensions or capacities shown below at the prices here listed:

WATER AND OIL TANKS
Made from 2-inch Clear Air-dried Redwood

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|---|---|---|---|---|---|---|
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| 750 | 5 | 9 | 4 | 11 | 580 | 30.75 |
| 1,000 | 6 | 6 | 4 | 11 | 655 | 35.25 |
| 1,500 | 7 | 1 | 5 | 11 | 830 | 45.00 |
| 2,000 | 8 | 1½ | 5 | 11 | 975 | 52.50 |
| 2,500 | 8 | 4 | 6 | 11 | 1,145 | 60.75 |
| 3,000 | 9 | 1½ | 6 | 11 | 1,270 | 69.00 |
| 3,000 | 8 | 5 | 7 | 11 | 1,290 | 69.00 |
| 4,000 | 9 | 10½ | 7 | 11 | 1,555 | 87.00 |
| 4,000 | 9 | 2½ | 8 | 11 | 1,580 | 87.00 |
| 5,000 | 10 | 11 | 7 | 11 | 1,745 | 98.25 |
| 5,000 | 10 | 3½ | 8 | 11 | 1,790 | 98.25 |
| 6,000 | 11 | 4 | 8 | 11 | 2,010 | 111.00 |
| 7,000 | 12 | 1½ | 8 | 11 | 2,160 | 118.50 |
| 8,000 | 12 | 3 | 9 | 11 | 2,375 | 130.50 |
| 10,000 | 13 | 7½ | 9 | 11 | 2,770 | 150.00 |

**We will allow 5 per cent for cash with order or 2 per cent for cash in 10 days from invoice date.**

All prices are for tanks complete, ready to erect, K. D., F. O. B., Pittsburg, Cal.

Complete instructions for erection accompany each tank. If erected according to these instructions, we will guarantee a water-tight tank.

Made from clear, air-dried redwood, banded with round steel hoops.

**Order from Above List**

**We supply towers ready to erect at low prices, or will give you tower plans with your tank.**

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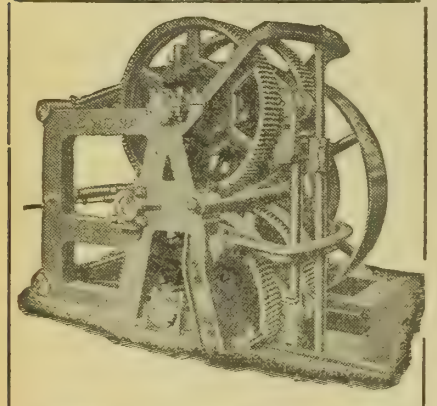

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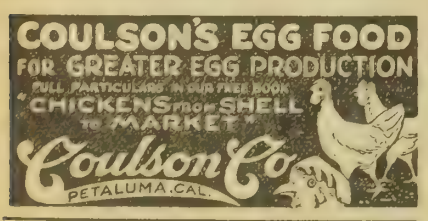



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# Poultry Queries

Conducted by Jean A. Koethen

### Nux Vomica for Lice

We have been advised to feed nux vomica to our chicks to control hawk activities, and have been told that hens would be freed of all vermin if fed nux vomica about twice a year. We tried this on some of our chicks and the lice disappeared but the hawks came just the same. If any one has tried this remedy I would like to know the exact proportions to use, and whether the drug should be in powdered or liquid form. If feeding hens nux vomica will keep them clean of all vermin, why is it not more generally used by poultrymen?—Subscriber, St. Helena.

I have not heard before of the use of nux vomica for ridding fowls of lice, and should not dare to recommend it, because nux vomica contains strychnine, and while a little might have apparently no ill effect, in the long run it must be harmful. We should be very glad to hear from others who have tried it. I do not see how the use of anything internally could keep hawks away.

### Ticks

What remedy can I use in a wooden chicken coop, around old boards, cracks and crevices to get rid of chicken ticks?—Subscriber, Dinuba.

In theory any insecticide that is strong enough to kill mites will kill ticks also, but in practice the latter are very hard to get rid of. They crawl into cracks or through them, and the insecticide must be used again and again on both sides of every board, and must be sprayed, if possible, into every crack so that not a tick escapes. A five per cent solution of creolin, cresol or zenoleum will kill ticks if it reaches them, and painting with carbolineum or with crude carbolic acid and kerosene, using one part acid to four of kerosene, is effective, but as long as you fail to reach every tick your coop will still be infested. Boiling water is certain death to all these pests, and so is corrosive sublimate, but only their persistent use will eradicate ticks.

### Diseases of Poultry

Can you tell me the name of a book devoted exclusively to poultry diseases?—Subscriber, San Leandro.

Kaupp's "Poultry Diseases" published by the American Journal of Veterinary Medicine, Chicago, is the best I know. "Poultry Culture, Sanitation and Hygiene," by the same author, published by the W. B. Sanders Company, New York, deals largely with diseases and their prevention and treatment. I do not know the price of either. "Important Poultry Diseases," which may be had free from the department of agriculture, Washington, D. C., gives some of the most common and necessary treatments in very condensed form.

### The Persistent Tick

Is it possible to eradicate ticks in a hen house? Have been using kreso dip, crude carbolic acid, kerosene and water every day. Also use hot soap suds with above solution once a week. I wash, move all roosts, pour into every crevice all over the house. Have done this for two and one-half weeks, and when I stopped for two days the ticks accumulated. Have thought to whitewash.—Subscriber, San Miguel.

Please note reply to Dinuba subscriber. It may be you are not using the insecticides strong enough. If you can get crude carbolic acid of full strength, which is not always possible, and mix it with four parts kerosene, or even a stronger solution, and paint on with a brush, you will kill every tick the preparation touches. You can use crude carbolic acid alone if you wish. It is only a question of expense. For most purposes a solution of one to four or five parts kerosene is strong enough, but a house full of ticks is a hard proposition and demands heroic treatment. When an old house and the ground around it are full of ticks fire is the only certain remedy. If you use whitewash add a little crude carbolic acid.

### Roupy Turkeys

Is there a cure for swelling around eyes of turkeys? They seem to linger and are quite lively.—Subscriber, Maxwell.

Your turkeys have swellhead, or roup, due either to lack of sufficient fresh air at night or to a roupy taint in the blood. Turkeys that roost in the open rarely have roup. When they have there is no explanation but that of inherited tendency. If the swellings are hard and seem to contain pus they should be opened and cleaned, first with a 20 per cent solution of baking soda, then with peroxide of hydrogen. After the second cleaning inject a little of this mixture: Oil of thymol, 1 dram; oil eucalyptus, 20 drops; oil of petrol, 2 ounces. Do this twice a day till there is improvement. A simpler remedy is to dip the head in a weak solution of potassium permanganate, just a few crystals in a quart of water twice a day, first massaging the nostril toward the eyes in order to loosen the secretion.

### Sudden Deaths

I am losing some of my hens this hot weather. Feathers around the head drop off and head is very red. They seem healthy but drop off suddenly.—Subscriber, Bakersfield.

As I am not told the breed of these hens nor how they are fed I can only conjecture that they are overfat and therefore very easily overcome by the heat. That redness of head and loss of feathers is frequently characteristic of fat old hens. The only remedy is a lighter ration, with abundance of shade and fresh water always at hand. Feed all the greens possible. If you have alfalfa range put the birds on that for awhile and feed little or nothing else. Make the mash half bran or even all bran for a week or so, and give no grain but a little wheat or oats at night. If the hens are molting a short fast will help them to drop their feathers quickly, then a return to the regular laying ration encourages rapid growth of the new plumage. In the interior valleys of California no corn should be fed during the summer.

### Carbolic Acid for Swellhead

My little turkeys have taken cold and have large swellings under the eyes. These are filled at first with mucus which finally becomes cheesy. We open these pouches and swab daily with a 10 per cent solution of carbolic acid. Is there something better than carbolic acid for cleansing these openings?—Subscriber, El Cajon.

Peroxide of hydrogen is better. Dr. Kaupp recommends washing first with a solution of baking soda, then with peroxide, and finally with a mixture of oils. (Note reply to Maxwell subscriber). I think even a warm boric acid solution would be better than the carbolic acid.

### Bowel Trouble

Occasionally I lose a hen with diarrhoea. Feces stick to vent, which becomes sore and raw, and the bird becomes very thin.—Subscriber, El Cajon.

I believe I would kill those hens as soon as they became ill. The trouble may be due to indigestion merely, but that soreness around the vent is a symptom of vent gleet, a far worse disease that ordinary diarrhea, and one which is very difficult to cure. See that the flock has an abundance of green feed and that the ration is lighter than usual. Vegetables and fruit and melons are a wholesome addition to the summer ration, and milo and corn should be avoided.

### MANY WOMEN ENROLLING IN POULTRY SHORT COURSE

Women in increasing numbers are enrolling for the poultry short course which is held each year at the University of California Farm at Davis. Poultry farming represents probably fewer difficulties to women than any other branch of agriculture, and the short course provides the training and instruction necesary to practical success. One of the leading poultry keepers of Niles is a woman graduate of the course of 1918, and a woman student of the 1920 course has made not less than $1200 in eight months.

The poultry short course for 1922 will begin at the University of California farm on October 2 and will cover a period of six weeks as usual.


# Lice Kill Chickens in Warm Weather

**Summer Months Most Dangerous, Says Poultry Authority—To Prevent Losses Add Minerals to the Fowls' Drinking Water**

If your chickens are sickly, won't lay and are dying off in hot weather, lice and mites are probably the cause. Dr. B. F. Kaupp, famous poultry authority, says: "Lice are most common in July and August. During these months conditions are more favorable for their propagation." To easily get rid of these pests and prevent losses, add minerals to the fowls' drinking water. This does away with greasing, dusting, spraying and dipping. Soon after the fowls drink the mineralized water all lice and mites leave them.

The necessary minerals can now be obtained in convenient tablets, known as Paratabs. They are scientifically prepared, perfectly safe, and dissolve readily. The tablets also act as a tonic conditioner and are warranted to impart no odor or flavor to eggs or meat. They are equally beneficial to young chicks and grown fowls. The health of the fowls improves, they grow faster, stand hot weather better, and the egg yield frequently is doubled. Mrs. M. N., Pulaski, Ky., says: "I am giving Paratab water to my chickens and am having better luck this year than ever before."

Any reader of this paper may try Paratabs without risk. They cost only a trifle and are sold under an absolute guarantee. Furthermore, the laboratories producing Paratabs are so confident of good results that to introduce them, they offer two big $1 packages for only $1. Send no money, just your name and address to the Paratab Laboratories, Dept. 959, 1100 Coca Cola Bldg., Kansas City, Mo., and the two $1 packages, enough for 100 gallons of water, will be mailed. On delivery pay the postman only $1 and postage. If not delighted with the results in 10 days, notify the laboratories and your money will be refunded in full. Don't hesitate to accept this test offer, as it is fully guaranteed.



# Baby Chicks

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308 E. 8th Street Los Angeles, Cal.

Information regarding the course may be obtained by writing to the College of Agriculture at Berkeley, or to the branch of the College of Agriculture at Davis.

# Legal Queries

Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.

### Piping Ditch

Have owners of an open ditch the right to pipe such a ditch without the permission of the owner of the land through which the ditch runs? The ditch has been in existence for over 50 years.—Subscriber, Springville.

It has been held in cases almost parallel with the above that the owner of the right of way can not make any material alterations, although no damage results in consequence, or even if they might be beneficial. This may, however, depend upon the character of the original grant. If the grant was given in general terms for a right of way to conduct water it is conceivable that a party might have the right to conduct the water in whatever way he saw fit. If his right depends simply upon prescription, then he has no right to make any change.

### Pipe Line

Adjoining owners agreed to build a pipe line upon the division line. One of the owners induced the contractor to lay the pipe line entirely upon the other owner's land during his absence and so that the line would not run close to the first party's trees. No contract for the laying of such pipe line has been recorded. What are the rights of the parties?—Subscriber, Santa Fe Springs.

Apparently there was some written contract to the effect that the line would be laid on the division line. In that case the party upon whose land it was wholly laid may require the other party to remove the line and place it in accordance with the contract and he would be entitled to collect whatever damages have been caused by the violation of the contract from the party who caused it to be laid elsewhere than the contract called for. As the line is wholly upon the property of the one man who did not desire it to be there and it was placed there wrongfully by the other party, the party upon whose land the line lies could with entire justice refuse to permit the other party the use of the line. The damages, of course, would embrace the rental of the land and any damage which was caused by reason of the taking of more land than would otherwise be required, as well as the fact that if he permits the first owner to use water through the line the party wrongfully placing the line upon his land undoubtedly would acquire a perpetual right of way at the expiration of a period of five years.

### Joint Bank Account

There was an account in a bank upon which my deceased father and stepmother had the right to draw. Neither the bank nor stepmother will state the amount in this deposit. How can it be ascertained?—Subscriber, San Fernando.

Letters of administration upon the estate of the deceased father could be petitioned for but the wife would have the prior right for such letters. In case letters were issued to her the son would undoubtedly have the right upon proper petition to require the wife or the bank to show the amount of any deposit in the bank on the theory that it was a part of the estate.

### Canning Goods to Sell

What, if any, are the requirements of law pertaining to canning of fruit and selling of produce?—Subscriber, Santa Rosa.

In case the canning and sale is conducted wholly within the state of California the federal pure food laws would have little or no effect. The only provisions with respect to California laws are to the effect that the product shall be in no wise adulterated, mislabeled or misbranded.

### Homestead to Surviving Spouse

Several years ago I homesteaded my place upon which I resided with my wife and three sons. In the case of the death of myself or wife can the eldest son obtain an interest in this property?—Subscriber, Hemet.

In case the selection of the homestead was from community property then upon the death of either the husband or the wife the whole of the property vests in the survivor. The children, therefore, have no interest in the property but it is subject to disposition either by sale or by will of the surviving spouse.

## ASSOCIATION CONTRACTS UPHELD BY COURTS

The first decisions in suits brought by the California Bean Growers Association against recalcitrant members have resulted in a complete victory for the association. On July 17, Judge J. E. Plummer, of San Joaquin County, handed down three decisions in cases wherein the association was plaintiff and Rindge Land & Navigation Co., K. Hortai and M. Swada were defendants.

Judge Plummer decided that the association was entitled to collect one cent for each pound of beans of the 1919 and 1920 crops which the defendants failed to deliver to the association. This amount represents the liquidated damages provided by the members' agreements. In the Rindge case the liquidated damages amounted to $14,560; in the Hortia case, $900, and in the Swada case $501.40.

By a peculiar coincidence, Judge Plummer had prepared his opinion a day or two before the supreme court of this state handed down its decision in the case of Poultry Producers of Southern California vs. Barlow. In the latter action the supreme court had squarely presented to it the issue involving the right of a cooperative association to collect liquidated damages from a non-delivering grower member. The supreme court unanimously held that a cooperative association was clearly within its rights in collecting such damages. Judge Plummer's opinion reached the same conclusion.

The Barlow case definitely determines the law of California. It will be binding authority in a number of actions now pending throughout the state wherein liquidated damages are sought in similar cases.

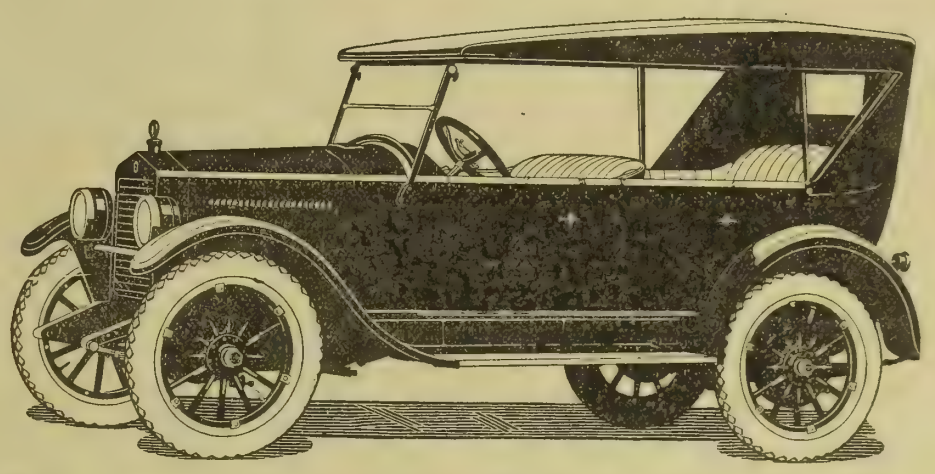
## DISTRIBUTES FARM FILMS

A new distribution center for American Farm Bureau motion pictures has been established at San Francisco. In cooperation with the California Farm Bureau Federation, Grant W. Kenney of the department of visual instruction of the university extension department, has opened an exchange at 105 Montgomery Street, San Francisco.

Mr. Kenney will have copies of all pictures in the American Farm Bureau library and will offer them to county farm bureaus, churches, schools, community clubs and other organizations. The new exchange will distribute in California and in surrounding states as well.

During the week ending July 15 the Tulare County farm bureau sold 20 carloads of grain, mostly wheat. Price received was $1.65 to $1.78. per hundredweight f. o. b. shipping point.


$1095



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(458)

# Los Angeles Markets

Los Angeles, August 2, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 44 cents.

Prices extras past week:

| July | 26 | 27 | 28 | 29 | 31 | Aug. 1 |
|---|---|---|---|---|---|---|
| | 42½ | 43 | 43 | .... | 43 | 44 |

### CHEESE

Brokers' prices:
California flats, 20@22.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 30, case count, 28; pullets, 23.

Prices extras past week:

| July | 26 | 27 | 28 | 29 | 31 | Aug. 1 |
|---|---|---|---|---|---|---|
| | 29 | 29 | 30 | .... | 30 | 30 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 17; colored 30; broilers, 23@27; roosters, 35; old roosters, 14; fryers, 30; ducks, old 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 11@13; old, 8.

### LIVESTOCK

Los Angeles, Aug. 1.—Weighed and delivered off cars without food or water.

Hogs (hard grain fed) 125 to 150 pounds, 10.25; 175 to 225 pounds, 10.50.

Cattle (on foot, gross weight): Steers, good, 6.50@7.00; medium, 5.25@625; cows, good, 4.75@5.25; medium, 4.00@4.50; bulls and stags, 3.00@3.50; calves, 125 to 175 pounds, 8.00@9.00; 175 to 250 pounds, 7.00@8.00.

Sheep, ewes, 4.00@5.00; lambs, 9.00@11.00.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, August 1, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement slow, market dull. New Stock: best, locals, sacked 1.15@1.40, mostly 1.25 cwt.

Onions: Demand and movement slow, market dull. Stocktons: Reds, 1.50@1.65; Yellows, 1.75@1.85; White, 3.00.

Garlic: Mex. best. 10@12.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, August 1, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: San Pedro: Kentucky Wonders, 3@4; Limas, 5@7.

Bunched Vegetables: Per dozen bunches: Turnips, beets, carrots and parsnips, 30@35. Parsley and spinach, 20. Radishes, 15@20.

Cabbage: Market steady, quality generally good. Field cr., best mostly 2.25¼ 2.50.

Cucumbers: Local, lug, 25@70.

Celery: Movement moderate, market steady. Wide range in quality and prices. Locals, best, 4.25@4.50.

Corn: Green, local, lug, 75@1.00.

Eggplant: Local, 6@7.

Lettuce: Market steady. Locals: Ordinary, leafy 85@1.10 crate. Northern, 2.00@2.25 cr.

Okra: Lb., best, small, 6@10.

Peas: Best, Northern, lb., mostly 6@8; poorer, 4@5.

Peppers: Locals: Bells mostly 18@20 lb.; Chilis, 12@14 lb. Northern Bell, 14@16.

Rhubarb: Local, best, Crimson, mostly, 50@75.

Squash: Market steady. Locals: Summer, lugs, 30@40; Italian, lugs, 50@60.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs best, green, 75@1.00; ripe, 50@60.

### FRESH FRUIT

These are actual prices obtained August 1 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc, as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Locals: White Astrachans, loose, 4@5 lb.; packed, 3½@4; tier, 1.75@2; 4½ tier, 1.50 box. Gravensteins, loose, 4@5½ lb.; packed, 2.50@2.75 box.

Apricots: Locals: lugs mostly, 75@1.00; few best high as 1.25.

Blackberries: Fy., 3.50@4.00.

Cantaloupes: Turlock District: Demand and movement good, market weak, best stock, standards 1@1.25. Locals: Tip tops, 1@1.50.

Casabas: 1½@2 per lb.

Cherries: Utah Bings, 17@20 per lb.

Currants: Cr. 3.00.

Figs: San Pedro blacks, large, 60@75; medium size 50 flat.

Loganberries: 2.50@2.75 per cr.

Grapes: Demand slow, market steady. Coachella Valley: Malagas, 5@7 lb. Northern: Thompson Seedless, 5@6; Black Monukkas, 8@10 lb.

Peaches: Market steady. Locals: per lb., Freestones, 4@5; clings, 5. Northern: Freestones, 5 per lb.

Pears: Demand moderate, market steady. Northern: Bartletts, best mostly, 7@8 lb.; poorer, 5@6.

Plums: Demand and movement slow, market dull. Per lb.: Santa Rosas, 2@4; Tragedy prunes, 5; Sugar prunes, 3@4; Satsumas and Wicksons, 5@6; Green Gage, 3½@4.

Watermelons: Imperials, Angeleno, 1@1½ lb.; Klondike, 1½@2.

### CITRUS FRUITS

These are actual prices obtained between 7 and 8 o'clock, August 1, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms, cash on the walk. There may be slight fluctuations during the day's trading. Higher prices are frequently obtained where credit is given or goods are delivered.

Grapefruit: Market steady. Californias: Northern, packed box, fancy, 6.00@7.00; market pack, 3.75@4.50.

Lemons: Demand and movement light, market firm. Special brands, fancy, 6.50@6.75; choice, 5.75@6.00.

Oranges: Demand moderate, market steady. Valencias, special brands, 9.50@10.50.

### HONEY

The nectar flow from orange has now finished, and the flow from sage is nearly over. Orange yield is reported light to fair, sage flow generally good. Fair eucalyptus flow being secured in Alameda County. Bees in Southern California said to be now gathering mostly alfalfa nectar. Beekeepers are busy extracting. Old crop practically exhausted. Demand light and market dull. Few sales reported. Carload f. o. b. usual terms: White Orange, 9@9¾, few reported quoting 8½; White Sage, 8½@8¾; Light Amber Sage, 6½@7; Light Amber Alfalfa, 5¾@6. Beeswax: Cash to beekeepers, 22@24 per lb.

### BEANS

F. o. b. Cal.:

| | |
|---|---|
| Lima, Standard | 8.90@9.00 |
| Lima, Henderson Bush | 9.00@9.15 |

Cal. Lima Bean Growers Assoc. reports some sales made in June for Oct. delivery of 1922 Limas and Baby Limas at around $6.25@6.40 f. o. b. Coast. Demand for futures now quiet. Assoc. has been sold out of 1921 crop for some time.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 18.00@23.00 |
| Barley | 16.00@20.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 16.00@20.00 |
| No. 1 Alfalfa | 15.00@17.00 |
| Standard Alfalfa | 11.00@13.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@20.00 |
| No. 1 Dairy | 14.00@15.00 |
| No. 1 Alfalfa | 12.00 |

### GRAIN

Prices L. A. Grain Exchange, August 1:

Barley: 100 ton lots August Del. 1.27½.

Grain Department California Farm Bureau Exchange:

Los Angeles, July 31.—The Los Angeles market has developed some weakness due to heavy arrivals of both wheat and barley.

Wheat: Good milling wheat is still salable at around $1.92½ to $1.95 but if arrivals continue as freely as they have recently, it is doubtful if these values will be maintained. It all depends upon how fast the farmers, collectively, in California let go of their grain. The fact that the California Farm Bureau Exchange does not control the crop in the San Joaquin and Sacramento valleys as fully as it did the Imperial Valley crop makes it impossible for the exchange to maintain values with a free movement of grain by non-members. Export demand has, to some extent, held values firm up to this time. This is hardly likely to continue as eastern markets are declining and wheat from Middle Western fields must be now available for exporting.

Barley: Forty-two cars of barley arriving on the Los Angeles track over Sunday has had a depressing influence. It was rather anticipated that short sellers would not be able to fill their July contracts but such has not proved to be the case. The best bid on August barley today was $1.21¼. It is likely that good No. 1 barley could be sold at around $1.25 for prompt shipment to Los Angeles but bids of this amount are not, today, obtainable. Unless an export demand immediately arises, we are sorry to say that the barley situation does not look very bright. If the exchange had full control or even a majority control of the California grain crop, a better result might be hoped for but such not being the case, we can only hope that next year a larger percentage of the grain farmers will sign up with the exchange and make it possible to market the crop in a more orderly manner to the end that a better average price for the season will be received by the farmer.

Oats: Demand continues strong. Good feed oats have been selling at from $1.85 to $2.00 Los Angeles. We are informed that Texas oats can be bought for about $2.10. As soon as the Utah, Idaho crop is available, the feed market for oats will, of course, be filled from that section.

Millfeeds: Millfeeds show a little easier tone for white and blended but there is no quotable change in price.

Imperial Valley grain crop harvest has been completed and the returns indicate that only about 60 per cent of the estimated quantity has been harvested.

# San Francisco Markets

San Francisco, August 1, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 43½ |

Prices Extras last week:

| July | 26 | 27 | 28 | 29 | 31 | Aug. 1 |
|---|---|---|---|---|---|---|
| | 39½ | 41½ | 40½ | .... | 42 | 43½ |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 26 |
| California Flats, fancy | 22 |
| Oregon Trips | 24 |
| Oregon Young America | 26½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 28½ |
| Extra Pullets | 24½ |
| Undersized Pullets | 17 |

Prices Extras last week:

| July | 26 | 27 | 28 | 29 | 31 | Aug. 1 |
|---|---|---|---|---|---|---|
| | 27 | 28½ | 29½ | .... | 29½ | 28½ |

### POULTRY

Prices furnished by state department of agriculture division of markets. Sales to retailers:

Broilers: 1 to 1¾ lbs., 29 to 31 per lb. Colored, 30 to 32 per lb. 2 to 2¼ lbs., 30 to 31 per lb. Colored, 32 to 35 per lb.

Fryers: 2 to 3 lbs., 32 to 33 per lb. Colored, 35 to 38 per lb.

Young Roosters: Colored, 3½ lbs. and up 43 to 45 per lb. Staggy, showing spurs, 23 to 30 per lb.

Colored Old Roosters: 17@18 per lb. Leghorn Old Roosters: 14@15 per lb. Leghorn Hens: 2½ to 3 lbs., 15@18 per lb. 3 lbs. and over, 18@20 per lb. Large Colored Hens: 29@32 per lb. Off stock, 26@27 per lb.

Ducks: Young, 18@20 per lb.; off grades, 10@15 per lb.

Geese: Young, 20@22.

Live Turkeys: 32@35.

Dressed Turkeys: Young, 36@40. Off stock, 25@32.

Belgian Hare: Live, 13@15. Dressed 18@23.

Squabs: Live, fancy, 50@52 lb.; common, 3.00@3.50 doz.

Old Pigeons: 2.50@3.50 per doz.

Guineas: Young, 8.00@10.00 doz.

Jackrabbits: 2.00@2.50 doz.

### LIVESTOCK

The Western Meat Company quotes:

Steers: First quality, 6½@7 per lb.; second quality, 5¼@6¼ per lb.; cows and heifers No. 1 4¼@4¾; second quality, 4@4¼; bulls, 2@3 per lb.

Calves: Light weight, 8@9 per lb.; heavy, 5@7 per lb.

Sheep: Wethers, 6½@7 per lb.; ewes and stags 3@4 per lb.

Lambs: 10½@11½ per lb.

Hogs: hard, fat, grain-fed, weighing 125 to 200 lbs. 12½ per lb.; 200 to 250 lbs., 11½ per lb. 250 to 300 lbs., 10½ per lb.; light sows, 10½ per lb.; heavy, 9½ per lb.

California Farm Bureau Marketing Association reports:

| No. Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Fresno, July 21** | | | |
| 50 | 170 | ..... | 11.00 |
| 29 | 124 | ..... | 11.00 |
| 1 | 240 | ..... | 10.00 |
| 80 hogs | | | |
| 1 car, 7 consignors, $1,616.47. | | | |
| **Kearney Vineyard, July 21** | | | |
| 2 | 490 | .... | 8.50 |
| 77 | 176 | .... | 11.50 |
| 79 hogs | | | |
| 1 car, 1 consignor, $1,362.70. | | | |
| **Tulare, July 25** | | | |
| 9 | 175 | ..... | 11.95 |
| 14 | 217 | 10 | 11.00 |
| 30 | 151 | ..... | 11.00 |
| 8 | 118 | ..... | 10.75 |
| 2 | 395 | 40 | 8.00 |
| 4 | 355 | 40 | 8.00 |
| 150 hogs | | | |
| 2 cars, 26 consignors, $3,060.43. | | | |
| **Visalia, July 26** | | | |
| 100 | 166 | 10 | 12.00 |
| 86 | 194 | .... | 11.90 |
| 24 | 126 | .... | 11.55 |
| 11 | 228 | 60 | 10.25 |
| 2 | 275 | .... | 9.25 |
| 1 | 250 | .... | 8.65 |
| 224 hogs | | | |
| 2 cars, 11 consignors, $4,646.99. | | | |
| **Hanford, July 27** | | | |
| 94 | 169 | .... | 12.05 |
| 25 | 170 | .... | 11.00 |
| 7 | 118 | .... | 11.20 |
| 6 | 231 | 20 | 10.40 |
| 2 | 355 | .... | 9.40 |
| 7 | 362 | 140 | 8.40 |
| 1 | 520 | .... | 1.00 |
| 142 hogs | | | |
| 2 cars, 18 consignors, $2,919.34. | | | |
| **McFarland, July 28** | | | |
| 84 | 174 | .... | 11.75 |
| 87 | 178 | .... | 11.50 |
| 30 | 139 | .... | 10.60 |
| 7 | 224 | .... | 10.60 |
| 7 | 131 | .... | 10.10 |
| 1 | 310 | .... | 9.10 |
| 6 | 255 | 120 | 8.60 |
| 222 hogs | | | |
| 3 cars, 12 consignors, $4,406.16. | | | |

Totals. 897 hogs, 11 cars, 75 consignors, $18,012.09.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: New, 1½@2 per lb.

Sweets: Merced, new stock, 8@12 lb.

Onions: Gr. 1.00@1.25; Stockton Red, 1.25@1.40 Yellow, 1.50@1.75.

Garlic: Lb., 3@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, August 1, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Beans: Ky. Wonder, Blue Lake and Wax, 1½@4 lb.; Italian, 7@8; Lima, 8@9.

Bunched Vegetables: Carrots, 60@75 per dozen; turnips, 55@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Celery: Fy. cr. 6.00.

Corn: New, doz. 10@15.

Cucumbers: Lug, 35@65.

Eggplant: Southern, 5@8 per lb.

Lettuce: Local, best 1,00@1.25 cr.; fair quality less.

Parsnips: 3.00@3.25 per sack.

Peas: Half-moon, 4@6 lb.

Peppers: Cal. Bells, 7@10; Chilis, 5@8.

Rhubarb: Box, 1.25@1.50.

Sacked Vegetables: Carrots, 1.50@1.75; turnips, 1.00@1.25; parsnips, 2.50@3.00; beets, 1.00@2.00.

Spinach: Lb., 3@4.

Squash: Summer, 50@75; Italian, cr., 65@85.

Tomatoes: 50@75 lug; 40@50 crate; River, 1@1.25 lugs. Peninsula, 1.75@2.00 lug.

### FRESH FRUIT

Apples: New crop apples, green, 1.25@1.75 lug box. White Astrackans, 1.50@2; Gravensteins, 4 tier, 2.25@2.75 box; Alexandrias, 1.75@2.

Apricots: 7 lb. Poorer, 3@5 lb.; 1.25@1.75 lug; 75@1.25 crate.

Bananas: Hawaiian and eastern, 6½@7½ per lb.

Blackberries: Dr., 25@40.

Cantaloupes: Turlock Standard, 75@1; Pony, 50@65; flats, 35@40; few higher. Pink Meats, 1.25; standard crate, Honey Dew, flats, 1.25.

Currants: Dr., 1.25.

Figs: Single layer box, 85@1.00.

Grapes: Thompson Seedless and Sweetwater, 2@2.25 crate; Dattier, 3@3.50 crate.

Loganberries: Dr., 30@40.

Nectarines: Cr., 1.50@2.00.

Pineapples: 5.50@6.00 per doz.

Peaches: 75@1.00 crate; basket, 75@1.25; lugs, 1@1.50; large, 1.50@1.75; Freestones, basket, 1.50.

Pears: Bartlett, 2.25@2.75; box, No. 2, 1.50@2.00.

Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.

Plums: Santa Rosa, 1.50@1.75 crate; other, 75@1.25 crate. Lugs, 1.50@2.00.

Raspberries: 60@75 dr.

Strawberries: Local, dr., 60@90.

Watermelons Imp., 1@1½.

### CITRUS

Grapefruit: Southern Cal., fancy, spec. pack, 5.00@6.25; choice, 4.00@4.50.

Lemons: Spec. pack, 5.50@6.50; choice, 3.50@5.00; Lemonettes, 2.00@3.50.

Oranges: Valencias, fan boxes, 126-216s, 10.00@11.00; 250-288s, 9.00@9.50; smaller, 8.00@8.50; choice, 6@9.00.

### DRIED FRUITS

**Apples, 1922 Packers' Quotations f. o. b. Cal.:**

| | |
|---|---|
| Choice | 11¼@11½ |
| Extra choice | 11½@11¾ |
| Fancy | 12¾@13 |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— San Joaquins |
|---|---|
| Standard | .....@19½ |
| Slabs | ....@20 |
| Choice | ....@24 |
| Extra choice | ....@25½ |
| Fancy | ....@27½ |
| | Southern |
| Standard | ....@20 |
| Slabs | ....@20½ |
| Choice | ....@24½ |
| Extra choice | ....@26 |
| Fancy | ....@28 |

**Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:**

Opening quotations for the 1922 crop of figs released July 24 by the San Francisco representative of the California Peach and Fig Growers' Association, show substantial advances, particularly in black Missions. This grade is quoted at 11¼ cents this year, as against an opening price of 5 cents a pound in 1921.

The complete price list for 1922 crop Blue Ribbon, dried figs follows:

Adriatic—Price 6¼; standard, 6¾; choice, 8¾; fancy, 11¾.

Calimyrna—Standard, 8¾; choice 11¾; fancy, 14¾.

Black Mission—Standard, 11¼; choice, 14½; fancy 17¾.

These prices are for figs packed in twenty-five pound boxes, ¼c per pound less for packing in fifty-pound boxes. Adriatics, ungraded, in bags....7¼c per lb. Adriatic fig paste, 75-lb. boxes 5½c per lb.

| | |
|---|---|
| 12-10 oz., bricks, Adriatics | $1.10 per box |
| 24- 8 oz. bricks, Adriatics | 1.75 per box |
| 50- 6 oz. bricks, Adriatics | 2.80 per box |
| 70-d oz. bricks Adriatics | 2.95 per box |
| 24- 8 oz. bricks, Calimyrnas | 2.25 per box |

For foil wrap or brick figs add 10c per box.

| Box | Row | | Inches Spread | |
|---|---|---|---|---|
| 10-lb. | 4 layer | Adriatic | 2½ | $1.60 |
| 10-lb | 5 layer | Adriatic | 2 | 1.40 |
| 10-lb. | 6 layer | Calimyrna | 2½ | 1.90 |

PULLED CALIMYRNAS

| | |
|---|---|
| 48-1-lb round box | $10.40 per case |
| 6-5-lb boxes | 6.50 per bundle |

All prices f. o. b. California common shipping points.

For shipment September, October, November, seller's option.

Terms as per dried fruit contract adopted by the National Wholesale Grocers' Association and the Dried Fruit Association of California, April 23, 1919.

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼@11½ | 15 @15¼ |
| 40-50s | 9 @ 9¼ | 12¼@12½ |
| 50-60s | 8 @ 8¼ | 10¾@11 |
| 60-70s | 7½@ 7¾ | 9¾@10 |
| 70-80s | 7 @7¼ | 8¾@ 9 |
| 80-90s | 6¾@ 7 | 8 @ 8¼ |
| 90-100s | 6¾@ 7 | 7½@ 7¾ |
| 100-120s | in 50-lb. boxes, | 6¼ per lb. |
| 120-up | in 50-lb. boxes, | 5½ per lb. |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | 11¼@11½ | 11½@11⅝ |
| Slabs | .....@11½ | .....@11⅝ |
| Choice | .....@12 | .....@12¼ |
| Extra choice | .....@12¾ | .....@13 |
| Fancy | .....@13¾ | .....@14¼ |

**Peaches, 1922, California Peach and Fig Growers' Assoc. prices, September-October shipment:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @ | @11¼ |
| Choice | @ | @12 |
| Extra choice | @13¼ | @ |
| Practically Peeled— | | |
| Standard | @ | @12¼ |
| Choice | @ | @13 |
| Extra choice | @14¼ | @ |
| 11-oz. Cartons, 60 per case | 7.00 case | |
| 2-lb. Cartons, 24 per case | 8.25 case | |
| 5-lb. Cartons, 10 per case | 8.50 case | |

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | 12½@12¾ |
| Choice | 14½@15 |
| Extra choice | 16½@17 |
| Fancy | 18½@19 |

**Raisins, Sun-Maid Raisin Growers' Prices:**

Raisin growers may expect to receive 5¾ cents for standard muscats, 6½ cents for standard Thompsons and 6 cents for Sultanas, sweat box basis for the 1922 crop, according to a statement given out July 31 by the Sun-Maid Raisin Growers in connection with the announcement of new prices on the holdover of raisins from the 1921 crop.

Prices on the new crop will not be officially given to the public until August 15, but in a statement made by General Manager F. A. Seymour the trade is officially assured that new prices will be at least one-half cent higher than those named on the old crop, and the general manager is authority for the prices which the growers may expect under this schedule. The prices to be named on August 15 are on a crop basis of 225,000 tons, according to Seymour.

According to the general manager, 35,000 tons of 1921 crop raisins remain to be marketed at the new prices.

The revised prices on the 1921 crop named August 1 are:

| | Revised Price |
|---|---|
| Bulk Thompsons | 9½ |
| Carton Thompsons | 10 |
| Blk. Seeded Muscats | 9 |
| Fancy seeded pkgs | 10¾ |
| 1 cr. loose Muscats | 8½ |
| 2 cr. loose | 9 |
| 3 cr. loose | 9½ |
| Bakers. Thompsons | 7½ |
| Sultanas | 8½ |
| Seeded Malagas | 8½ |

### BEANS

California Bean Growers f. o. b. Cal. c. r. c.

| | |
|---|---|
| Large Whites | 8.00 |
| Small White | 7.25 |
| Pinks | 5.40 |
| Mexican Reds | 4.40 |
| Red Kidney | 8.00 |
| Cranberries | 7.60 |
| Bayos | 5.50 |
| Blackeyes | 4.25 |
| Henderson Bush Limas | 9.00 |

### RICE

California Rice Growers Assoc. reports sales last week No. 1 Paddy 2.87@3.27. Crop practically cleaned up.

### HAY AND FEEDSTUFF

A. W. Scott Co. reports under date July 29:

ADD S F MARKETS

Receipts past week 1502 tons as compared with 1441 tons previous week. Consumers are still holding off a little waiting for prices to come nearer to their views based upon last year's figures and the general crop conditions for this season; but as their requirements become more pressing and with the prices moderating, the buyers' and sellers' views will probably become more in harmony with increased business resulting. Shipping and coastwise trade have been active, the volume heavier and the demand especially from coast points more healthy and in better tone than for some weeks past. Railroad conditions have stimulated the water shipments with the resulting benefit to the San Francisco market. Interior trading has been more active. Shipping has not been very active on account of the scarcity of cars in some localities and the activity in baling and handling the crop. Alfalfa has been doing better than any other grade of hay. Quite considerable shipments have been made and several sales of fair sized tonnage are reported at prices heretofore quoted.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions).

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@17.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 14.00@16.00 |
| Wild Oat Hay | 10.00@12.00 |
| Alfalfa Hay, 1st and 2nd Cutting | 13.00@15.00 |
| Stock Hay | 9.00@11.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 28.00@29.00 |
| Oats, Rolled Feed | 38.00@40.00 |
| Bran | 33.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 55.00@60.00 |
| Coconut Meal | 31.00@33.00 |
| Alfalfa Meal | 20.00@22.00 |
| Cottonseed Meal | 50.00@55.00 |
| Sugar Beet Pulp | 32.00@34.00 |
| Molasses, tanks | 17.00 Barr 25.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices S. F. Grain Exchange, July 31, f. o. b. S. F. warehouse and storage charges paid.

Barley Feed. 1.15@1.20; shipping, 1.25@1.35.

Wheat Mill, 1.90@1.95; Feed, 1.85@1.90.

Oats: 1.40@1.50.

Corn: White Egyptian, nominal; colored milo, 1.90@1.95; No. 2 bulk, 1.80@1.90; No. 2 Eastern yellow, 1.58@1.60.

Grain Department California Farm Bureau Exchange quotes prices delivered San Francisco:

Wheat: We have made a very complete canvass of the local wheat situation here today, and we find the tendency to be somewhat easier. The basic price against which the larger buyers are purchasing has been reduced to 1.90 on No. 1 hard white varieties, 1.85 on soft white, club and sonora, and these are the prices against which it will be possible to sell wheat in large quantities. We find however, that there is some little business available in a carload way among the chicken feed dealers, at prices slightly above these, but this chicken feed business is not large at any premium over the large buyers prices. The feeling existing among the buyers both large and small is that lower prices will prevail within the near future, and they are therefore only taking on immediate requirements. In view of the above, would state the general situation appears easier, with the probability of lower prices prevailing, within the near future.

Barley: The market continues very quiet with a tendency to further weakening; offerings are becoming very heavy. Prices for feed barley are holding up very well. We would quote the range as from 1.15 to 1.22½. There continues practically no demand for shipping barley, 1.22 to 1.27½ seems to be the best obtainable.

Oats: Market continues firm, less interest however, shown in feed oats, but seed oats continues in good demand at prices ranging from 1.90 to 2.15.

## Citrus Markets

Los Angeles, August 2, 1922.

The few remaining Valencias continue to bring good prices on eastern markets, though slightly lower on choice 126's-176's.

Lemon market remains about the same, still waiting for hot weather in the east to improve demand.

**Citrus Shipments**

Shipments of citrus fruits to date since November 1, 1921. Southern California: Oranges, 20,250 cars; lemons, 8,245; total, 28,495. To same date last season: Oranges, 33,001; lemons, 9,529; total 42,530. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,603 cars; lemons, 185; total, 6,788. From Northern California to date this season: Oranges, 372; lemons, 8; total 380. To same date last season; Oranges, 305; lemons, 5; total 310.

### AT THE AUCTIONS

**July 26**

New York: 17 or., 1 grapefruit, 1 mixed, 1 lem. Val. 3.65@11.90, grapefruit, 4.55@6.45; halves, 50, lem. 3.40.

Boston: 3 or., 2 lem. Val. 4.35@7.65; lem., 2.50@4.65.

Pittsburg: 4 or., 1 lem. Val., 4.50@10.95; lem., 4.65.

Philadelphia: 2 Val., 4.20@4.55.

St. Louis: 3 lem., 3.35@4.50.

Cincinnati: 1 or., 3 lem. Val., 5.90@6.85; lem., 2.10@4.65.

Cleveland: 2 or., 3 lem. Val. 4.05@6.40; lem. 2.75@4.15.

**July 27**

New York: 14 or., 1 grapefruit, 2 mixed. Val., 3.05@12.25; grapefruit halves, 60@3.25.

Boston: 6 Val., 4.15@11.25.

Philadelphia: 4 or., 1 grapefruit, 1 lem. Val. 5.90@11.08; grapefruit, 3.25@5.25; lem., 2.15.

Pittsburg: 1 or., 2 lem. Val. 5.20@7.05; lem., 3.50@4.35.

**July 28**

New York: 9 or., 2 lem. Val. 3.40@11.15; lem., 2.50@5.25.

Boston: 5 Val. 4.80@10.40.

Cleveland: 1 or., 2 lem. Val. 5.95; lem., 2.85@4.05.

Philadelphia: 2 or., 1 lem. Val. 5.70@9.95; lem., 3.20@3.90.

St. Louis: 2 or., 4 lem. Val 4.30@8.40; lem., 2.70@4.60.

**July 31**

New York: 27 or., 1 mixed, 4 lem. Val. 3.00@11.20; grapefruit, 2.70@4.60; lem., 3.05@5.80.

Pittsburg: 4 or., 4 lem. Val. 3.80@8.10; lem., 3.40@5.55.

Clevalnd: 2 or., 3 lem. Val. 5.00@6.95; lem., 3.55@4.40.

St. Louis: 2 or., 5 lem. Val. 5.35@8.75; lem., 3.25@4.85.

Boston: 13 or., 5 lem. Val. 4.55@9.40; lem., 3.65@5.80.

Philadelphia: 9 or., 4 lem. Val. 3.85@10.95; lem., 1.60@4.30.

**August 1**

New York: 15 Val., 3 lem., 2 mixed. Val. 2.40@10.70; grapefruit, halves, 4.10; lem., 2.65@4.35.

Boston: 6 or., 3 lem. Val. 3.50@11.60; lem., 1.95@5.15.

Pittsburg: 2 or., 2 lem. Val., 4.00@6.00; lem., 3.15@3.90.

Philadelphia: 5 or., 3 lem. Val., 4.45@9.70; lem., 2.40@4.75.

A dispersal sale of the small but high quality herd of registered Holsteins owned by Roy Bradley of San Bernardino, will be held at Rhoades & Rhoades pavilion at Hynes on Friday, August 11. Mr. Bradley purchased his foundataion stock in the Guaranty sales a few years ago and has used good bulls. His former herd sire was Prince Aralia who was out of Stanislaus Princess Cleopatra, a 32 pound three year old. A good share of the offering will be his daughters. His present herd sire is a son of King Segis Pontiac. Every animal offered for sale is tuberculin tested and guaranteed clean.

### THE PEACH PICKERS ART

(Continued from Page 123)

physical condition, and this is an important consideration if the grower is interested in having a good crop the following year. If a tree or a vine is allowed to put the last ounce of its strength into the maturing of this year's crop it tends to exhaust its energies to the point where it is difficult to recover in time to set a good crop the next year. This consideration is of particular importance in the case of late maturing varieties like the Philips Cling. Hence, get the current year's crop off as quickly as possible consistent with the prime condition of the fruit. Thus it will turn out in the end that better grade, in some cases increased yield of marketable fruit and the better resultant physical condition of the tree much more than repays the added expense of more frequent picking.

**Grading in the Field**

A discussion of the art of peach picking would be incomplete without some notice of the importance of grading in the field. This is a practice that deserves attention both from the standpoint of the grower and the canner. The writer should perhaps say right here that he has never been docked on a load of peaches. It is not because little peaches were never raised, but rather because they were kept to themselves. Not infrequently the few boxes of small but good peaches that had been sorted out were at the cannery's own initiative taken in with the first grade. It has been the writer's experience that small and defective fruits do not bulk large where an orchard is properly cared for, and further, that it is mighty poor head work to spoil the appearance of a whole load of otherwise first class fruit by letting culls and little stuff go in. The mathematics of the situation should appeal to the grower if no other consideration actually entered in. In a given case let it be assumed that the price for the first grade yellow clings is $50 per ton. However, the pickers are not true artists and allow some small and defective peaches to go in. It is all stuff that might easily have been picked out as the picker emptied his bucket and either thrown away or put in a box by itself. But as a result of indifferent methods the little, bird picked, and otherwise defective fruits go in. When the load at the cannery is sized up some of the worst boxes are discovered. It looks as though the fruit would require some extra sorting and handling, practices that are in themselves anathema to the best condition of the fruit. The result is that the load is docked. Let it be assumed that the fruit was docked to $40 per ton and that the load weighed just one ton. On this basis the grower gets $40 for his load of peaches. It develops later that if the grower had sorted out 200 pounds of poor fruit the load would have passed as first grade, or $50 fruit. On this basis the 1800 pounds of good fruit in the load would have brought the grower $45. Obviously it would have been better practice to have thrown away the 200 pounds of little fruit. If however, it had been put in separate boxes and taken in at $20 per ton $2 more would have been realized on the load, or a total of $47 as a result of the sorting. In summary the load of mixed fruit was docked and brought $40; if it had been sorted the same fruit might have brought $47. There are many other interesting situations that might be figured out but this is perhaps enough to show that the peach picker's art includes the orchard sizing and grading of the fruit.

### AUGUST GARDENING IN SOUTHERN ARIZONA

(Continued from Page 139)

Corn for roasting ears may be planted all through the month. Mexican June should mature sufficiently for roasting ears if planted any time during the month. The Papago and Pima are small eared varieties that mature quickly and so may be planted in succession until early September.

### HOG AUCTION DATES

Farm bureau hog auction sales will be held at Wasco, August 5; Tulare, 8; Visalia, 9; Hanford, 10; Corcoran, 11; Merced, 15; Turlock, 16; Madera, 17; Fresno, 18; Bakersfield, 19; Tulare, 22; Visalia, 23; Hanford, 24; McFarland, 25.

### WEATHER REPORT

San Francisco, July 29, 1922.

| Stations | Rainfall: Week | Season | Norm. | Temp.: Max. | Min. |
|---|---|---|---|---|---|
| Eureka | 0 | 0 | .11 | 62 | 54 |
| Red Bluff | 0 | 0 | 0 | 104 | 60 |
| Sacramento | 0 | 0 | 0 | 102 | 52 |
| San Francisco | 0 | 0 | .01 | 72 | 51 |
| San Jose | 0 | 0 | 0 | 88 | 44 |
| Fresno | 0 | 0 | 0 | 104 | 56 |
| San Luis Obispo | 0 | T | .01 | 88 | 46 |
| Los Angeles | 0 | T | 0 | 82 | 58 |
| San Diego | 0 | T | 0 | 76 | 60 |


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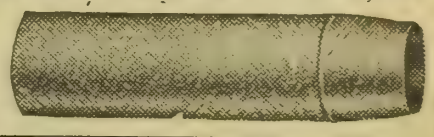
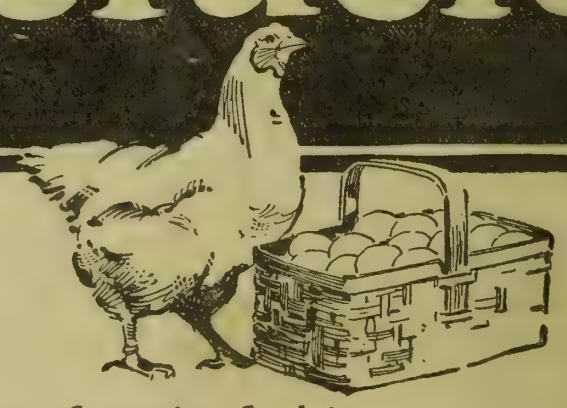


*what method of feeding do you use—*

# trust -to- luck *or* trust -to- cluck



THE difference between a poor-paying flock and a profit-paying flock is the difference between take-chances and take-NO-chances. Indifferent, haphazard, "trust-to-luck" feeding will never pay. It can't! Nothing will rob you of your rightful profits as quickly as blind feeding. True, your hens may live and be fairly healthy on a poor ration. But—

You are in the poultry business to make money. The more eggs you get the more money you net. You must realize, then, that it takes an excessive amount of a hen's energy to convert poor feed into money as against converting good feed into money. So that—far from saving money—the only result of a "cheap" ration is a *higher cost* for each dozen eggs produced.

A tasty, well-balanced ration is absolutely necessary for maximum production—that's sure! Equally sure is the fact that a uniform, quality-feed like SURELAY pays its way—and more! Its slight added cost comes back to you many times over in the extra eggs produced.

Have you ever compared the results you're getting from "trust-to-luck" feeds with the results other poultrymen are getting from SURELAY? After all, the real profit-point is this: What do your *hens* think of the feed you give them—and what do they do with it?

Why not put this egg-production question squarely up to your hens? Feed them SURELAY—a prime, true-to-test formula that has weathered the years—and let the results speak for the feed and for us. Meanwhile we suggest that you write for your copy of the new, enlarged edition of "Makes Hens Happy." It is the most complete and helpful handbook on poultry husbandry we have ever issued—and it's free. Simply clip the coupon—and mail today!

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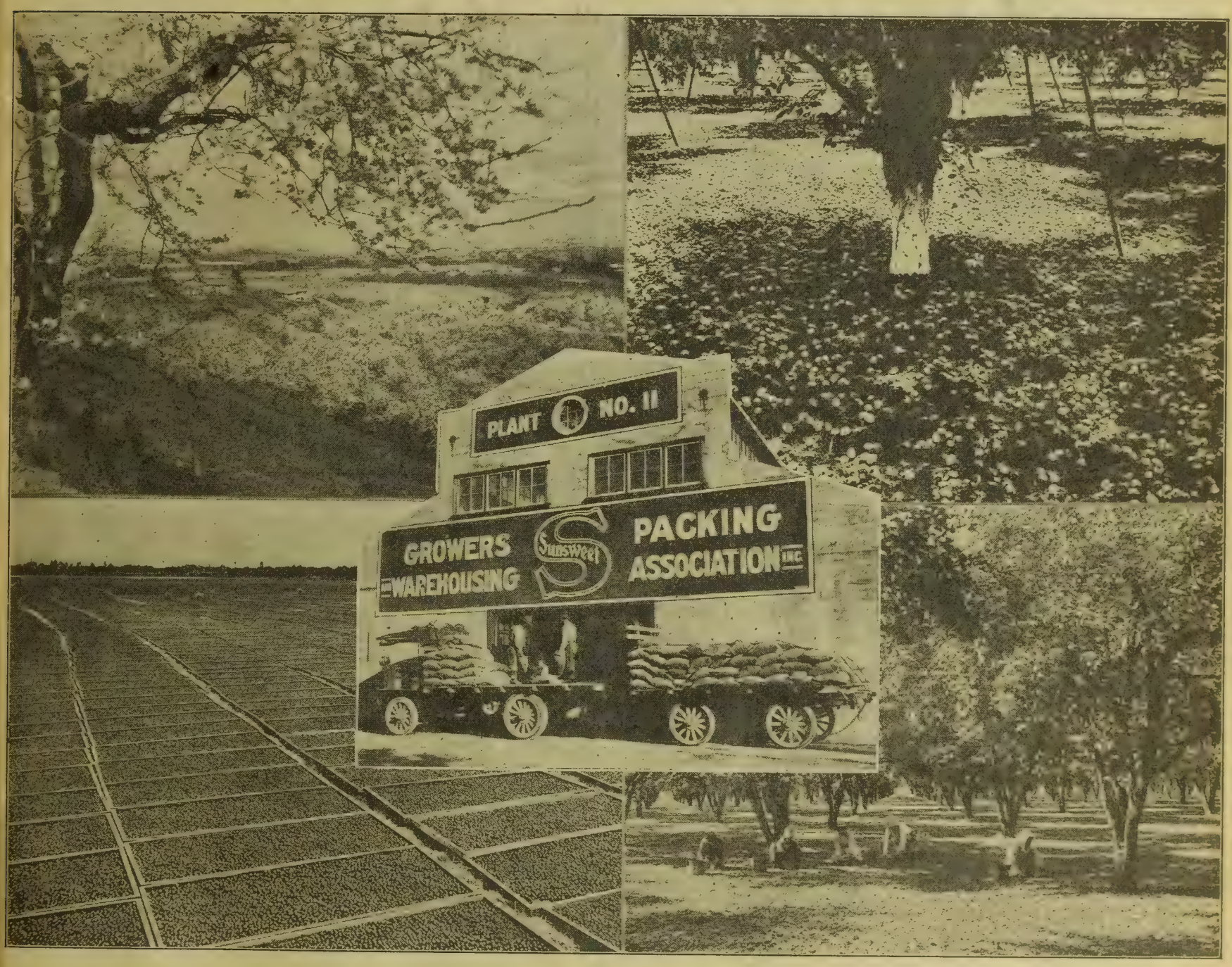
# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — August 12, 1922 — No. 7


# Growing and Harvesting Sunsweets




At the height of the blossoming season in middle March each year, the acres of blossoming prune and apricot orchards look like a great white snow blanket spread over the valley floors.

The prune ripens late in August and during the month of September. It is not generally known that prunes are never picked but instead are allowed to ripen on the trees and fall to the ground from where they are picked up in buckets by women and children.

Sun dried and sun cured are no idle boasts of California prunes. Ninety-nine per cent of the crop is dried in an eight to ten day sun bath on immense drying fields, some of which are capable of holding 25,000 trays or more.

The orchard ground is usually picked three times before the crop is finished and in the last picking the trees are shaken slightly to bring all the remaining prunes to the ground.

The grower's work ends when he delivers his dried prunes to the association packing house. He is paid at least 50 per cent in cash of the price at which the fruit will ultimately be sold, complete payment being made as soon as the fruit is sold by his association.

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and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877, Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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The San Francisco office is Room 822, Santa Marina Building, 112 Market Street, M. C. Holman, Manager.

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## Saturday, August 12, 1922

### OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

### POUNDING THE ROADS

California is not alone in having its roads pounded to pieces by overloads. Note this from a Buffalo paper as to the situation in New York state:

"One of the most serious problems confronting the state of New York is that of preserving and protecting the state highways. The damaging and destructive effects of the overloading of motor trucks have already been revealed since the enactment of the regulatory law that went into operation April 7, as shown by the records of the state highway department.

"After the law went into operation the department put inspectors with loadometers in Westchester County and later in Nassau County. They have been weighing trucks in an effort to stop overloading. Their reports show that in the period from April 11 to June 10, 178 arrests for overloading were made; 14 arrests for bad tires; several hundreds for having no mirrors, and one for having excess of body.

"Information in the offce of State Highway Commissioner Sisson shows that the trucks which had the greatest percentage of overloads were of the five and five and one-half ton capacity; the next principal offender being the seven and seven and one-half tons."

According to Commissioner Sisson, there are now eight crews out in different parts of the state stopping and weighing trucks. It is the expectation that a campaign of this sort will be continued permanently. It will surely be found that in this matter as in all sorts of repair and inspection work, eternal vigilance will be the price of good roads."

### IN THE SENATE

The other day we saw legislation as is in the senate of the United States. The house is resting and waiting for the senate to catch up on the tariff bill. The senate is catching up slowly. Perhaps it would not be fair to accuse the senators of being as slow as the house was.

Anyway it's a big question—a big problem—this changing the tariff. We had the McKinley bill, the Underwood, Payne-Aldrich, Dingley and some other bills. Now we want the Fordney bill.

"We" means everbody. The democrats from Louisiana and Texas want rice protected, democrats from Massachusetts want shoes and manufactured cotton protected. Of course raw cotton should be free—for even republicans of Massachusetts—but for even democrats of highest degree south of Mason and Dixon line, highest protection is needed on raw cotton. The farm bloc has taken the initiative and secured the recognition of agriculture. Nearly everything agriculture asked for (it appears now) will be secured.

But, the manufacturer, wise beyond his generation, has turned in and worked for and now may secure protection beyond all reason for his wares. It has been estimated that the bill as it stands now at the end of July will raise the enormous sum of four billion, 800 million dollars. At present the senate is trying to scale the various schedules.

There are others who are trying to discredit the entire agricultural program. For them California offers opportunity. Note this in the New York Times of Friday, July 21:

"How many millions, for instance, are going to be paid as a bonus to Southern California for her lemons, almonds, figs, walnuts; her olives, the native consumption of which she supplies to the extent of three per cent; her dates, of which she supplies one-half of one per cent? All through the bill runs this mulcting of the consumer. Who is to buy the surplus of our agricultural and manufacturing products if we are to shut out or reduce to their lowest terms the import of foreign goods by which alone they can be bought? What but increasing unemployment can be expected from this attempt at embargo and non-intercourse?"

The untruthful statement regarding California lemons, etc., is a fair sample of the bitter fight being put up by importers and their allies. There can be no sufficient answer, for before the truth can be told another set of statements are issued calling for further denial.

So the position fight is kept up and watchfulness prevails on the part of agricultural interests. And agricultural interests are here in Washington not only as representatives of walnut growers, almond growers, wool growers and other single interests but there is the farm bureau, grange, N. B. F. O. and other organizations beside the "Farm Bloc."

But a word as to the senate: Through the courtesy of Senator Shortridge we were given seats in the executive and senatorial gallery. Senator Walsh, democrat of Massachusetts, was making attack on the wool schedule. Boston is the world's greatest wool market. Hence a great yearning on the part of the senator for free raw wooll and a tariff on manufactured wool.

Hence Senator Walsh talked to exactly five senators in their seats. One of these was listening, two (one of whom was Senator Lodge the other Senator Smoot) were conferring, and two others were reading. Possibly 50 other senators were in cloak rooms committees and reception rooms. Some senators are away at their homes or elsewhere.

The feeling prevails that the senate will in a very few weekes finish its work, when the bill will be sent back to the house which will reconvene as soon as the senate has acted, then to the conference committee (probably three from the senate and three from the house) when the bill may soon become a law.

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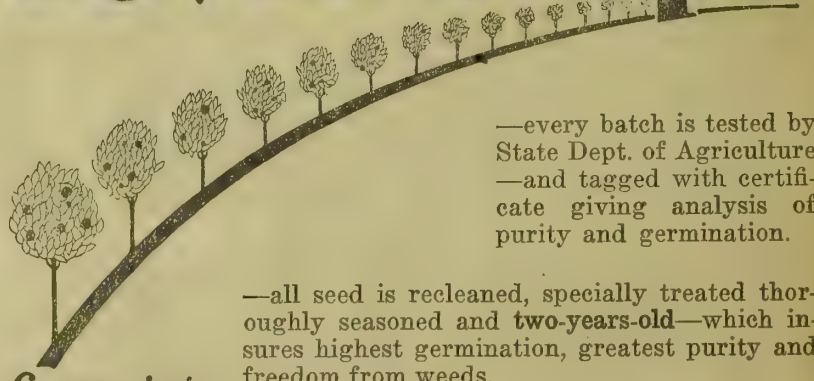

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# California Cultivator

Vol. LIX, No. 7 | Los Angeles, August 12, 1922 | One Dollar Yearly


# Fighting Black Scale: Last Season's Results and This Season's Prospects

## By H. J. Ryan, Horticultural Commissioner, Los Angeles County, Before Pest Control School at Pomona

BEGINNING in 1919, individual orchard records have been kept by district horticultural inspectors for practically all citrus orchards in Los Angeles County.

During May, June and July of each year an inspection is made, and each orchard is given a grade number indicating the degree of black scale infestation found at that time. The grade numbers used are A1, 1, 2, 3, 3B. The first two indicate very clean orchards and commercially clean orchards, while the last three grades are used for orchards which in corresponding order are questionable, badly infested or very badly infested.

Each year orchards are grouped according to treatment given during the preceding 12 months, and the average grade before treatment is compared with the average grade after treatment.

Where a number of orchards are included in each group a very definite comparison of results with different methods of treatment is secured by computing the per cent of improvement or deterioration from one year to the next.

Orange packing house inspection has since the January freeze demanded so much attention from district horticultural inspectors that the annual report on scale conditions is considerably delayed. The report is, however, complete for the portion of the county east of the San Gabriel Canyon.

In 1920 condition grades were reported on 1175 fumigated groves in the county, showing an average condition of 73 or seven points less than a No. 1 (commercially clean) grove. The average condition of 2235 fumigated groves graded in 1921 was 76, an improvement of three points. This is probably because the 1920 grades were chiefly of orchards in the eastern portion of the county, while the 1921 totals included many orchards from citrus districts southeast of Los Angeles City, where the black scale infestation is generally lighter.

Incomplete reports for 1922 show 1810 fumigated groves from various parts of the county, with an average grade of 79. While it is possible that increased efficiency in fumigation practice has had an influence in the average improvement of fumigated groves, it is more than likely that the higher average is due to three factors outside the control of the orchardist. In order of importance these are:—

(1) Exposure of scale insects to sun, wind and rain as a result of defoliation or partial defoliation of groves by frost.

(2) Attack of Isaria fungus, which has been unusually prevalent, due to abundance of moisture.

(3) (a) Natural insect enemies which have been on the increase because of abundance of food and, (b) very apparent natural mortality due to unknown cause.

In tabulating grove conditions reports for eastern Los Angeles County this season we find an appreciable and fairly constant difference in average improvement or average deterioration between groves severely injured by frost and uninjured orchards, in favor of the latter.

In other words, frost injured groves show at present a lighter infestation of black scale than groves having had the same treatment but which were not injured.

This is seen clearly in the following tables, which also show a comparison between results of various treatments:

An examination of Charts No. 1 and No. 2 will show some interesting comparisons. It will be seen that the average condition of frost injured groves is in each case better than the average condition of uninjured groves. It is also interesting to note that groves which were sprayed in 1921-22 were in worse condition before treatment than any other class of groves, and that groves which received no treatment between the summer of 1921 and the summer of 1922, were in better condition when first inspected than any group of groves which received treatment.

The contrast between the condition of such groves in 1922 and the condition of fumigated groves for this season, is much more startling.

Chart No. 3 below combines Chart Nos. 1 and 2, and since therein are

(Continued on Page 150.)

**Chart No.1—Groves Injured by Frost**

| Treatment | No. of Groves | Av. Grade 1921 | Av. Grade 1922 | % Improvement | % Deterioration |
|---|---|---|---|---|---|
| H. C. N. | 427 | 69.3 | 79.5 | 15 | x |
| Cyanof | 486 | 68.6 | 78.2 | 14 | x |
| Pots | 49 | 71.4 | 78.4 | 10 | x |
| Spray | 74 | 64.0 | 53.5 | x | 16 |
| None | 76 | 73.0 | 40.0 | x | x |

**Chart No. 2—Uninjured by Frost**

| Treatment | No. of Groves | Av. Grade 1921 | Av. Grade 1922 | % Improvement | % Deterioration |
|---|---|---|---|---|---|
| H. C. N. | 223 | 68.0 | 81.5 | 19 | x |
| Cyanof | 328 | 68.8 | 82.0 | 19 | x |
| Pots | 40 | 66.0 | 81.5 | 22 | x |
| Spray | 58 | 60.3 | 71.4 | 18 | x |
| None | 76 | 73.0 | 40.0 | x | 45 |

# Selling Olives at a Profit

## By A. M. Drew, President California Olive Growers

A COPY of the letter from your Oroville correspondent wherein he questions the accuracy of the statement by the writer in the article appearing in your columns July 8, 1922, is before me, and I feel that it is incumbent upon myself to make good the statement in my former article wherein I said that "an excellent grade of olives should retail at 25 cents per quart." I had reason to believe that such a statement would be questioned when I made it, and I am therefore not surprised at the contents of the Oroville letter, from which I quote:

"In your issue of the California Cultivator of July 8, I noticed an article written by Mr. Drew, which I read with very much interest, as it covered part of the selling end of the olive industry in connection with the forming of the new Olive Association. While Mr. Drew stated that an excellent grade of ripe olives could be retailed at 25 cents a quart, he did not mention the grower, who I understand should derive some benefit from the formation of this new association, and I would like very much to have Mr. Drew enlighten me as to where the grower would come off and how much he would receive for his olives. According to my way of figuring, I would have to deliver my olives to the packing house and pay three cents per can on top of it, without getting any return whatsoever. In other words, if I would let my olives drop off the trees I would be ahead of the game to the tune of about three cents per quart, or $48 per ton."

The writer of the letter says it costs him 28 cents per quart to can without paying anything for the fruit, and that he would be the loser at the rate of $48 per ton if he sold his olives at 25 cents per quart. I do not know to what grade of olives he refers, whether to standards, mediums, large, extra large or mammoths, but my statement was based upon medium olives, because I know that the medium furnishes the grade that is most in demand. In a packing of 450 tons, 30 per cent of the amount was of that grade. With reference to the expense that the gentleman is to in packing medium olives will say that he is certainly paying too much for labor and material, or his packing house is not fitted for the handling of olives cheaply. The table hereinafter set forth showing the cost of handling and packing is based upon the financial conditions of 1921. I presume it will be admitted that we have not yet reached normal financial conditions. By that I mean that war prices have prevailed and are yet prevailing to a considerable extent over pre-war prices. There has been a drop of 25 per cent in sheet tin during the last year, and there is little doubt but there will be a further decline in the price of that material, but under last year's prices with improved methods and machinery I claim that the statement made in my former article is still correct, and that a retail price of 25 cents per flat quart can be reached and maintained and the grower receive a better price for his fruit than the packer has seen fit to give him for the crop of 1921 for medium grade olives, providing we can successfully organize the olive growers of California into a cooperative company strong enough to control selling prices.

### Handling and Processing

Olives should reach the grader within 48 hours from the time they are taken from the trees, unless they are shipped in solution, and this is done only at a heavy expense, as barrels are expensive, and water is heavy.

The following table is based upon door deliveries of olives carefully and cleanly picked of the right degree of ripeness.

### Table of Costs

| | Per ton |
|---|---|
| Unloading, weighing and delivering to the grader | $ .20 |
| Grading to size, color and quality | 8.33⅓ |
| Procesing and curing | 3.00 |
| Salt and caustic | 1.33⅓ |
| Sorting and canning, including cans and salt | 79.85 |
| Retort service and sealing | 3.33⅓ |
| Cooking 40 minutes at 240 deg. | 5.00 |
| Labeling and casing | 2.43⅓ |
| Labels and paste for 1,680 cans | 8.56 |
| 70 cases | 7.70 |
| | $119.75. |
| Plus loss of material in handling | 5.25 |
| Total | $125.00 |

$125.00 ÷ 2,000 lbs. = 6¼ cts. per lb. + 5 cts. to grower. 1 lb. 2 oz. per can @ 11¼ cts. per lb. 12 3/10 cts. per quart.

Allowing the difference between 12 3/10 cents per quart can and 20 cents, 7 7/10 cents to the freight costs and jobbers' commission, we have the fruit in the hands of the retailer at 20 cents per quart, and he certainly ought to be satisfied with a special article and a special price to retail at 25 cents, which gives him 25 per cent profit. If the advertising is done for him (and special advertising must be done in order to put the olive industry on its feet) he is out nothing in that line, and the olive grower is by that means reaching the people and increasing the demand for olives. I am aware that there are difficulties in the way, but in my opinion these problems will be solved and the difficulties overcome if we can act together as a unit in the growing, canning and selling of this fruit. Without the state organization we are continuously (and when I say we, we mean the packing end of the industry) cutting each other's throats by useless competition.

The higher grades of olives will necessarily bring the grower a better price, and he must depend upon those grades for his profit, but if he receives 5 cents a pound, or $100 a ton for his mediums, he will receive much more than he has been getting and will still have the opportunity of making something additional out of the larger sizes.

I shall be glad if your interested readers will comment upon and criticize this article and show me, if they can, where the errors are, but these figures have been taken from a carefully prepared record of the past year. It is recognized that our manager has made a financial success of our house as we have now sold to the trade out of this coming year's pack almost as many olives as we put up last year. Of course, we realize that we have an experienced man as manager and that we have a careful, practical, competent man in charge of the processing. We are doubling our membership and expect to handle double the quantity of olives this year over last.

# Agricultural News Notes of the Pacific Coast

## Northern California

Walnut growers of Humboldt County report prospect for a heavy crop.

Warm weather is favorable to rapid growth in the rice fields of Tehama County.

August 16-20 at Petaluma, combined Egg Day celebration and Sonoma-Marin County fair.

The horticultural commission of Sutter County has begun systematic fight on yellow star thistle.

It is proposed to include the land of the Colusa County Land Company in the Glenn-Colusa irrigation district.

Approximately 6,000 sacks of rice were sold July 19 by the California Rice Growers at an average price of over $3.00.

Gravenstein apples from the Sebastapol district of Sonoma County are of unusually good quality and are ripening fast.

Prof. W. T. Clarke of the University of California has been in Butte County investigating unusually severe dieback of prune trees.

Newcastle, Placer County, has been sending out 15 to 18 carloads of fresh fruit daily. 30 cars a day is the average from the county.

The channel of the Petaluma River between Petaluma and Lakeville is being straightened under direction of the federal government.

The Northern California Rabbit Breeders Association is planning to make an exhibit at the state fair at Sacramento, September 2-10.

The San Francisco office of the California farm bureau grain department handled during July 20,000 tons of grain. The office has just been established.

Supervisors of Sonoma County have let contracts for the erection of bridges on Washington street, Petaluma, Sebastopol-Cotati highway and Pocket Canyon road.

The Fourth Annual Eden Township Show is on this week at Hayward, Alameda County. Today, August 12, Prof. Rice of Cornell University will lecture to poultrymen.

Manager Hyrup of the Colusa County fair says that exhibition space is rapidly being taken, much of it by exhibitors from outside the county. The fair will be held at Colusa, September 13-17.

Entomologist Urbahns of the state department of agriculture is superintending extermination of a pest of caterpillars found destroying 75 acres of beans near Yuba City. A machine is being used to scatter poison dust.

The bulk of the apricot crop in the Santa Clara Valley is being canned this year, though some is being shipped green, therefore a proportionately smaller amount of sun curing is being done. The moderate temperatures of the past week were favorable for apricots because too rapid ripening was prevented.

In his report at the recent annual meeting of the California Rice Growers at Sacramento Manager Merritt stated that during the past six months California rice has been selling for an average of $2.65 per 100 pounds for paddy, while rice in the southern states during the same period has brought $2.27½ per 100 pounds.

## Central California

Turlock has shipped 1,000 carloads of melons, most of them cantaloupes.

Rapid progress is being made on the Don Pedro dam. 600 men are working.

The cannery at Hilmar has opened on its peach pack which will be unusually heavy.

Settlers on the state land colony at Delhi are planning to hold a stock show in September.

The Turlock Melon Growers Association has been paying $14 to $16 per ton for watermelons.

A cow testing unit is being formed at Dos Palos. Merced County. Two hundred and fifty cows have already been signed up.

The California Peach and Fig Growers says there is no foundation for rumor that equipment of the Merced plant will be moved to Fresno to replace that recently burned.

At the last meeting of the Fort Romie grange a resolution was passed asking granges of the nation to aid in enactment of federal legislation restricting immigration of Japanese.

The Coalinga, Fresno County, chamber of commerce has launched a campaign to complete work on the Coalinga-San Lucas lateral so that it will be passable during the winter months.

The Turlock Melon Growers Association has relieved members of contract obligations so that they may make independent sales. The association expects to resume shipping when the market picks up.

The management of the Sun-Maid Raisin Growers made a big cut in prices of 1921 raisins to get them out of the way of the 1922 crop. 1922 prices will probably be announced the middle of the month.

The new precooling plant at Dinuba is being tried out on fresh grape shipments. The plant was built by the Dinuba Grape Growers Association and is considered an improvement on other preicing plants now in operation.

Opening prices for the 1922 raisin crop indicate that this year's base price will be 6 cents per pound as against 10 cents last year. Estimates made by the Sun-Maid Raisin Growers anticipate a 225,000 ton crop this year.

"Entirely feasible and comparatively easy of construction" is the report brought back by the survey party, of the San Joaquin Valley Commercial Secretaries Association, sent out to determine the possibility of constructing a road from Huntington Lake over Piute Pass to Bishop.

Frank B. Astroth, fieldman for the Pacific division of the National Jersey Breeders Association, will come to Stanislaus County, August 17, and hold a series of meetings now being arranged by President Miller and Secretary Conant of the Stanislauas County Jersey Breeders Association.

Italian vegetable growers near Oakdale, Stanislaus County, will loose some 3,000 sacks of onions because they were refused by the San Francisco buyers who had contracted to purchase them. The onions were refused on the ground that they were not up to grade but this was after the bottom had dropped out of the onion market.

## Southern California

A new cotton compress has been built at Calexico.

Former Iowans picnic at Bixby Park, Long Beach, today.

Imperial's grape crop is practically harvested. The yield has been good.

San Luis Obispo County expects an almond crop twice as large as last year's.

Considerable damage to grapes from leafhoppers is reported from Coachella Valley.

Estimates on Yucaipa Valley's 1922 apple crop range from 300,000 to 500,000 packed boxes.

The sweetpea crop in San Luis Obispo County has been cut and stacked in fields to dry.

San Luis Obispo County reports beans blossoming slowly due to continued cool summer weather.

George S. Spurrier has been appointed manager of the San Louis Obispo County Farm Bureau Exchange.

Olive orchards at Sunland, Los Angeles County, show very light setting, some orchards not enough to pick.

The early peach crop of the Yucaipa district amounted to about 2100 packed Los Angeles lugs. The season closed July 26.

The railroad has made concentration rates on cotton from Palo Verde Valley points to the new compress at Phoenix, Arizona.

The Navel crop in the Redlands districts is sizing up well. Estimates are now made anywhere from a third to a half normal crop.

The Los Angeles office of the grain department of the California Farm Bureau Exchange, just established, has handled 8,000 tons of grain.

Escondido, San Diego County, has a splendid crop of grapes and is going forward with big plans for celebrating Grape Day, September 9.

Los Angeles storage houses on July 28 showed 215,508 cases of eggs and similarly large quantities are in storage at other California points.

Great plans are being made for the walnut growers field day to be held at Santa Barbara, September 2. President C. C. Teague will be the speaker of the day.

The Riverside district has already shipped out 3100 carloads of citrus fruits. 400 men are working in three shifts on construction of Warner's dam in the San Luis Rey River.

At the recent meeting of the Associated Chambers of Commerce of Imperial Valley a resolution was passed favoring the opening of the duck season on September 1 instead of October 15, to save newly planted barley.

A. R. Bixby sends in correction of an item appearing in a recent Cultivator which stated that plans were being made for construction of an evaporating plant at Banning to cost $40,000. Mr. Bixby says this plant is to be built at Beaumont.

The United States weather bureau reports for Los Angeles County: New crop oranges has set fairly well; lemons show very little fruit in groves hit by frost last winter, but there is considerable improvement in condition of trees; walnuts developing well; fog near coast favorable for beans.

## The Coast and General

The sugar beet crop throughout Europe will be good.

A prune harvest festival will be held at Vancouver this fall.

This year's cotton in the United States is estimated at 4,449,000 bales.

Germany this year will raise sufficient sugar beets to supply her own needs.

Alfalfa seed harvest continues in the Yuma district. About two-thirds of the crop is cut.

Second crop figs are maturing in the Salt River Valley of Arizona, and watermelons continue abundant.

A modern cotton compress and warehouse will be in operation at Phoenix, Arizona by the middle of September.

Export of oranges from Palestine in 1921-22 amounted to 1,100,000 cases as compared with 830,000 cases the previcus year.

The Chinese are becoming enthusiastic consumers of American foods; canned and dried fruits, coffee, jams, syrups, etc.

A hearing is now being held at Santa Fe, New Mexico, by the Colorado River Commission. Seven states are represented.

The Kansas Wheat Growers Association has asked the war finance corporation for an advance of $2,500,000 to finance marketing.

Almeria, Spain, has a big grape crop this year. Much of it will be exported to the United States. Last year's shipments started on September 25.

The Texas Farm Bureau Sweet Potato Growers' Exchange, which met in Dallas recently laid plans for increasing the annual sweet potato crop of Texas from 1,000,000 to 5,000,000 bushels.

Swine raisers in Argentina have formed an association with headquarters at Buenos Aires. The largest hog farm in the republic covers 10,000 acres and is stocked with 15,000 Poland Chinas.

Development of new highways in Arizona is extending auto truck lines to all parts of the state. Fresh fruit, vegetables and dairy products can be delivered daily at the mining towns in prime condition.

Both Alberta and Saskatchewan have passed legislation looking toward appointment of a dominion board to supervise marketing of Canada's 1922 wheat crop. It is expected that federal action will soon follow.

With the return of the dairy cow to the Salt River Valley, there has also been a replanning and broadening of the scope of cow testing organizations. There are about 21,000 dairy cows in the Valley at the present time.

The mutton and lamb carcasses shipped from Argentina and Uruguay in 1921 were 2,743,000, compared with 1,898,000 in 1920. There were 5,823,000 quarters of beef shipped in 1921, compared with 6,552,000 in 1920.

The French chamber of deputies recently passed a law authorizing the government to fix by decree the percentage of wheat in flour and the addition of substitutes in preparation for the expected shortage in this yeaar's wheat crop. The crop is variously estimated at from 50,000,000 to 100,000,000 bushels short of requirements.

# Spray and Thin for Better Fruit

By Ernest Braunton

NEARLY 100 persons interested in better deciduous fruits met at a banquet given by the Southern California Canners Bureau on the evening of August 1 to discuss means and measures best to pursue in order to raise the standard of deciduous fruits grown in the south end of the state. There were present, aside from representatives of the canners, men from the United States bureau of plant industry, from the California state department of agriculture, the citrus experiment station, farm bureau presidents, farm advisors and a few prominent horticulturists, teachers, etc.

**The Speakers**

The repast over, J. A. Campbell, general manager California Growers' Association, Inc., acted as chairman. After stating the object of the meeting he said that before the war no attempt had been made to grow larger fruits. The grower produced the largest tonnage possible and canners looked for tonnage also. Consequently Southern California was known for its output of low grade deciduous fruits. Now all want, and we must have, better raw products in this line, and the growers must do two things; spray and thin. He then introduced the first speaker.

**Robert W. Hodgson**

Farm advisor of Los Angeles County, spoke on what his office could and would do to aid the educational campaign. The agricultural extension service, through the state university and United States department of agriculture, joins with boards of supervisors of the various counties in extending aid of a practical nature to the farmers. They have regular programs and field demonstrations to educate growers along lines which this meeting was called to discuss. Among these are sprayings for diseases which mar fruits, thinning of fruits, pruning, bud selection, and irrigation. Poor varieties and poor conditions are responsible for poor fruits. Organization and deciduous fruit contests are needed.

**George P. Weldon**

Pomologist, Chaffey Union High School, was the next speaker. He had with him specimens of the Ontario cling and Tuscan Cling peaches, the latter having several other names in common use, to show the differences of fruit and foliage, which were quite marked. The Ontario is the chief canning peach now being planted in San Bernardino County. With the aid of a chart he showed some of the beneficial effects of spraying. On ten trees sprayed with lime-sulphur in February for twig borer but two wilted tips were found, while on seven nearby trees unsprayed 125 wilted tips were counted. March 15, ten trees sprayed with dry lime-sulphur were found to have seven wilted tips, while on ten trees not sprayed were found 171 wilts. Trees sprayed same date for curl leaf showed but four per cent affected while unsprayed trees were 47 per cent affected. Still more striking were two other plats which showed but 1.2 and .2 per cent curl leaf as against .70 per cent and .62 per cent respectively for unsprayed trees. The peach scab, a cladosporium, will not allow peel to come off through lye dip and affected parts must be treated by hand, so canners refuse scabby fruit. It is absolutely necesary to spray peaches for twig borer and curl leaf, and the lime-sulphur sprays, either wet or dry, are preferable to arsenate of lead, which will burn under some conditions.

**Dr. T. J. Barrett**

In charge Riverside citrus experiment station, had a number of fine enlarged photos passed around the tables, showing the ravages of various diseases on peaches and apricots, both fruits and trees. He said what we call "shot hole fungus" is "shot holes" only through leaves. On apricots it is apricot spot, on peaches it is peach blight. Mildew was found on apricots in one orchard, rather serious. It was found it came from two large rose bushes. When the latter were destroyed the disease vanished, though some injury had resulted. Fog mark is another "cot" trouble. No organism was found, but it is due to moisture settling on the fruit and then the sun shining on it. Bacteriosis of apricots was worse this year than ever before, and for the first time was found on fruits. Apricot scab injuries were also shown. Apricot rust no longer bothers as it was due to pruning as soon as crop was off and resultant new leaves carried disease over winter to the new spring growth, from which the leaves would drop. As this pruning practice has practically passed, so has the disease. Every grower should spray with Bordeaux each year. Even though not needed some years, it still would pay over any given stretch of years.

**Dr. H. S. Reed**

Also of the Riverside station, gave the results of three methods of pruning and of leaving unpruned over a series of six years, illustrated with some fine photos. Long pruning had made a poor showing for fruits were borne nearly all on the tip of branches, where exposure to the elements had rendered them unmarketable. Short and medium pruned trees bore inside fruits, and unpruned trees produced the heaviest tonnage. But the fruit on the latter, owing to no inside or lower fruit spurs, is coming out so high that long ladders are needed for picking. During the six years the total crops grown by the three methods of pruning were compared to 100 per cent or full crop, 55 for short pruned, 75 for medium pruned, and 95

(Continued on Page 155)

# New Fruit Beverages

By W. V. Cruess and J. H. Irish,
University of California

THE great American public, and particularly that portion of it which indulges in following the big league baseball games, circuses country fairs, and other similar celebrations, consume enormous quantities of carbonated beverages. The writers estimate the consumption at five billion bottles per year.

**Why Not Use Fruits?**

Fruit growers who have studied the present planting of all kinds of fruit in California face the situation with considerable uneasiness. They would like to see new outlets developed for California fruits. Many of our fruits are ideally suited to the making of carbonated beverages. The writers strongly suggest the use of more California fruit in preparing the aforesaid five billion bottles of carbonated beverages. If we can only get one billion bottles made up of fruit products it will be worth while.

**How the Fruits May be Used**

The writers have found that various fruits, particularly berries and pomegranates, citrus fruits and grapes, can be converted into syrups that can be used by the average soda water fountain bottling works with a slight addition of equipment.

In our experiments we have found that berries yield a delicious syrup which can be carbonated by a very simple process. The berries are sorted and washed. Strawberries need not be stemmed. The berries are then crushed and heated to about 150 degrees F. to extract the color. They are then pressed and the juice so obtained is filtered. To this juice is added about 12 pounds sugar per gallon to make a syrup of about 65 per cent sugar. This syrup is put up in lacquered cans and pasteurized at 175 degrees Fahrenheit.

At the University Farm Picnic
Two methods of connecting with the fruit beverages. Bottom, "dead soldiers."

We have at the university a complete juice making and bottling outfit. We take the above berry syrup and dilute it to about 50 degrees Balling and use 1½ ounce of the syrup for each bottle of soda water bottle size. We then add carbonated water charged to 50 pounds pressure with carbon dioxide. The filled bottles are sealed with Crown caps and are then pasteurized in water at 150 degrees Fahrenheit for 30 minutes.

Pomegranates we cut in half and press, obtaining a purplish red juice. In order to clarify this juice we heat it to 150 degrees Fahrenheit to coagulate the proteins. The juice is allowed to stand 24 hours and is then easily filtered to give a brilliantly clear juice which is sweetened to 50 degrees Balling with sugar. We find that Muscat grapes and wine grapes mixed together in equal proportions, crushed, heated to 150 degrees Fahrenheit, pressed, filtered and concentrated in a glass lined vacuum pan to 50 degrees Balling yield an excellent syrup for bottling purposes. Any of these syrups can be preserved by pasteurizing or by storing in lacquered cans in a freezing room without pasteurization. Either method gives good results.

**Citrus Drinks**

Most of our readers, we believe, are familiar with the fact that orange and lemon drinks do not retain their flavor satisfactorily. Under ordinary conditions we find in our experiments that the best citrus drinks are composed of

(Continued on Page 156)

## FIGHTING BLACK SCALE: LAST SEASON'S RESULTS AND THIS SEASON'S PROSPECTS

(Continued from Page 147.)

a larger number of groves of each group, is probably a truer index of comparative results than either of the other two.

and 3 in comparison with the 1922 figures.

To further emphasize this point, we have shown in Chart No. 4 and Chart No. 5 the relative number of good groves remaining in good condition after treatment and the poor groves improved in condition after treatment.

when the groves are in good condition at the start.

iage will afford good protection and such an ample food supply that an unusually numerous and strong brood of scale will likely result and a large hatch will be the result next summer.

The reproductive powers of the back scale, even more than in the case of many of the other prolific scale insects, are so great that a comparatively light infestation may, and often does develop to dangerous proportions in a year's time, if there prevail conditions favorable to a natural increase.

With so many orchards in a weakened condition because of frost injury, it is more than usually important to apply the most effective possible treatment this fall, to keep the infestations under control.

**Chart No. 3—Recapitulation Injured and Uninjured Groves**

| Treatment | No. of Groves | Av. Grade 1921 | Av. Grade 1922 | % Improvement | % Deterioration |
|---|---|---|---|---|---|
| H. C. N. | 650 | 69 | 80 | 16 | x |
| Cyanof | 814 | 69 | 80 | 16 | x |
| Pots | 89 | 68 | 79 | 16 | x |
| Spray | 132 | 62 | 61 | x | 2 |
| None | 196 | 74 | 51 | x | 31 |

**Chart No. 5—Present Condition of Groves Graded 2, 3, and 3B in 1921**

| Treatment | Good Groves 1921 Number | Good Groves 1922 No. | Pct. |
|---|---|---|---|
| H. C. N. Fumig. | 281 | 221 | 78— |
| Cyanof. Fumig. | 335 | 227 | 68— |
| Pots Fumig | 35 | 23 | 66— |
| All Fumig. | 651 | 471 | 72+ |
| Sprayed | 70 | 28 | 40 |
| Untreated | 62 | 4 | 6— |

### Present Condition of Groves

Chart No. 5 is perhaps worth more study, as in each case the groves were to begin with, badly infested.

In analyzing the foregoing and the following charts, the reader should bear in mind that it is more difficult to show a difference in degree of improvement after various treatments, when the orchards are on the average in good condition at the start, than when they are badly infested.

To illustrate, let us suppose we have 200 groves in A1 and 1 condition to begin with, and we give 100 a certain method of treatment and 100 another method. Both methods were good, but one was slightly superior to the other. It would be much more difficult to show that difference in a comparison of results than if the original 200 groves were badly infested at the start. The application of this argument is readily seen if one will analyze the 1921 figures in Charts Nos. 1, 2

**Chart No. 4—Present Condition of Groves Graded A1 and 1 in 1921**

| Treatment | Good Groves 1921 Number | Good Groves 1922 No. | Pct. |
|---|---|---|---|
| H. C. N. Fumig. | 369 | 349 | 95— |
| Cyanof. Fumig. | 479 | 459 | 96— |
| Pots Fumig. | 54 | 51 | 94+ |
| All Fumig | 902 | 859 | 95+ |
| Sprayed | 62 | 29 | 47— |
| Not treated | 134 | 46 | 34+ |

The percentage figures in Chart No. 4 compared with the percentage figures for groves in Chart No. 5 having had the same treatment, will make clear that it is easier to keep a grove in good condition than it is to get it in good condition once it has been allowed to run down.

The one per cent difference shown between fumigated groves in Chart No. 4 is negligible and indicates the difficulty of showing a comparison between effective methods of treatment

### This Season's Prospects

Orchard infestations of black scale are lighter this year than at any time since the summer of 1917. To the present writing, July 15, weather conditions during the hatching period have been normal and unless some unforeseen influence occurs to cause an unusual mortality of young scale, it may be safely expected that the average infestation will be much more severe in 1923. In frost injured groves an abundance of heavy succulent fol-

## GYPSUM IMPROVES POTATO AND ALFALFA YIELDS

Particularly good results have been obtained by the use of gypsum on soil infested with potato scab. On a 23 acre field in the San Fernando Valley that had been infested until the ground caked to a degree that it would break a potato digger, H. L. Boyer, at Van Nuys, applied 1000 pounds to the acre after plowing under a cover crop the first of May. The planting was started July 20. The results were apparent from the beginning. A splendid stand of thrifty potatoes resulted and in the fall on 19 acres treated the yield was 110 sacks to the acre and the sacks averaged 111 pounds. The potatoes were entirely free from the scab that had infested the potatoes on the field the previous years, so free that all were sold for seed. The crop was marked to the very row that the gypsum was applied. Four acres were planted in the same field where it was not applied, and the potatoes were scabby again.

The scab free potatoes were sold in the field at 3 and 3½ cents per pound, and later those warehoused sold for seed at 4 and 4¼ cents, commanding a good margin above the market. Mr. Boyer found the ground treated with gypsum to be so free from scab and in such good condition that without further applications he followed with another potato crop which yielded 2400 sacks. Those on the treated ground were again free from blemishes. Mr. Boyer plants his seed 11 inches apart in the rows, then makes the rows 36 inches apart, allowing more room for irrigating, cultivating and harvesting. His revenue from the 23 acres, allowing only 2 cents per pound for the potatoes on the four acres that were scabby, was $7400.

### Good Results on Alfalfa in Fresno

Mr. Boyer formerly farmed a dairy ranch of 520 acres in Fresno County. The land was inclined to black alkali. On this he sowed a ton of gypsum to the acre; allowing the fall rains to dissolve it on the ground, and the solution soaked in, neutralizing the soil condition until abundant crops of alfalfa were grown, also penetrated hard pan and flocculated the soil. On black alkali soil that would not produce a crop without gypsum Mr. Boyer was able to produce from eight to ten tons per year. Usually the season yielded six cuttings, the first and second cuttings running 1½ to 2 tons. Sudan grass was sowed on the high ground that could not be irrigated and this afforded splendid grazing for his 210 dairy cows when frost conditions in the fall made early morning grazing on alfalfa dangerous to the cows, on account of bloat. His experience proved that cows would not bloat on the Sudan grass and they were always eager to feed on it.


# A WARM GAS

FROM LIQUID HYDROCYANIC ACID is now available for FUMIGATION PURPOSES through the development and final perfection of the

## HYDRO-CY VAPORIZER

(HORSE-DRAWN)

VAPORIZED GAS

**by means of the Hydro-Cy Vaporizer is recommended at the Pest Control School at Pomona July 15th, as the most EFFECTIVE and EFFICIENT Method of Fumigation. "Vaporized liquid gives a better diffusion within the tent than when atomized through the nozzle."**

## ADVANTAGES:

The HYDRO-CY VAPORIZER, as the name implies, is a machine which converts liquid hydrocyanic acid into a warm gas and delivers and distributes it under the tent with a precision that guarantees the grower full value of all the liquid measured.

The EFFECTIVENESS of this method of application is unquestionably superior to all others. It eliminates all doubt as to the gasification of the liquid and insures quicker diffusion and more thorough distribution of the poisonous gas under the tent. It lessens the danger of damage to young trees, fruit or foliage, by completely eliminating any contact of the liquid with the tree.

With this machine liquid hydrocyanic acid can now be used with confidence and insurance of results at temperatures recommended by the Horticultural Commissioners for Pots and Cyanofumers. Under the new regulations laid down by the County Horticultural Commissioners, the use of liquid gas, as applied by atomizing machines, must stop when the temperature falls below 50° F. A vaporizer makes it possible to continue working below this temperature and hence provides insurance against the loss of time.

The Uniformity of Treatment of each tree is another distinctive advantage and feature of this machine for the last tree in the row receives exactly the same treatment, with respect to accurately measured dosage and temperature of the gas, which every other tree in the row receives.

**FIELD TESTS**

During the spring months of this year two machines were in continuous operation and gave such satisfactory service that we were prompted to make more available for this coming season. **The principle of Vaporization has been tried and proven during the past two seasons.** "Vaporized" gas gives better results because of quicker and better diffusion under heat.

Wage your battle against the Scale Pests by using only the latest improved methods of Fumigation. The Hydro-Cy Vaporizer will solve your problems. Write today for full particulars. Manufactured only by

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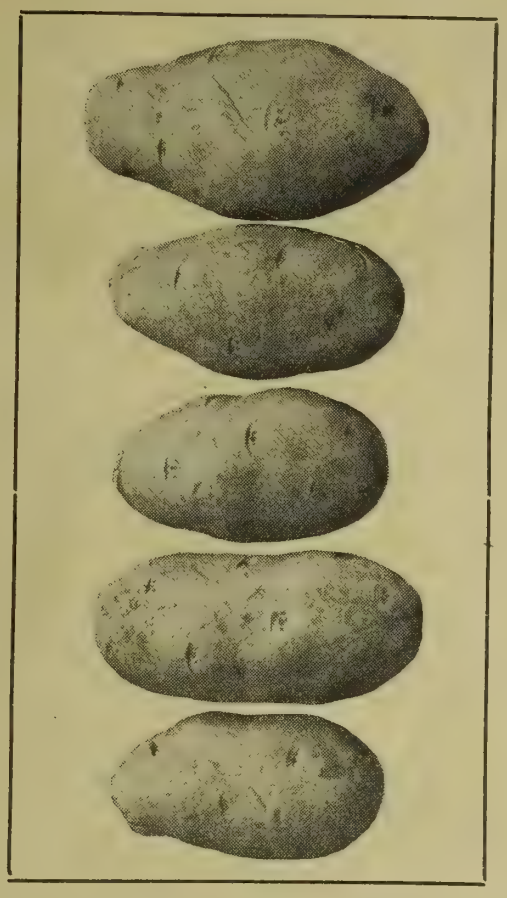
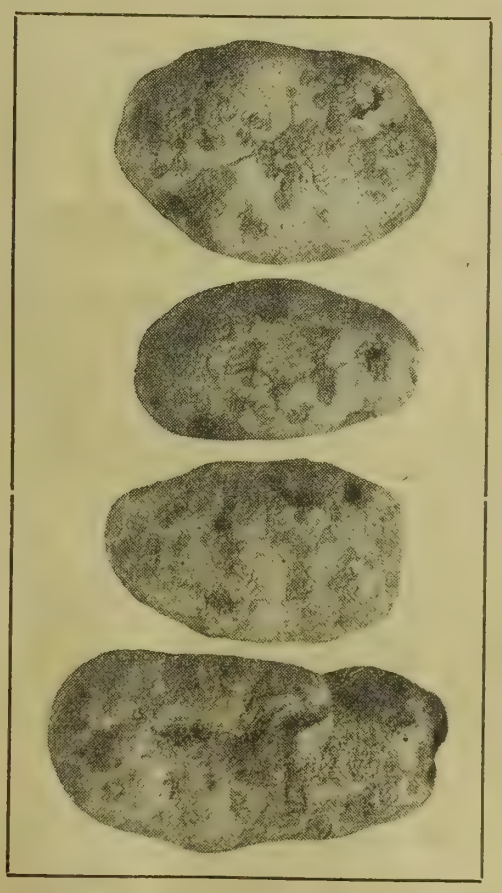
LOS ANGELES, CALIFORNIA

# For Potato Profits Use Agri Gypsum



*Unretouched photograph of clean potatoes treated with 1000 pounds per acre of Agri Gypsum. Crop harvested in winter of 1921 on ranch of H. L. Boyer, Van Nuys. Plot treated with Agri Gypsum yielded 61 per cent more and produced clean, marketable potatoes.*



*Unretouched photograph of scabby potatoes from untreated portion of check plot.*

At a total cost of $8.25 per acre for Gypsum and labor of spreading, H. L. Boyer, a farmer in the San Fernando Valley, increased the yield on his fall potatoes from 68 sacks in untreated plots to 110 sacks per acre in plots treated with 1000 pounds of Agri Gypsum to the acre. The quality is well shown in the illustration, potatoes from the Gypsum plot being practically free from scab, while those from the untreated portion were badly affected. Read Mr. Boyer's own letter describing his use of Agri Gypsum:

Van Nuys, Calif.,
April 18, 1922.

United States Gypsum Co.,
Los Angeles, California
Gentlemen:

We are enclosing two sample lots of potatoes which will illustrate the benefit I have received from the use of Agri Gypsum, at the rate of 1000 pounds per acre. The total cost was $8.25 per acre, Gypsum and the labor of spreading.

On the check plot test the yield without the use of Gypsum was 68 sacks per acre, while the plot to which Gypsum was applied gave a yield of 110 sacks per acre.

The ground is noticeably free from cut-worm, potato bug and other insects which are often found infesting the land after plowing under a heavy cover crop.

I regard this as a remarkable demonstration of the fertilizing qualities of Agri Gypsum when used on fall potatoes. I shall make a more extensive application on both my spring and fall crops.

Yours very truly,
H. L. Boyer.

Before planting your fall potatoes consult your nearest feed or fuel dealer for prices of Agri Gypsum and its uses.

## Agri Gypsum Good for Many Crops

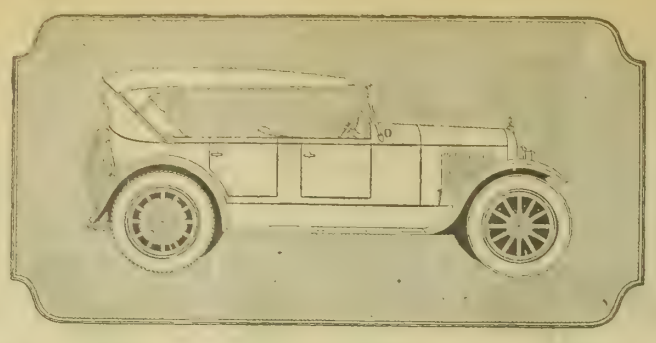
Agri Gypsum is used extensively for Citrus, Deciduous and small Fruits; Vegetables; Forage and Cover Crops. Its principal uses are as follows:

1. As a fertilizer.
2. As a corrective and preventive of black alkali.
3. As a preservative of nitrogen in manure.
4. As a sanitary agent.
5. As a soil amendment and regulator.

**Ask your Dealer or write us direct**

## United States Gypsum Company

*World's largest producers of Gypsum Products*
Citizens' National Bank Bldg.,
Los Angeles, Calif.



## Percherons and ponies meet few farm requirements

There is a right size for everything you use for profit or convenience or pleasure on the farm.

In horses or motor cars, overweight means high first cost and heavy operating expense. Lack of size and stamina, on the other hand, brings risk of failure and discomfort.

Earl quality motor cars are built for everyday use in the country—although their low-sweeping lines and fine proportions make them noticeable on any city boulevard.

Big enough to carry five full-grown passengers in satisfying comfort anywhere an automobile can be driven, they are surprisingly thrifty of oil and gasoline. Their flexible, long-stroke motors develop power enough to handle any road condition. Yet on average highways, the Earl is more economical than any other car of anything like its size and riding qualities.

The over-all length of Earl touring cars is fourteen feet, less one inch. Their handsome green bodies are swung lower on longer and more resilient springs—56-inch rear—than in any other car of the Earl's wheel base or price—$1095. The road clearance is standard.

See the Earl before you buy your car. If there is no dealer in your town, write to Jackson for an illustrated catalog and the name of the nearest Earl distributor. At $1095, the Earl is the outstanding motor car value of the year.

EARL *Motor Cars*
BETTER LOOKING—BETTER BUILT

Touring Car, $1095
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Improve your vacant land by planting it to Trees and Vines

Complete Assortment of
DECIDUOUS & CITRUS FRUIT TREES
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The same is true with all the other products we manufacture. Quality, material and skilled workmanship.

Water and Oil Casings. Tanks for all purposes. Riveted Steel Water Pipe. Galvanized Troughs.

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Los Angeles: 2440 East Ninth St.
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# Annual White Sweet Clover

By Ernest Braunton

Few cover crops have in late years aroused the interest manifested in the annual strain of white sweet clover (Melilotus Alba), a biennial plant common to low gravelly soil and streams throughout the United States. earlier annuals usually respond well.

While this clover is comparatively new to California, a number of fields were found in Alabama where it had been cut for hay in the early part of June and which by the 15th of July had made a second growth of from two

**Hubam 100 Days from Planting**
One-third of area taken by trees; remainder will yield more than four tons of "hay" per acre.

The wild typical form is common in California and occasionally grows to a height of eight or more feet along water courses. The annual strain has been commercialized under the name of Hubam.

Last spring T. J. Walker of San Fernando bought three lots of seed for experiment, one in California, one in Iowa, and one in Alabama. All proved to be identical. The seeds were sown in drills, three feet apart on one piece of 18 acres, on April 13. It was photographed by the Cultivator camera, July 23, or just 100 days from planting. It was then five feet high, of splendid growth, stems small and well covered with leaves—an ideal feed. It is estimated that each of the 18 acres in the orchard will yield more than four tons of hay, and as but two-thirds of the area is occupied, if no trees were present the yield would run to about seven tons to the acre. It is believed the plants are rather too mature to produce a second crop, being in full flower, but if cut a little to three feet and were beginning to bloom. On the rich limestone soils of the Alabama "black belt" this clover can evidently be depended upon to produce both a hay crop and a seed crop the same year it is seeded.

A number of reports have been received from Oregon, Washington and California to the effect that this clover has made a growth of from six to eight feet the first year and produced a seed crop and that the roots have lived through the winter and have produced another crop the following year. Similar reports have been received from the south Atlantic coast states and a few isolated reports have been received from the center of the corn-belt where the roots have been unusually well protected. In other instances these plants have been reported to live through the winter when the clover has been seeded so late in the summer that it did not have time to produce a seed crop. The extent to which such results may be expected remains to be seen.

# Lye Peeling of Fruit

In response to request we are reprinting directions for lye peeling of fruit given in the Cultivator of August 20, 1921:

Paring peaches, pears and plums

with a knife cuts off and wastes a considerable amount of fruit even with the most careful and skilled paring, and careful paring takes a lot of time. Experts say the fruit next to the skin has the finest flavor, and this part is cut off and thrown away with the skin when a paring knife, however sharp, is used. The use of the paring knife adds unnecesary labor and is far less cleanly than when lye is used. So peel these fruits with lye.

The process of peeling peaches, pears and plums by dipping in hot lye solution is approved by the United

States government board of food and drug inspection, which reports that lye peeling has no bad effect on the quality or flavor of the fruit and is not contrary to the requirements of the food and drugs act known as the pure food law. Lye peeling saves time, fruit and trouble, is wholesome, rapid, cleanly and economical.

All you need is a good iron kettle big enough to hold plenty of water, a wire basket with side handle preferably, to hold the fruit.

To nine gallons of cold water add half a can of lye and a half ounce of alum. Bring to a boil. Have kettle large enough so that it is not over two-thirds filled with the water—this for safety to prevent splashing of the hot solution when the fruit is plunged into the kettle.

When the mixture is boiling, lower the fruit into the boiling solution in a wire basket container or in a thin but firm cloth such as cheese cloth. For smaller quantities of fruit use four tablespoons lye to one gallon of water with a pinch of alum added.

Let the fruit remain two minutes in the hot lye solution, then put it through two cold water baths to thoroughly remove the lye, and in the second bath of cold water rub off with the hands the small pieces of fruit skins that sometimes persist in clinging to the fruit.

### A COVER CROP STORY

This is a true story and it happened near Covina within the past month. It is set down just as told by the principals.

"One day I was giving a cover crop of sweet clover its first disking. At night I said to wife, 'This has been a nice cool day.' She said it had been very hot. The next day I was working on bare ground and at night remarked it had been a very hot day. Wife remarked: 'Why it has been much cooler than yesterday.' So, to note the difference I tested two thermometers to see if they agreed, placed one in middle of clover patch of good growth, on an orange tree; the other in a similar position where no cover crop was grown. At noon the difference between the two was 12 degrees!

"Now, I am satisfied by comparison that the plots having summer cover crops and well irrigated did not suffer from June drop as did the plots having no cover crop. Am also satisfied that cover crops in winter also keep the air cooler, and frost injury is greater than where no cover crop was grown. The cover does not allow the soil to absorb heat during the day, consequently it has none to radiate at night, wherefore my trees and crop are frost injured. So me for summer cover crop. Yet on my upper piece, which is fairly safe from frosts, I can also grow winter cover crops."

### COMPETITOR OF CALIFORNIA PRUNES

Prune crop in Bosnia and Servia for 1922 will be about 75,000 tons, double last year's production. Last year's exports from the two countries amounted to 3500 carloads, so it seems that that competition for California prunes may be counted on this season. Because of lack of storage facilities these prunes will probably be thrown on the market as soon as ready for shipping.

### GUMMING OF FRUIT TREES

R. R. Snowden writes: "Noting the prevalence of gumming of deciduous fruit trees in the coast states, let me say I have traced a connection between this condition and deeply covering the root crown, the same as I have proved to exist in citrus trees. In order to decide this question—for it appears to be a question with others than myself—would it not prove conclusive if you initiate a symposium on the subject? You could get the growers of the various fruits to examine their trees and note the depth of the root crown of all the gummed trees, and also of all the healthy trees."

(We shall be glad to hear from deciduous fruit growers in reference to the question stated by Mr. Snowden. If those growers who are troubled with gumming will follow out his suggestion of carefully examining all such trees and report their findings, it is possible that a preventive, at least, may be studied out.—Edit.)


# Look for DEPENDABILITY in the next tire you buy

Dependable tires will operate continuously day in and day out with little or no annoyance or tire trouble for the user.

Efficiency in handling farm goods without costly delays and interruptions demands a sturdy tire that will stand up and work loyally through dirt and mud and sand, over rough and rutty roads, in all kinds of weather.

The Savage Cord is such a tire. It is a Mighty Tire, with a tread that grips the road, does not skid, and wears slowly.

With Savage Cords on your car or truck you can start out any time, any place, under any conditions, with the assurance that you have the most dependable tire equipment money can buy—dependable because unusual care is exercised to build them so. We have incorporated *seventeen outstanding constructional features* into our Cord to make it the wonderful tire it is—ask your tire dealer about the Savage Cord, compare it with other tires.

The reliability of the institution manufacturing Savage Tires is further assurance that you will be satisfied.

Other good makes of tires may use one or more of the seventeen constructional features we have incorporated into the Savage Cord but no other tire that we know of begins to embody them all.

**WE GUARANTEE**

that not an ounce of shoddy or adulterants is used in the building of the

**SAVAGE CORD**

THE SPRECKELS "SAVAGE" TIRE CO. SAN DIEGO, CALIFORNIA.

OUR BEST ASSET IS THE SATISFIED CUSTOMER

# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Bean Troubles

We have received several samples of bean plants and bean leaves, grayish green in color, thickly dotted with minute brown spots. All have the same pest, bean thrips and red spider, and under that head in this department, all those interested will find the subject treated. We regret that by the time the trouble is noticed it is usually too late to save crop, but by close watch and timely spraying another year, crops may be saved.

### Autumn Irrigation

I intend to irrigate my peach and almond trees this fall after crops are off. Kindly tell me when is the best time to begin. Do you advise fall irrigation?—Subscriber, Acampo.

To answer the last question first: We do. Too many seem to think that when the present crop is borne trees have nothing further to do. But fruit growing is the "supreme effort" and uses all the vitality the tree will yield. When does it recoup and reestablish vigor for next season's effort? It must store food to put forth a vigorous growth next spring. It does this after fruits are off. Every green leaf manufactures food which descends and is stored until the warmth of spring calls it forth. The object of fall irrigation is simply to keep the tree going until this season's work is done. So long as a green leaf remains the tree is functioning. Irrigate as soon as crop is off, but do not keep it up until green succulent growth is induced for early frosts to catch.

### Locating Homestead

I am planning on taking up a homestead. Can you tell me where to look for some good land and location in northern or central California? I want to raise some crops, fruit and cattle. Can I borrow money under the farm loan act? Where can I find out about it?—Subscriber, Nipomo.

There is very little good agricultural land available for homesteading in central or northern California, excepting in rather small tracts or in isolated places. Any of the government land offices can supply information regarding homestead laws, but do not supply information as to the whereabouts of vacant land. You are supposed to look up any vacant land in the location you desire and the land office will then advise you whether or not it is open to entry. There are land dealers who make a business of looking up vacant land, and they usually charge $1.00 per acre for locating claims. We can not, however, vouch for the reliability of such concerns. We do not think that it would be possible to borrow money on a homestead until a patent for same has been issued.

### Rhizoctonia on Beans

I am sending some pink bean vines. I have 180 acres, and thousands of plants are dying. Can you tell me what the disease is, the cause, and the remedy? This is fifth year in beans on same ground. I have irrigated them three times. Those still unaffected seem to be all right except beans are slow in setting.—Subscriber, King City.

Bean plants appear all right, but sadly lacking in small feeding roots. These have evidently died and dropped away, for tap roots in all plants sent were dead and dry at tips, some evidently so for weeks. This is clearly rhizoctonia, a soil fungus, resident in the soil, and for which no remedial measures can be taken. Weather conditions are largely responsible, and low, damp land is most susceptible, especially heavy soils. You can do nothing except "trust to luck." It is not good practice to grow beans on same land continuously for five or more years.

### Bone Meal

Will you please tell me how and when to apply bone meal to pot and other plants, the quantity to apply, and should the soil be dry or wet? How often can be it used? Does it take the place of other fertilizers? Would like to know all about it.—Subscriber, Tulare.

The use of raw bone meal is not advised for any crop, in pot, garden or field, if results are wanted the same season. No bone is ground fine neough so that any considerable per cent is readily available and this has to decompose. Bone meal is for the future or years to come. It does not take the place of "other fertilizers," as it is used chiefly as a source of phosphoric acid, of which high class bone, free from fat, should contain 22 per cent, also four per cent of nitrogen. Bone meal is not recommended for pot and garden plants. Dried blood, which may be had at seed stores, etc., is much better, much higher in nitrogen —which is chiefly to be desired—and enough phosphoric acid. As to availability of nitrogen, it is also to be preferred to any bone meal.

### Autumn Strawberries

Answering the question as to how strawberries are handled to secure late summer and fall crops, we would advise that it is a question of rest and control of water supply. Plants are not given more water during summer than is needed to keep them alive without impairment of vigor. Naturally texture of soil, climate, etc., will determine how often water should be applied, and how much at a time. It is a matter for each grower to find out for himself. General directions for a coastal district on a certain soil might be disastrous for an inland district having distinctly different soil.

### Carob Trees

Would like to get information about carob trees and their possible future as a paying proposition. Would be glad to see articles in Cultivator on the subject.—Subscriber, Fillmore.

The carob tree as a source of profit for stock food, by using the edible pods, is full of promise, judged by what has been accomplished in other countries with climates similar to that of Southern California. Heavy frosts injure young trees in cold sections, and many of good size were killed in the first months of 1913 and 1922. In the light of present knowledge it is not advisable to plant seedling trees from any and all sources, perhaps not from the best trees, for all seedlings are an unknown quantity. Budded trees or cuttings, from trees of known and approved crop record, planted in warm localities, are a promising investment, but of this we hope to print more before planting season.

### Pruning Blackberries

Is this the proper time to prune blackberries? Mine have ceased bearing for this season, and I am con-


Stewart MOTOR TRUCKS

Stewart Utility Wagon

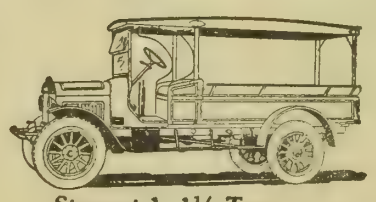
Announcement!

We have secured the franchise to distribute Stewart Motor Trucks in this city and vicinity.

Before making the selection of the Stewart line, we made a searching investigation of the truck field for a suitable line of trucks which would uphold our reputation, and also hold up under hard service.

Stewart was our choice because we found that in the long run, they are most economical to buy and maintain. We learned that many concerns operate large fleets of Stewarts. They are being used daily in over 800 cities, on thousands of farms and in 41 foreign countries.

Just a word about "service." When we sell you Stewart Trucks we will not only sell you the vehicles, but the proper service to see that you get daily use of your trucks in your transportation department.



Stewart 1- 1½ Ton

6 Sizes—¾, 1, 1½, 2, 2½ and 3½ tons

"The Stewart Truck has won--
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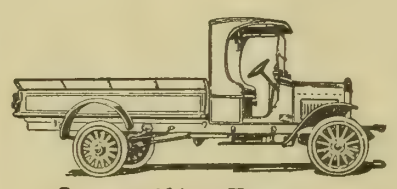
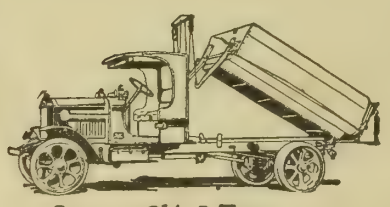


Stewart 1½-2 Ton

E. E. Weber Company

1957-59 So. Los Angeles St.
Los Angeles, Calif.

Telephone South 1292



Stewart 2½-3 Ton

Stewart 3½-4 Ton

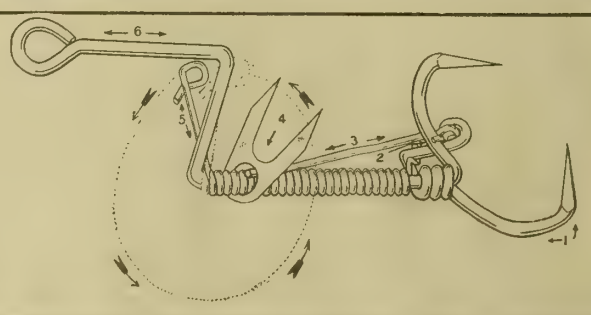
Irrigated orchards should always have

Nitrate of Soda

for Nitrogen. It collects its own moisture and will continue to furnish food while other forms lie inert in the soil, waiting for right conditions of heat and moisture to convert them into available plant food. This is one reason why NITRATE OF SODA is so successfully used for Citrus and other fruits in dry localities. Write for my FREE BULLETINS.

Dr. William S. Myers, Director
25 Madison Avenue New York

GETS THE GOPHER




GETS THE MOLE

Farmers! You may now rid your fields of these pests. New Way. Others are averaging 95 gophers and moles caught out of every 100 Death-Klutch traps set. Write for illustrated circular. Death-Klutch Trap Co., Dept. C., Winfield, Kans.

sidering pruning them. I know little about it.—Subscriber, Gardena.

Do not prune any plant while good live green leaves remain. They are making and storing food for next year. When a majority of leaves have changed color, ceased to be green, it is soon enough to prune. Style of pruning has of recent years been considered of secondary importance. Any reasonable pruning, with good care otherwise, will result in good crops. Economic measures in culture, harvesting, etc., are determining factors. Four or five good canes four feet high, with laterals cut back to one foot, is favored by many. Spring pinching of young growth is indulged in by those having few vines, to restrict growth.

### Siberian Millet

Am sending you a bunch of grass for name and estimate of value as stock food. This plant is but five weeks old, yet seed is ripe.—Subscriber, Devore.

This "grass" is variously known as Siberian Red proso or millet, Indian millet, hog millet. It is of good value for stock food.

## SPRAY AND THIN FOR BETTER FRUIT

(Continued from Page 149.)

per cent for long pruned. During 1922 the costs of all operations were recorded but as this plot was neither irrigated or fruit thinned costs of operation and financial returns are not comparable with those obtained under intelligent orchard practice. As it was but a single experiment, at an experiment station, for experimental purposes, the results or the purpose of the experiment would not interest the average fruit grower.

### M. Shapovalow

Pathologist, United States department of agriculture, was called upon to report regarding projected work on tomatoes. He is here to make a special study of the "western yellow blight" common from Utah to the Pacific and from British Columbia to Mexico. The cause is yet to be determined. If in the soil a remedy may be found; if inherent in the plant it may be hopeless. Babcock and Leslie of the state university are working on resistant varieties. One grower has set aside 20 acres for use of government experimenters. One field of 65 acres in Riverside County has already suffered a 50 per cent loss.

### R. B. Peters

President of the San Bernardino farm bureau, said canners and growers were about 50-50 to blame for poor conditions in the industry. Growers in his county received from $10 to $50 a ton for 'cots. Quality and not quantity should be the aim of all. More of a premium must be put on good fruit than is case at present. "Spray and thin" should be the slogan of the grower.

### H. J. Wilder

Farm advisor of San Bernardino County, said effective thinning and disease control through spraying were the factors that augured success. Few growers either thin or spray enough.

### M. M. Winslow

Farm advisor of Riverside County, stated his county contained 1,000,000 apricot trees, the largest number of any county and one-sixth of all in the state. Canners should demand better fruit and so adjust prices as to encourage its production. All farm advisors would aid the movement.

### D. H. Gates

Of the Banning Canning Company thought some farm advisors had "fallen down" through "scattering" demonstrations over too many places year by year instead of carrying out work on same trees year by year so results would be cumulative and conclusive. Pruning, etc., should be performed by same man or men each year—uniformly programed work. (This is precisely what is done in all counties where the Cultivator has investigated and followed the work.—Ed.). What is wanted are apricots that run 8-10 to the pound instead of 30-35 to the pound. One 2½ inch peach weighs more than two 2 inch peaches.

### W. S. Rosecrans

President of Los Angeles County farm bureau, emphasized the point that the bureaus and the farm advisors were entirely distinct though working together. Growers must be convinced that good fruits are more profitable through far better prices than they can obtain for poor fruits. Fruit contests are desirable as stimulative to better conditions. Many growers are suspicious or distrustful when approached; they think one has something to sell or "an axe to grind." Caution is needed and he must be shown by results that it is to his interests alone to produce better fruits.

### S. W. Cunningham

Secretary of the Southern California Canners Bureau, was the last speaker. He said that 75 per cent of Northern California deciduous fruits went into the better grades; but 27 per cent of Southern California fruits were admitted to same grades. The increase of production of deciduous fruits over the previous year has been two to three per cent. The southern counties will market this year about 60,000 tons of fruit at the canneries, in addition to tomatoes, etc. The canning peach must be a cling. He suggested a committee appointed from all the agencies and interests present, to meet occasionally to discuss ways and means to bring desired results—better fruit. He thinks such committee should determine the best time to spray, as this differs with seasons, and be prepared to send this information out at once to all who need it. He said spraying and thinning is all that is needed, in addition to good orchard practices now generally in vogue, to insure better fruit.

In closing the meeting Chairman Campbell said arrangements would be made for a conference of all interested parties present, that an organization would be formed, the work of which would be educational and its slogan: "Spray and thin for better fruit."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Bulletin on Melilotus Indica issued by the California State Agriculture Department says: "It has increased the yield of the crops to a greater extent than any of the other legumes tested." The same report shows Melilotus Indica gave an average increase of 64.8% with its nearest rival but 43%.

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# What Will You Need in Fruit Trees This Year

It's time right now to figure on your requirements. There are considerably less trees on the market this year than there were last, and it looks like a much greater demand. If you want first and best choice of stock, you should have us reserve your order at once.

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It's the fairest offer ever made by a nursery concern. Not only does it protect you in the way of price, but it guarantees you the highest quality of trees that can be grown. This special "Early Order" offer covers all standard varieties, including:

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**Quince Olive Orange Lemon**
**Lime**

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Please send me a copy of your new Catalog and Book of Information on Fruit Culture.

Name .....

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Grape-Nuts contains all the nourishment of whole wheat flour and malted barley, including the vital mineral elements and bran "roughage," and it is partially pre-digested in the long baking process by which it is made.

There's a wonderful charm for the appetite in the crisp, sweet goodness of this ready-to-eat food, and fitness and lightness afterward, which meet summer's heat with a smile.

*Your grocer will supply you with Grape-Nuts!*

*"There's a Reason"* for Grape-Nuts

Made by Postum Cereal Co., Inc.
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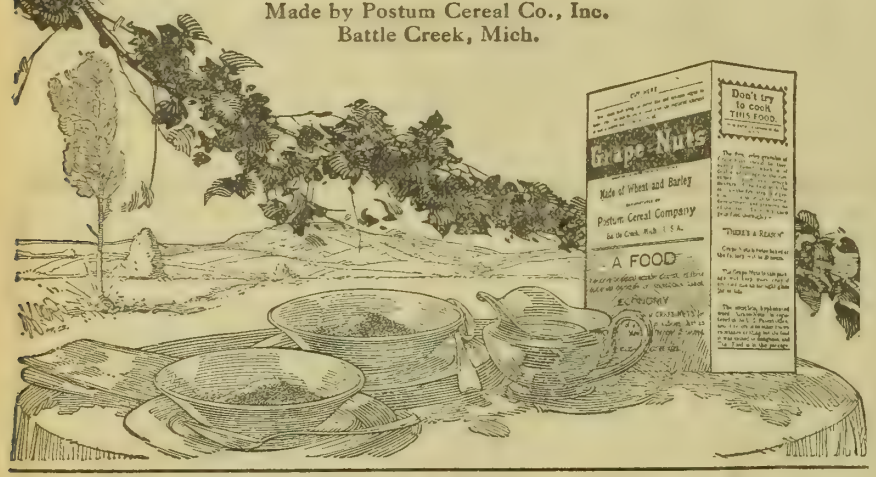


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Herbicide is a triumph of modern science. It is a combination of chemicals, which, when sprayed on the foliage, permeates the entire sap system of the plant, and kills it root, branch, seeds and all. Inasmuch as the seeds, also, are killed, your next season's crop of weeds will be lighter and eventually you will banish them entirely.

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Herbicide Chemical Laboratories,
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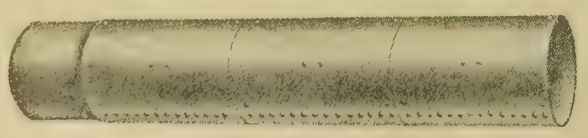

American Steel Pipe Tank Co. P.E. Bldg., Los Angeles


# Household Department

### OLD POEMS REQUESTED

THE Cultivator is glad to give in response to requests of readers, reprints of such old poems as have been found in search through a large library. Many, we regret, could not be found. We are still looking for some requested weeks ago, and if we can secure them they will appear later in this department.

#### The Last Charge

I am anxious to get two songs that I used to know, and I wonder if you would be so kind as to print them soon in the Cultivator? I do not know the author of either one. "The Last Great Charge," is one; the other starts this way:

"From this valley they say you are going.
I will miss your bright eye and sweet smile."—Subscriber, Elverta.

We print below the poem "The Last Charge" which we presume is the same as the one the subscriber has in mind. We were unable to locate the other poem requested. We searched through the index to first lines of poems in the public library and found no poem beginning with these words. If we had the correct wording or author's name or title of poem we might be able to locate it.

#### THE LAST CHARGE

**By George B. Hynson**

Napoleon's address to the "Old Guard" at Waterloo, and their Final Defeat.

Now, comrades, as ye love the hills
And vales of Sunny France,
Sweep down upon the tyrant foe,
With lightning speed advance!

Your wives and little ones at home
Are hanging on your fate,—
Shall they be governed by your love,
Or ruled by tyrant's hate?

Remember on your action now,
Your lives and mine depend;
And they are not so dear as those
We're fighting to defend.

Let all be borne before your charge
Like foam upon the crest,
And every soldier of the "Guard"
Present his gallant breast.

Remember that the "Guard" can die,
But never can surrender,
Then let this be the battlecry,
And France—May God defend her!

On many a hard fought battlefield
We've held them all at bay.
Remember this, my gallant lads,
France fights the world today!

See Blucher and his Prussian host,
Can they withstand the shock?
Then every steed must be a stone,
And every man a rock!

Just follow where your marshal leads,
And you will win the day—
The "Bravest of the Brave" is he,
The bold, intrepid Ney.

And as Napoleon hurries on,
A thousand echoes stir,
As every soldier's throat responds
"Long live the Emperor!"

With banners floating in the breeze,
And mustering thousands strong,
All silent as the hush of death
The phalanx moves along.

Upon their charge Napoleon risks
His life, his throne, his all!
If they are driven from the field,
Then he and France must fall.

The thrones of monarchs totter now;
The world looks on aghast;
The earth is being battled for;
The awful die is cast!

As tempests sweep along the sea
All unresisted on,
So sweep they 'long the battlefield
With every sabre drawn.

Again the echo sweeps along.
Who is worthy of their steel!
Each charge is met with counter charge
The "Guard" begins to reel!

Again they rally from the shock;
And yet again recoil,
And whole battalions now are stretched
Upon the bloody soil.

Undaunted yet—unconquered still,
The broken lines reform,
And once again are driven back
Before the leaden storm.

When through the battle's fire and smoke,
Through corpses making way,
Through broken lines of cavalry,
Comes noble, fearless Ney.

Now, comrades, one more stroke for France,
By all your love for her!
Again the echo sweeps along.
"Long live the Emperor!"

And again they thunder in the charge;
Again the foemen yield,
And now the bold, heroic "Guard"
Is master of the field.

As chaff along the threshing floor
Is borne before the wind,
So back the Prussian host is swept,
Their wounded left behind.

But now the tide of war recedes
As fast as it has flown;
They struggle—rally once again,
And still they hold their own.

And now they forward sweep to give
The last and deadly shock,
As waves approach a foam-lashed shore
And beat upon the rock.

For through their lines, with deadly power,
Comes plunging shell and ball,
And lines of demons cannot charge
Where whole battalions fall.

Ah! England, you have France again
In your relentless toils;
Napoleon's power is broken, now,
The stubborn "Guard" recoils.

Ah! men of France, the day is lost;
You've fought the battle well.
No human power could break those ranks,
Could storm the gates of hell!

The God of nations wills it so,
Then bow beneath his rod;
Commend yourselves to England, yes,
To England, and your God.

#### Gipsy's Warning

Will the Cultivator kindly publish for me the words of an old song, "The Gipsy's Warning," also another which begins something like this "Just a year ago tonight love—I became your happy bride."—Subscriber, Fullerton.

The words to the Gipsy's Warning we found in "Kavanaugh's Exhibition Reciter," published by Dick and Fitzgerald, New York. It is given in the form of a musical tableau—air from "Martha." We could not find a poem beginning with the words as quoted above, "Just a year ago, etc." There were several poems with titles such as "A Year Ago," by Percy C. S. Smythe, and "Only a Year," by Harriet Beeceher Stowe, but neither of these gave the words as suggested above. Perhaps the line quoted should begin with some word other than "Just."

#### THE GIPSY'S WARNING

Do not trust him, gentle lady,
Though his voice be low and sweet;
Heed not him who kneels before thee
Gently pleading at thy feet.
Now thy life is in its morning,
Cloud not this thy happy lot,
Listen to the Gipsy's warning,
Gentle Lady! trust him not.
Gentle Lady! trust him not.

Keep thy gold—I do not wish it.
Lady, I have prayed for this;
For the hour when I might foil him,
Rob him of expected bliss.
Gentle lady, do not wonder
At my words so cold and wild.
Lady! In that green grave yonder,
Lies the Gipsy's only child.
Lies the Gipsy's only child.

Do not turn so coldly from me,
I would only guard thy youth
From his stern and with'ring power;
I would only tell the truth.
I would shield thee from all danger,
Save thee from the tempter's snare.
Lady! shun that dark-eyed stranger!
I have warned thee—now beware!
I have warned thee—now beware!

Lady! once there lived a maiden,
Pure and bright and like thee—fair;
But he sought, and wooed, and won her,
Filled her gentle heart with care.
Then he heeded not her weeping,
Nor cared he her life to save.
Soon she perished! now she's sleeping
In the cold and silent grave.
In the cold and silent grave.

### NEW FRUIT BEVERAGES

(Continued from Page 149)

an equal quantity of orange juice and grape or other juice sweetened to form a heavy syrup. We have used red wine grapes for the purpose. In one experiment we used a commercially prepared red grape syrup and a citrus syrup consisting of about one part lemon juice, three parts orange juice and 12 pounds sugar per gallon. The three juices and the sugar give a fruit punch syrup that has proven very satisfactory when bottled and carbonated as a soda water. Various other combinations of citrus and other fruit juices have also proven successful in our experiments. The citrus juices alone we have not found so satisfactory because of the fact that they deteriorate in flavor.

#### Sale of Carbonated Beverages

"The proof of the pudding is in the

eating." This proverb applies to fruit juices as well as to other things. In order that we might obtain data upon how the public would respond to our drinks we placed them on sale at the University Farm Picnic in April of this year. We were agreeably surprised that the children as well as the grown ups "made a run" on the drinks and put us out of business in less than three hours by consuming our entire supply. We have "tried them out" also on the faculty and their families at the University, and are now preparing to offer the drinks for sale in Berkeley. Preliminary results on the sale of these drinks indicate that they will be well received. We will make at least 5000 bottles of various fruit beverages this summer and obtain a more definite idea of what the public will pay for the drinks and what their opinion is of them. We have been selling the drinks at ten cents per soda water bottle, and find that no one objects to this price. This would correspond to about 40 cents per quart, which, when compared to about 90 and 95 cents a quart for most fruit juices is a very moderate price to the consumers.

### Cost of the Drinks

With strawberries at eight cents a pound, and sugar at six and one-half cents, we find that the cost of the materials necesasry to make an eight ounce bottle of real "honest-to-goodness" fruit beverage is 9/10 of one cent per bottle. If this drink cannot be sold retail at ten cents per bottle then there is something wrong with our distributing system.

### How to Make Fruit Drinks at Home

The editor has asked us to give simple directions for the home preparation of the fruit juices. Although the average home does not have a bottling outfit the fruit syrups can be prepared very readily in the home without special equipment.

### Home Made Berry Syrups

Loganberries are best, but blackberries, strawberries or raspberries can be used. Use only fresh berries. Sort them carefully, wash them thoroughly and drain. Crush them in an aluminum or agate ware dish with a potato masher or a bottle, insert a thermometer and heat the berries with water to 150 degrees Fahrenheit, or if you do not possess a thermometer heat the berries almost to the simmering point. Draw them through a berry bag and strain off the juice, twist the bag or place it in a fruit press to get the remainder of the juice. Strain the juice through a jelly bag until it is fairly clear. To half a quart of juice add three pounds sugar and dissolve by warming and stirring. Pack the juice into bottles and seal, leaving one inch space in the top of the bottles unfilled to permit expansion of the juice during sterilization. Or use glass top fruit jars and seal the jars. Place the jars or bottles in a horizontal position on the false bottom of a wash boiler sterilizer, covering the bottles completely with water. Heat the water to 175 degrees Fahrenheit for 35 minutes, remove the bottles or jars and store in a cool place. The ordinary grape juice or soda water bottles can be used if you obtain from your local hardware store a crown capping machine. Since the passing of the eighteenth amendment these crown cappers can be obtained in any community. These syrups can be used in a number of ways. One of the best is to mix them with a little lemon juice, cracked ice and water, to make fruit punch. Orange juice and sliced oranges and sliced bananas can be added to the punch to improve its flavor and appearance. Another good way of serving the drinks is to mix them in the glass with carbonated syphon water. Bottles of syphon water can be purchased from any drug store.

### Home Made Syrups from Citrus Fruits

Oranges and lemons are in season most of the year, and there is really no necessity for putting up these syrups although if you desire to do so you can make a fairly good citrus fruit syrup as follows:

Cut one pound lemons and three pounds oranges, or other amounts of the fruit in this proportion. Quarter and press in a fruit press. To the juice so obtained add three pounds sugar per quart and pasteurize. Then proceed as directed for berry juices. This syrup is excellent for mixing with


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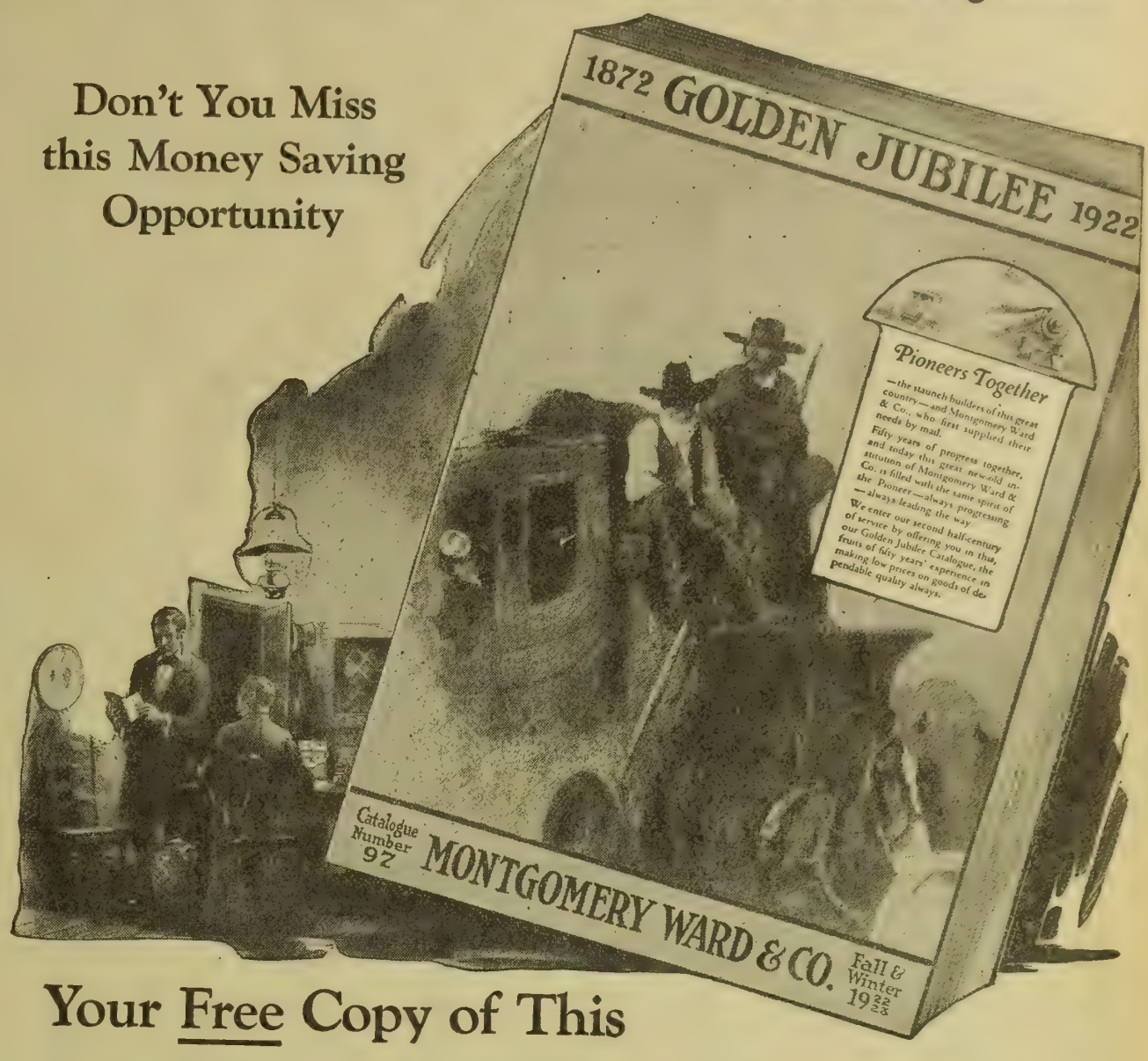
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the berry syrups or grape juice in making punch.

### Home Made Grape Syrups

Use equal amounts of Muscat and red wine grapes. Crush them thoroughly and heat to 150 degrees Fahrenheit, press and strain. To this juice add about six pounds sugar per gallon or 1½ pounds per quart and pasteurize as directed for berry syrup. This syrup is used in the same manner as suggested for berry syrups.

### Home Made Syrups from Pomegranates

Pomegranate skins and pulp contain a large amount of tannin, and if the whole fruit is crushed and pressed the juice will be puckery. We, therefore, recommend that the kernels or arals be taken from the pomegranates by hand. These are then crushed and pressed without heating, and the juice is then heated to 150 degrees Fahrenheit for about five minutes in an aluminum or agate dish. The next morning it is separated from the sediment and strained. Two pounds sugar per quart of juice is added and the syrup so made is pasteurized as directed for berry syrup. It is used in the same manner as the berry syrup.

### Small Scale Carbonating and Bottling

If there is a bottling works in your neighborhood, and you are on good terms with the bottler you can take your syrup to him and ask him to place about 1½ ounces of the syrup in each soda water bottle, of the grape and pomegranate syrups, or one ounce of the berry syrup or citrus syrup. Ask him to fill the bottles then with carbonated water and to seal them for you. You can then take them home and place them in your wash boiler sterilizer, completely immersing them in the water. The bottles should be placed horizontally. Heat the water to 160 degrees Fahrenheit for 30 minutes.

### Be Careful

Tip the water out of the boiler until the bottles are exposed and allow the bottles to cool in the boiler with the boiler uncovered. Do not handle the bottles while they are hot, they may burst with such violence that they will sever a finger or a hand or seriously cut the face!

## HOUSEHOLD QUERIES

### Hard Soap Without Boiling

I have been told there is a way of making hard soap without cooking it. Can you tell me how it is done? I would certainly like to get rid of the bother of boiling the soap kettle if I could.—Subscriber.

First clear your grease of salt and impurities by putting in clean vessel and adding about twice as much water. Let come to boil, then cool. The clean grease may then be skimmed from the surface, salt and scraps falling to bottom. Now empty one freshly opened can of any good lye into an earthen, agate ware or iron vessel (not aluminum) containing one quart of cold water and stir with a spoon or stick. The lye will dissolve quickly and the water will become quite hot. Allow it to become cold. Then take six pounds of clean grease, tallow, lard or drippings, free from salt, melt in an ordinary can or kettle (not an aluminum vessel) and cool until lukewarm. Then pour the cold lye gradually and slowly into the melted grease (not the grease into the lye) in a thin continuous stream, stirring constantly and vigorously until they are thoroughly mixed and drop from the stirrer or ladle the thickness of honey. It takes from a quarter to half an hour. Then pour the mixture into a wooden or a strong pasteboard box. If wooden box is used it should be lined with paper. Cover the soap and set in a warm place for a day or two, when it can be cut to any desired shape, with thin twine, a fine wire or a knife. This gives about 10 pounds of soap of excellent quality.

### Dill Pickle Recipe Last Week

Please print directions for fixing dill pickles.—Subscriber, Chatsworth.

An excellent recipe will be found on Page 133 of last week's Cultivator, the issue of August 5.

### String Beans in Salt—Apple Butter—Dill Pickles

Will you please give recipe for making dill pickles like the ones found on the general market, or as nearly as possible the same? Also recipe for making apple butter. Also if there is a way to put green string beans down in salt to keep fresh for winter and what proportion of each?—Subscriber, Woodlake.

Directions for making apple butter will be found on Page 61 of the Cultivator of July 15; for dill pickles on Page 133 of the Cultivator of August 5. Copies have been mailed to inquirer.

Keeping String Beans in Salt.—These directions are taken from Cruess' "Home and Farm Food Preservation:"

String beans are prepared and broken as for cooking. Weigh one pound salt to each 4 pounds vegetables. Place a layer of salt in bottom of crock or barrel or wooden tub. Do not use metal containers. Build the vegetables and salt up in alternate layers until the container is full. Cover last layer of vegetables with a layer of salt. Place a false wooden head small enough to set inside the container on top of mixture. Place a heavy weight on this head. Leave until the liquid is forced out of the vegetables and they are immersed in the brine formed by their own juice and the salt. This will be in about two weeks. Remove the false head and weight and seal with paraffin to prevent evaporation of the liquid. The vegetables will keep indefinitely and retain much of the original appearance and flavor of the fresh vegetables. To use soak in large volume of water over night; for example, by suspending them in a cheese cloth bag near the surface of a large pot of water, or parboil to remove salt. Then cook and prepare for the table in the usual ways.


# A remarkable mileage creates a Red-Top enthusiast

A RED-TOP was turned in at a garage in Omaha, Neb., worn all the way through, and the jubilant owner asserted it had run for four years, 35,542 miles by his speedometer. It had never had a puncture—simply worn down to the tread and rolled along until it wore through all the plies of fabric.

He offered to make affidavit to the truth of these statements, and volunteered the information that the mate of this Red-Top was still on the other wheel, and looked good for hundreds of miles more.

This is exceptional—but the extra ply of fabric and the heavy, specially compounded red tread of the Red-Top is continuously creating mileage records on small cars under rough road conditions that are astounding to users of other tires.

*There's a Fisk Tire of extra value in every size, for car, truck or speed wagon.*

Extra Ply of Fabric

FISK RED-TOP CLINCHER TIRE

Extra Heavy Tread

## AUGUST IN THE VEGETABLE GARDEN IN SOUTHERN CALIFORNIA

By D. F. Reichard

THE Southern California gardener is a busy man during this month. He has to make ready for his winter vegetables. Making ready for sowing seeds at this time of the year is a particular thing in this section. The big thing is to get ample moisture into the ground and still have the soil in condition to induce proper germination. This condition is attained by thoroughly soaking the ground until the top moisture reaches the submoisture, which in the cultivated ground is from 12 to 24 inches under the surface. There are different methods of applying the water; in small gardens usually by running the sprinkler for several hours at a time, in larger areas by either the flooding system or by allowing the water to run slowly through furrows. As soon as the ground can be gotten on without sogging, cover the surface with a complete fertilizer running about 5 per cent nitrogen, 8 per cent phosphoric acid and 1 per cent potash. As soon as the ground can be worked up without sticking to the tools, spade or plow it as deeply as possible and thoroughly pulverize it so as to get the fertilizer well mixed into the soil and to eliminate any large air spaces which would be caused by clots. In soils that were dried out completely with the growing of a spring crop it is advisable to do this irrigating and working up of the soil twice before attempting to sow seeds at this time.

During the summer months seeds should be covered about twice as deep as when sown in the spring because of the extra amount of evaporation that is going on at this time. Small seed like lettuce, carrots, cabbage and onions should be covered 1½ inches, while radishes, beets and parsnips should be covered 2 inches. Peas, beans and corn sow in the bottom of shallow furrows, covering the seed 2½ to 3 inches. One thing to be careful about when sowing these latter items is to not have the soil too damp, particularly with peas, for they will often mildew before germination takes places and the seed will decay.

The following small seed crops can be more successfully grown if sowed in ridges so that water can be run on either side to soak into the seed without making a cake over the top of it: beet, carrot, lettuce, turnip, parsley, parsnip, endive, chard, kohlrabi, radish, spinach, kale and cabbage.

Sweet corn, summer squash, cucumbers and bush string beans can be sown during the early part of the month with assurance of making a crop in most any section, while in frostless sections they can be sown even into next month.

The principal planting of winter potatoes is made between August 1 and 15. Plant on the level four or five inches deep. It will take them three or four weeks to come up. When they are up enough to show the rows, cultivate, leaving a small furrow between the rows, and as soon as they need water irrigate down these rows, after which cultivate when ready, leaving a little larger furrow in which to irrigate later. Continue this method until your crop is made.

It is too late, except in very favored spots, to sow pole beans, watermelons and muskmelons and pumpkins; it takes too long for them to mature.

Remember that at this time of the year the sun is working full time, taking moisture from your growing plants and the ground, and that it must be supplied by you through some method of irrigation; also that insects and disease are always waiting to make an attack. Keep on hand preventives and cures for immediate use when needed.

Keep the surface of the ground well stirred to keep down weeds and conserve moisture.

## ARMY WORMS PLAGUE IN MADERA

Advices received by the California department of agriculture from George Marchbank, county horticultural commissioner for Madera, show the army worms to be more prevalent than heretofore. Daily calls for information and aid have kept the commissioner's office busy. The most popular method of repression appears to be that of isolating a vineyard by a trench or furrow and destroying the accumulated worms by burning oil.

Where the Spinx moth, mildew and army worms occur simultaneously a combination spray of lead arsenate, nicotine sulphate and sulphur has been employed. Even in the outlying foothills, hordes of army worms are feeding on wild shrubbery.

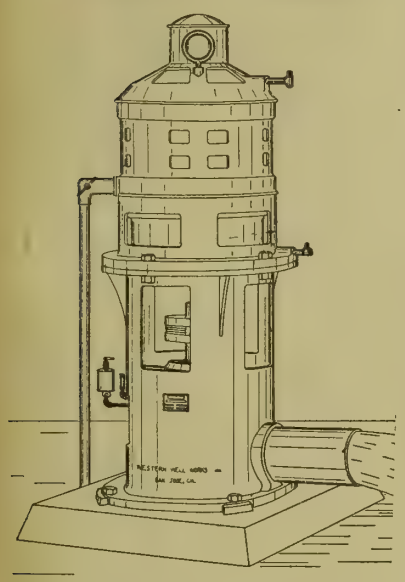
## ALMOND EXCHANGE CLOSES MEMBERSHIP

The membership rolls of the California Almond Growers' Exchange will close on August 15. The directors state that this step is taken to protect the position of the exchange in the market, as many growers otherwise hold back to the last moment, hoping to make more advantageous independent deal.

## DECIDUOUS GROWERS ARE ORGANIZED

The Deciduous Fruit Distributors of Southern California have completed their organization. They start with 2,000 acres of apples signed up, and expect to handle other deciduous fruits as membership increases. Five associations are now affiliating: Costa Mesa Fruit Growers; Chino Valley Apple Growers; Yucaipa Apple Growers; Independent Fruit Growers, Yucaipa; J. H. Strait Co., Redlands. R. B. Peters of Devore will be acting president and general manager. Present headquarters are in office of San Bernardino County farm bureau.


## Western Turbine Centrifugal Deep Well Pumps



represent a highly developed construction of a simple practical pump. They are manufactured to meet rigid inspection and deliver long uninterrupted service. The cost of maintenance is very small over many years of severe use.

**Made in capacities from 100-4500 G. P. M.**

**WESTERN WELL WORKS, Inc.**
SAN JOSE, CALIF.

## Engineering Service Co.

"Service That Insures Permanence"

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Los Angeles California

# Save on Painting

## There's One Way to Do It. It is This

THE only method by which you can save on the cost of painting is to paint your buildings and equipment when they need it and to use the best paint for the purpose.

Paint makes repairs unnecessary. Paint costs *less* than repairs. Therefore you save by painting when your property needs it.

The best paint spreads more easily—it saves on labor cost. It covers more area per gallon than "cheap" paint.

But most important, the best paint serves five or more years longer than "cheap" paint. The best paint costs less in the long run.

We've made the best house paints for 73 years. They contain the finest materials. For example, the white lead we use—PIONEER WHITE LEAD—is super-purified and ground so fine that it will pass through a silk screen with 30,000 meshes to the square inch.

Pure linseed oil, pure zinc, and pure colors—materials of the finest quality are combined in Fuller's House Paints in scientifically exact proportions with long-time skill.

**House Paint:** Fuller's Pure Prepared Paint, Phoenix Pure Paint, for painting houses. The purest, best protective and most durable paint manufactured—32 colors.

**Barn and Roof Paint:** A protective coating for barns, roofs, fences. Dries with a good gloss and wears. Economical in cost and dependable in quality—6 colors.

**Floor Paint:** Fuller's Rubber Cement Floor Paint—a sanitary, waterproof and durable paint for floors of kitchens, closets, etc. Attractive in color and gloss. Dries hard over night—12 colors.

**Implement Paints:** Fuller's Pacific Wagon Paint, adapted for repainting agricultural implements, farm wagons, farm machinery, wind mills. A glossy, durable finish—7 colors.

Also makers of Fullerwear, an all-purpose Varnish, Silkenwhite Enamel, Fifteen-for-Floors Varnish, Decoret, Washable Wall Finish, Auto Enamel, Fuller's Hot Water Wall Finish (kalsomine), Porch and Step Paint, Silo Paint, Milk Can Enamel, PIONEER WHITE LEAD, Tractor Paint, and Fuller's Oil Stains.

### Advice on Painting FREE

If you want to do your own work and get the best results, ask our Specification Department for *free advice.*

We'll tell you how to treat old paint, how many coats to use, what kind of brush, etc.

Use *Fuller Service* as well as Fuller Paints and Varnishes to insure good work.

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House Paint - Barn & Roof Paint
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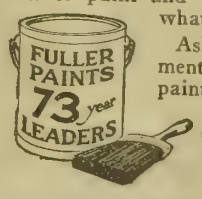
Pioneer Manufacturers of Paints, Varnishes, Enamels, Stains and PIONEER WHITE LEAD for 73 years. Branches in 19 cities in the West. Established 1849. Dealers Everywhere.

### Free Book—Send Coupon

Send coupon for Fuller's "Home Service" Paint Guide, a free book which tells you how to paint and varnish home things, what brushes to use, etc.




Ask our Service Department any question about paint which you would like to have answered—complete detailed advice is given free.

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City.....State.....

# California Breeding Farms

By Jack Klein

## THE MEADHART HOLSTEINS

FOR the past three years in practically every big sale of tuberculin tested Holsteins in this state the top cows have been knocked down to Fred Hartsook of Lankershim who has taken this means as one way of adding only the best animals to be obtained to his big breeding herd.

About seven years ago Mr. Hartsook began to assemble his herd which today numbers over 300 head of females of the finest type and individuality. Numerous private purchases of cows, together with his acquisitions at public auction, have given him what experts and old time breeders declare is the greatest herd of Holstein cows in the world.

Among the great cows he has bought are many individuals known wherever Holstein literature circulates, for show ring winnings and high production. Such cows as Sundrie Sunbeam Girle with a record of 1031 pounds butter in a year from 28,848 pounds milk after dropping triplet calves, and known as the greatest producing and reproducing cow of the big herd at the Santa Anita Rancho, is one of the tops. Edenwold Elizabeth Colantha who made 1064.7 pounds butter from 23,177.3 pounds milk; Pauline Ophelia with a record of 1026.3 pounds butter, both tops of the Toyon Farm herd; Lily McKinley Ormsby Skylark, the undefeated senior yearling of the California show circuit in 1920; and May Altoana Pontiac, a show cow and the producer of 1106 pounds butter in a year, are typical of the kind of cows Mr. Hartsook has bought.

Sir Aaggie DeKol Mead, Senior Herd Sire of Meadhart Herd

Individuality and not high records has been his guide in making his purchases, and cows of the proper conformation which give promise of high production interest him fully as much as the ones which have accomplished great deeds. Under the care of Earl J. Sturgis, who is one of the best known Holstein men in the West and manager of the Hartsook ranch, these good individuals seldom fail to achieve high production in both short and long time tests. This herd has disproven time and time again the fallacy of the idea held by some breeders that great individuality and high production do not go together. In the herd 38 cows average over 30 pounds butter in seven days, 11 average over 35 pounds and two have over 40 pounds. There are nine cows in the herd which have made records of from 1026.3 to 1129.21 pounds butter in a year. In the Los Angeles County cow testing association for the year 1920-21 the herd won five cups, including the sweepstakes cup for biggest winner. For 1921-22 in the contest just closed it will repeat with possibly some additions. It won over a half of the money offered in the Holstein division of the recently completed state dairy cow competition and stood eighth for the United States in the prize money won in the Holstein-Friesian Association of America last year. This last is an excellent showing as it was the first year the Hartsook ranch had done extensive testing, while many of the contestants have been at the game for 30 or even 50 years.

The pride of the Meadhart herd is the great heifer, Miss Aaggie Ormsby Segis, who was raised on the place. As a senior two year old she broke the world's milk record for 10 months by producing 22,083.3 pounds milk. A year later she made two world's records by producing 40.953 pounds butter in seven days and 157.11 pounds in 30 days, displacing Pabst Korndyke Kornflower who stood at the top for over three years and who sold for $30,000.

Another world's record cow in the herd is Rosamaines Korndyke Beauty who in 305 days as a senior yearling made 22,604 pounds milk. As there is no class for yearlings and as she exceeded the record of the highest junior two year old she stands first in that division.

One of the best known cows of the herd is Norma Korndyke Cornucopia who has recently completed a seven day record of 42.81 pounds butter from 885.2 pounds milk, which is one of the highest records made in years. This cow had a previous record of 38 pounds in seven days and 155 pounds in 30 days.

While the short time records are not being neglected the greatest efforts are being put forward in making 305 day records as they are considered the nearest approach to the normal lactation period of the dairy cow and do not interfere with reproduction. A number of very high records in this class are to be announced before long.

As a fit mate for these great cows Mr. Hartsook purchased Sir Aaggie DeKol Mead from A. W. Morris and Sons of Woodland, the premier breeders of Holsteins in this state and country and is furthering the work of line breeding which has given the Morris herd such good results and such great prominence.

Sir Aaggie DeKol Mead is sired by the well known Sir Aaggie De Kol Acme and is out of Miss Valley Mead De Kol Walker who has three times made over 1000 pounds butter in periods ranging from 305 to 365 days. She holds two or three state championships and a couple of world's records. She is also the dam of the $12,000 bull, King Korndyke Pontiac 20th, who has produced a number of high record daughters. The five nearest dams of the Hartsook bull average 1138 pounds butter for the year and number among them some of the greatest cows in the world.

The Meadhart herd is raising its own junior herd sire in a calf out of a heifer daughter of Sir Aaggie De Kol

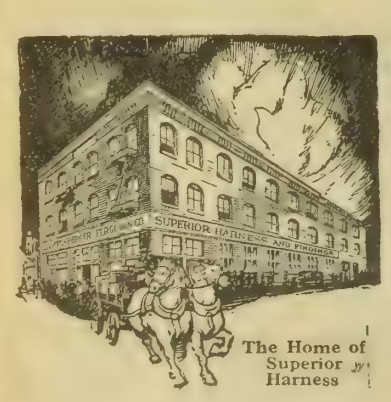

# horse profits

No. 5 of a Series — Published Monthly in the Interests of Better Horses and Better Harness — Louis Lichtenberger, Editor

# TEAMS WORK AT THEIR BEST WHEN THEIR HARNESS FITS RIGHT

Poorly-fitting harness will cause sores and fretting and reduce the efficiency of a team. To get the most work out of your horses see that each wears harness adjusted thruout with "custom fit." Interchanging harness is hard on both the horse and harness.

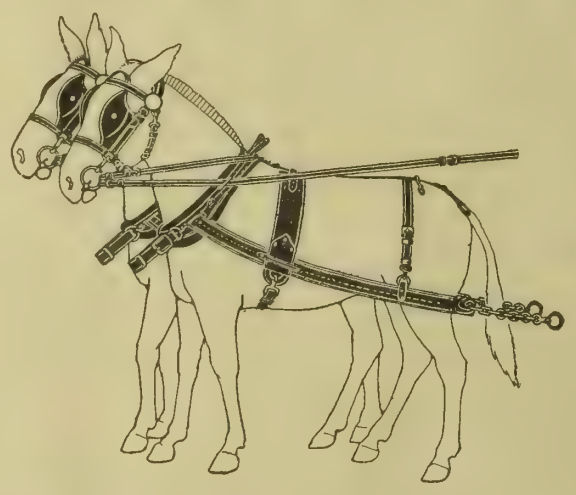
If you are in doubt as to the fitting qualities of the harness you are using take it to a reliable harness dealer. Have him adjust it. And while you're there ask him to show you Superior Brand Harness. You'll be interested in inspecting this high quality product. Note the fine texture of the leather, its pliability and tremendous strength. Observe closely the insulated wax cord used in sewing. You'll be a booster for Superior Brand — and so will your horses.




The Home of Superior Harness

## California Ranchers Cannot Afford to Buy Cheap Harness

With approximately 275 horse working days in California per year as against less than half that number in eastern states, harness receives the severest wear in this State. Superior Brand Harness is built with ample reserve strength to actually outlast eastern-used harness. Its initial cost may be a little more but it's cheapest in the end.



## Style 369---Butt Chain Harness

We have found this to be the most dependable type for mules. Complete specifications and price upon request. Ask any dealer handling Superior Brand or communicate with us.

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MAKERS OF FINE HARNESS SINCE 1900

*Does not scar*

GOMBAULT'S Caustic Balsam works better than firing and does not change the color of the hair.

A reliable remedy for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Windpuffs, Skin Diseases, Thrush, Spavin, Ringbone, Throat or Bronchial Troubles. Will not scar or blemish. Supercedes all firing and cautery.

As a human liniment it is unsurpassed. $1.50 per bottle at druggist's or by parcel post.

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**GOMBAULT'S**
***Caustic***
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**GUERNSEY COWS**

produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

**ROSEMOOR FARM**
W. H. Dupee, Owner Riverside, Calif.

**Italian Vineyard Company**
**GUERNSEY CATTLE**
Herd Headed by the King of Hollow Hill
BERKSHIRE HOGS
Stock of Both Breeds For Sale
Alex. Wilson, Supt. Guasti, Cal.

**GUERNSEY BULLS**
Service Age
Have a couple crackerjack sons of the $10,000 bull, Pencoyd's Golden May Secret, ready for service.
Priced reasonably.
G. T. DRINKWATER
Lakeside, San Diego Co., Calif.

**DIAMOND G HEREFORDS**

13 choice yearling heifers, sired by a son of an International Champion, well grown and just the sort for starting a profitable herd. Also 10 yearling bulls. Come and see them; the price is right.
**H. H. Gable Esparto, Cal.**

When Writing Advertisers Please Mention Cultivator.


Mead and sired by the $41,000 Baldwin bull. This calf is a cracking individual and should do well on the fair circuit this fall. His worth in money it is impossibe to estimate. His 15 nearest dams, including the 19.8 pound record of his junior two year old dam, average 31.16 pounds in seven days and his 14 dams exclusive of his own dam who is only part way on her year, average 1104.5 pounds butter in 365 days. There is no bull living which in any way approaches the records behind this calf. Mr. Hartsook also has a heifer calf out of a 100 per cent blood sister to his dam and also sired by the Baldwin bull which has approximately the same array of records behind her.

Many men work all through life with an idea of laying up a great fortune to leave behind them, but Fred Hartsook has a different idea. He will be best pleased if his monument be a strain of Holsteins bearing the Meadhart prefix which will be a credit to the breed both in individuality and production, and it is to this end that he is working.

### SMITH GUERNSEY SALE

The sale of Guernseys from the L. D. Smith herd at Hydesville, which was held at Riverside on August 4, turned out much better than any one who knew the stock predicted. This herd has never done any advanced registry work and few of the pedigrees carried the names of well known animals nearer than the third generation. The cows were in poor flesh but gave signs of being very good milkers if fed up and cared for properly. A considerable portion of the offering was made up of young heifers and calves. Most of the animals were purchased by dairymen who realize the advantage of having a few Guernseys in their herd to give the milk color and high test. Quite a large crowd was present when Chaarles R. Thomas, the sales manager of the Pacific Pure Bred Sales Company, introduced the auctioneer, Col. George A. Gue of Seattle, who had never before cried a sale in Southern California.

A total of 50 head brought an even $8,000 and the 46 females, of all sizes and ages, averaged $166.85. C. W. Main of Riverside, F. L. Cutler of San Diego, E. D. Rowe of Santa Barbara, W. H. Rapson of Corona, Howard Farnsworth of El Centro and Antone Barchard of Santa Ana, were the principal buyers and took a number each. Two cows sold for more than $300; one to A. O. Dinsmoor of El Monte for $355 and the other to Walter Helm of Oxnard for $325. The other mature cows sold generally for $200 or over.

### ARIZONA CATTLE AND SHEEP MEN GET TOGETHER

What is characterized by stockmen as the important step in years to consolidate the efforts of Arizona wool and cattle growers for improvement of the livestock industry in the state, was taken when the Arizona Wool Growers and Cattle Growers Associations in annual convention at Prescott adopted joint resolutions providing for committees of five members from each association to be known as the board of directors of the two associations. This board will have full authority upon questions of mutual interest to both associations "to the end that through cooperation problems of both associations may be solved," says the resolution in part.

At a separate meeting of the Arizona wool growers all officers were re-elected, including President Hugh E. Campbell of Flagstaff.

The cattle growers began organization of a bureau of cattle statistics and appointed a committee to draft a new constitution and bylaws.

### CALIFORNIA NEEDS COW TESTERS

California dairymen want more cow testing associaations but in order to have them more testers are needed. The tester receives good pay, excellent experience and has a splendid opportunity to be of service to the dairymen of the state. Opportunities are now open in Stanislaus, Merced, Tulare and Glenn Counties for capable testers, and other openings are expected. Young men wishing to take up this work should apply to Noel Negley, Extension Specialist in Dairying, Agricultural Hall, Berkeley.


**Throws and Blows**

**a Maximum Amount *of* Ensilage *with a* Minimum *of* Power**

THIS IS ONE MAN'S REASON for buying a Papec Ensilage Cutter. *He said,* "I wanted a machine that would cut and blow a maximum amount of ensilage with a minimum of power."

When asked if his Papec Cutter had proved satisfactory, this man said, "Yes!" He is feeding 30 head of dairy cattle on Indian corn, milo maize and sorghum. When he says he is satisfied with the Papec, it means something.

Agricultural experts say that the Simplex Silo is *"scientifically correct."* The Papec Ensilage Cutter with the Simplex Silo makes a fine outfit for feeding ensilage.

You are invited to investigate these products thoroughly and carefully. Make comparisons. Fill in this coupon and mail it as a first step toward full information.

**Santa Fe Lumber Co.**
**18 California St., San Francisco, Cal.**

TEAR HERE

Santa Fe Lumber Company, 18 California Street, San Francisco, Cal.

I have———dairy cows which I feed for an average of——— months each year. To feed them silage, what sort of outfit do I need and what will a Simplex Silo of the right size cost, delivered to———station? Please send complete information regarding Papec Ensilage Cutters and Simplex Silos.

*Name* ———

*Address* ———

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**You Should Not Buy a Bull Unless:**

You have seen his dam and know that she is the type you want his daughters to be.
Or you have seen a good picture of her with a close-up picture of her udder.
She is a big producer of milk with a high percentage of fat.
Our cows are the tops of all the big sales in the state for the past three years.
Practically all of them have high 7 day and yearly records. They hold 4 world's records.
Our herd bull is Sir Aaggie De Kol Mead, whose five nearest dams average 1130.66 pounds of butter in a year testing over 4%.
You should have one of his sons out of a high record dam.
Call or write for our long-time, easy payment plan.

Lankershim, Cal. *Fred Hartsook* RANCH Visitors always welcome.

**Herd Bulls**
**Harris Standard 2d**
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**Nevada Hereford Ranch**
J. H. Cazier & Sons
Wells, Nevada

A government accredited herd. No reactor in 16 years. A herd whose record in the show and sale ring is only surpassed by the esteem accorded its productions by cattlemen. We can furnish bulls or females to fill any need—and at sound prices. Visit our herd or write for information.

## Livestock News Notes

LIVESTOCK SALE CALENDAR

**Holsteins**

August 17, Jas. McGillivray, Sacramento.

August 19, Dispersal, E. M. Goold, Walnut Creek

September 21, Dispersal, E. Maracini, Dos Palos.

September 28, Dispersal, Carl Ray, Lankershim.

October 26,, Draft, C. W. Anderson, Burbank.

November 16, Dispersal, Arthur & Maxfield Holstein Co., Hanford.

August 30-31, Dispersal, Maxwell Farms, Hollywood.

**Jerseys**

August 28, Dispersal, W. H. Rough herd, Riverside.

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I. J. Scott of Ponoma who will be superintendent of dairy cattle at the coming Los Angeles County fair has one of the finest herds of grade cows in the South. Three times in the past six months the cow testing association to which he belongs has credited his herd with an average of over 50 pounds fat per cow.

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Lady Katez's Rosette of R. S. M. 361239 has just qualified for an American Jersey Cattle Club Gold Medal. She started test at 6 years 5 months of age and in 365 days produced 13,919 pounds milk and 741.51 pounds butter fat. Rosette carried calf 204 doys during test and tests 5.33 per cent. Her sire, Pansy's Gertie Lad 104963, has three daughters in the Register of Merit. Victor's Lady Kate 218118 is her dam and has two Register of Merit records averaging 8697 pounds milk and 414.05 pounds butter fat. This cow is owned by D. F. Conant, Modesto.

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Alex McMinn, the well known Ayrshire breeder who recently moved his herd from Phoenix, Arizona, to Corona, has been making a number of nice sales. George Mercer, president of the Armour Grain Company, who has a ranch near Santa Ana, recently purchased eight head of females which included Lucy of Mountain View, the heifer which was junior champion at the Los Angeles, Riverside and Phoenix fairs in 1920 and repeated at Ventura, San Fernando and Riverside in 1921, as well as the show cow Ellen Dean of Mesa who was grand champion at Riverside in 1921. McMinn is a great lover of Ayrshire cattle and a tip top show man and he intends to have a small but select show herd out again this fall.

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Walter H. Dupee of Riverside recently purchased a couple of fine Guernsey heifers from Frank Reed Sanders of Phoenix, Arizona. One of the animals was bred by the Hollow-Hill Farm and sold in dam to John Walthal of Scottsdale, Arizona, who raised her. She was sired by Cora's Glen and is therefore a paternal sister to Dene King of Hollow-Hill Farm who topped the recent Edgemoor Farm sale.

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# A Wonderful Opportunity to Buy Clean Registered Holstein Heifers

Never before in the entire west have so many registered Holstein heifers been offered in one sale, and the offering affords a choice such as comes very rarely.

COMPLETE DISPERSAL

140 — REGISTERED — 140

## HOLSTEIN HEIFERS

WILLOWMEAD HERD, Sacramento, Calif.,

Owned by Jas. McGillivray

**Thursday, August 17, at 9:30 A.M.**

These heifers are from one of the longest established California herds. It will be remembered that a few years ago when Mr. McGillivray was increasing the size of his herd through purchase, he appeared several times as a buyer of $1,000 females, at a time when those were top prices. Only the highest class herd bulls have ever been used, and the heifers in this offering represent a long time of constructive breeding.

KEEP THIS IN MIND!

These heifers have been raised on milk from tuberculin tested cows, turned into clean pastures at weaning time, and in testing for this sale only one reactor out of 175 was found, that one a calf lately brought over from another ranch. And in addition to that every heifer over six months old is sold tuberculin tested and subject to 60 day retest by the buyer.

UNIFORM BREEDING

The entire 140 head in the offering are sired by just eight bulls, permitting a selection of uniform breeding. Of these approximately 100 are sired by just four bulls, Colony Zarilda Newman, whose dam has twice made over 1,000 lbs. butter and over 30,000 lbs. milk in one year; Prince Echo Sylvia Segis, sired by the greatest proven son of May Echo Sylvia; Yolo Valdessa Hengerveld, a 30 lb. son of the 41 lb. bull King Valdessa; and Yolo Mead Paul, one of the good sons of King Mead of Riverside.

THIS IS THE OPPORTUNITY OF YEARS TO BUY CLEAN HEIFERS OF POPULAR AND HIGH RECORD BREEDING. NONE ARE YET IN MILK, BUT SOME ARE SPRINGERS, ABOUT 100 SELLING OPEN.

**Place of Sale:** On the main highway between Sacramento and Stockton, about 12 miles south of Sacramento. Watch for sign on highway.

**Headquarters of Sale:** Travelers Hotel, Sacramento, from which point transportation will be afforded out of town buyers morning of sale.

Write to Sale Managers for Catalog

California Breeders Sales and Pedigree Company

C. L. Hughes, Sales Manager, Sacramento, Calif.

Auctioneer: COL. BEN A RHOADES, Los Angeles



# THEY ALL SELL!

MAJOR PIETERTJE ORMSBY, a 1,000 pound son of Sir Pietertje Ormsby Mercedes, with a splendid list of his young daughters headed by a 20 lb. junior 2 year old.

DAUGHTERS OF KING SEGIS PONTIAC, headed by K. S. P. Lily McKinley, with over 37 lbs. in 7 days as a junior 3 year old, and 1199 lbs. in one year as a senior 4 year old.

DAUGHTERS OF SIR ORMSBY SKYLARK, sire of the famous world's record producer Duchess Skylark Ormsby.

DAUGHTERS OF TRITOMIA PIETERTJE ORMSBY, the noted Grand Champion show bull.

DAUGHTERS OF KING PIETERTJE ORMSBY PIEBE, headed by his highest record daughter, a 34 lb. junior 4 year old.

## Maxwell Farm Dispersal

## Hollywood, Calif.

## August 30-31, 1922

Positively the greatest sale of high record Ormsbys ever made in the west, and they are practically all young cattle of splendid type and will be presented in excellent physical condition.

WRITE FOR CATALOG NOW, AND WATCH FOR LATER DETAILED ANNOUNCEMENTS. THIS IS A SALE OF REAL CATTLE

Every animal over six months old tuberculin tested and sold subject to retest by the buyer. Every animal positively guaranteed to be a breeder.

TERMS OF SALE: California Breeders Sales and Pedigree Co. will extend the usual terms of one-third cash, balance in three, six, and nine months to responsible parties who make arrangements for credit before sale.

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California Breeders Sales and Pedigree Co.

C. L. Hughes, Sales Manager, Sacramento, Calif.

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13% nitrogen, equal to 15.8% ammonia

100 Per Cent Available to Insure Maximum Efficiency

Combined with lime—in the most soluble form. If you desire quick results use Calcium Nitrate—the quickest acting fertilizer in the market today.

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(Sole Agents for the Pacific Coast and the Hawaiian Islands)


## Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

**Skin Diseases**

We have a little fox terrier that is troubled with a skin disease said to be eczema but have found no treatment that gives permanent relief. Have used one part kerosene to two parts olive oil which relieves temporarily but seems to drive it to the ears. The eruption is confined mostly to the back near the tail. The trouble seems to be worse in summer. He is a household pet and kept ordinarily clean. Can you suggest a remedy?—Subscriber, San Gabriel.

The fox terrier is subject to the skin disease you have described. It seems to be due to rich feed. They are good feeders and those that get much meat and sweets soon develop the skin trouble. It is hard to cure. Feed no candy nor cakes and only raw meat and very little of that. Give milk and dry biscuits made of corn meal, oat meal and flour made with sour milk with a little salt and soda. Bathe the parts with a solution of washing soda.

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**Fails to Breed**

After two calves our cow fails to breed again. Have bred her four times and used three different bulls but with no results. A stockman noticed a whitish discharge from her shortly after breeding and recommended douches with soda in it. If this is good how much soda should be used and how often should the douche be given?—Subscriber, San Dimas.

First have her tested for tuberculosis. The douche suggested will do very little good unless injected into the womb, and only a veterinarian could do that. You might try an ounce of the tincture of iron in the feed once a day.

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**Easy Feeders**

Is a small or short head in hogs and cattle a sign of an easy feeder that will give more returns from the feed?—Subscriber, Brawley.

A pug nose or short faced animal is easier to fatten and to keep fat. The long nosed animal usually has a long back also and requires much more feed for fattening. Occasionally in crossing animals you might get one

ADMINISTRATRIX SALE

30 Registered Jerseys

25 High Grade Jerseys

HYNES, CALIF.

(Rhoades & Rhoades Pavilion)

Monday, August 28, at 10 A.M.

Owing to the sudden death of W. H. Rough, Arlington, Mrs. Rough will make a complete dispersal of the splendid producing herd of registered and high grade Jerseys, at public auction.

Every Animal Over Six Months Old Tuberculin Tested and Sold Subject to Retest By the Buyer Except as Announced At Sale

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C. L. Hughes, Sales Manager, Sacramento, Calif.

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RHOADES & RHOADES, Los Angeles



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that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with

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# Classified Liners

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### BABY CHICKS

Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.

Write for prices.

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**White Leghorn Trapnest Stock,** our own famous Yesterlaid Egg Ranch strain. Cockerels from hens, records 200-301 eggs, mated to males whose mothers laid 250 and up to 316 and 333. Buy your stock now. We have cockerels 8 weeks old and up. Also offer for sale several thousand pullets, yearling hens and good breeding hens and cock birds. Write for circular. Yesterlaid Egg Ranch, Kent, Washington, "Home of the 300 egg hen."

**For Sale**—We have fall chicks hatched from Mr. Craig's flock Sept. 1st. This flock has proven itself the most vigorous breeding flock in California. We have not had a single poor hatch all season. Price Sept. 1-10, $130 per 1,000; balance of Sept. $140, and October, $150 per 1,000. Rocks and Reds $15.00 per 100. L. Brahmas $25.00. Send for new circular. P. Cook Chick Ranch, 1717 Valley Blvd., Alhambra, California.

**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

**Profitable Poultry News**—Capacity 200,000 chicks—off every week of year. Booking Fall delivery. Thousands pullets, breeders, money-makers reasonable. 180-290 egg Leghorns, Reds, Rocks, Anconas, Minorcas, Wyandottes, Ducks, Turkeys. Imported, trapnested, selected for vigor, growth, beauty, eggs. Write Profitable Poultry, 13 North Fair Oaks, Pasadena.

**Certified White Leghorn Baby Chicks.** Booking orders now for Summer and Fall delivery. Safe arrival, live vigorous chicks guaranteed. No money in advance; pay on delivery. Established 1898. Sonoma County Farm Bureau Accredited Hatchery. MUST HATCH INCUBATOR CO., 438 Seventh Street, Petaluma, California.

### BABY CHICKS

**White Leghorns, Anconas, R. I. Reds.**
Order now for Fall and Spring delivery

THREE MONTH OLD PULLETS
All selected—no culls

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ORANGE COUNTY HATCHERY
Santa Ana, California

**Baby Chicks**—Reds, Rocks, Anconas, and White Leghorns. Hatches every week after August 1st. Write at once for price list. Place your order at once, as we have several thousand now sold to old customers. Est. 1915. Hargett & Son, Route 2, Box C, Compton, California.

**Baby Chicks from my pure-bred, heavy laying strain of S. C. White Leghorns,** June and July delivery $12.00 per 100; $33.00 per 300; orders taken now for August and September delivery. Write for particulars. J. R. HEINRICH POULTRY YARDS, Arroyo Grande, California.

**For Sale**—75 of the best Blue Andalusians in California. Will make very low price for the 75. Laying and guaranteed all healthy. Write for prices. J. R. Huddleston, 342 Edgeware Road, Los Angeles, California.

**Finest Hatchery in the World at Pebbleside Poultry Farm.** Baby chicks and hatching eggs from our own selected heavy layers. Visit our farm and have a look. Pebbleside Poultry Farm, Sunnyvale, California.

**Union District Hatchery** is booking orders for the fall chick. Chicks from the best tested layers at right prices. White Leghorns, Rhode Island Reds, and Barred Rocks. F. & L. Downing, Los Gatos, California.

**Fall Chicks Pay**—Order now for September and October delivery. White, Brown, Buff Leghorns, B. Rocks, Reds, Anconas, B. Minorcas. McDonald Poultry Ranch, Rt. 1 Box 246, San Jose, California.

**White Leghorn Baby Chix for summer and fall months from stock Accredited by Sonoma County Farm Bureau.** We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Watch Us Grow**—We are now booking orders for fall chicks. Brown and White Leghorns, Rhode Island Reds, Barred Rocks and Anconas. Ohlen's Hatchery, Campbell, Calif.

**White Leghorn Cockerels,** fine stock $1.50 up. Also Brown Leghorn pullets, fine lot. Stubbe Poultry Ranch & Hatchery, P. O. Box 67-E Palo Alto, Calif.

**Slightly Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

## POULTRY

**The Archibald Hatchery** will supply through September and October White and Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons and Wyandottes. Our folder may interest you. B. W. Archibald, Soquel, Santa Cruz County, California.

**Fall Chicks**—Hatches every week. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. Stubbe Poultry Ranch and Hatchery, P. O. Box 67-E, Palo Alto, California.

**Pit Games**—Old and young trios. R. H. Crane, Santa Rosa.

## FARM LAND FOR SALE

FOR SALE—ALFALFA RANCH
25 acres, 2 miles from Arbuckle, 1 mile from College City. Located on Arbuckle-College City Highway. All in alfalfa. Fenced on three sides and faces on 2 roads. Fine loam soil, perfect grape and fruit land. Good 12 inch irrigating well, at present only a small pump for domestic purposes. Steel tower wind-mill. Temporary house built for garage. You will look a long time to beat this. Price $5250 for the next thirty days.
NELSON REALTY COMPANY
Arbuckle, Colusa County, California

SUTTER BASIN LANDS
In the heart of the Sacramento Valley, rich, deep "river bottom" soil, with a complete irrigation system is offered to good farmers. Any crop you may want to grow will find a good home here. Most liberal terms.
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304 California Fruit Bldg.,
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**For Sale by Owner**—100 acres of the best apple and pear land in the Tehachapi Valley. This is watered by gravity spring creek water and is fine sandy loam. A real opportunity at $200.00 per acre. Has been in trees and alfalfa and proved good. Come at once if you want something good. Address J. B. McConaha, Monalith, California.

**For Sale or Exchange**—21½ acres, 2 miles from Watsonville, California on oil macadamized road. River sediment soil, 8 acres potatoes, 6 alfalfa, 1½ berries—balance tame grass. Artesian well, good improvements, modern equipment, free school bus. Price nineteen thousand, easy terms. Address R. 3 Box 104a, Watsonville.

**For Sale**—24 acres fruit, berry and poultry ranch, nicely located, handy to town by boat or car. Beautiful view, good water, plenty of wood, 4 room house, barn and out buildings. Price $2500 if taken in time. 1 cow, 4 heifers, wagons, harness, tools and some furniture included. Address Owner, Lock box 770, Marshfield, Oregon, Coos Co.

**For Sale—Fruit Ranch**—80 acres of extra fine soil in Yolo County, California, planted to fruit and vineyard in full bearing. Gross recipts for 1919—$22,000. For 1922—$15,000. Initial payment small, 14 years to pay. Williams Bros., R. 1, Box 51, Woodland, California.

**For Sale**—Prettiest farm in California—40 acres near Fallbrook. 2 wells, pumping plant, 2 houses, barn, garage, lemons, oranges, walnuts, alfalfa. Even lemons uninjured last winter. Up-to-date. Good income. 321 W. Christian St., Watts, California.

**Paradise, The Orchard Home Place**—Water, electricity, telephone, good roads, healthful climate, reasonable prices. Box C. Publicity Committee, Paradise, California.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## WANTED

**Wanted: Men With Spare Time** to represent established California company selling standard material to ranchers in ten southern counties. Good pay. Address W. S. H., care California Cultivator, Los Angeles.

**Wanted Throughout California,** men with autos to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call. J. H. Yetter, 317 Central Ave. Los Angeles.

**Want to Hear** from owner having farm for sale; give particulars and lowest price. John J. Black, 116th Street, Chippewa Falls, Wisconsin.

**We Are in the Market** for several thousand first class citrus trees on sour roots. Dortons Southwest Nurseries, Harlingen, Texas.

## CORN HARVESTER

**Corn Harvester** cuts and piles on harvester or winrows. Man and horse cuts and shocks equal Corn Binder. Sold in every state. Only $25 with fodder tieing attachment. Testimonials and catalog FREE showing picture of Harvester. Process Harvester Co., Salina, Kansas.

## PATENT ATTORNEYS

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## CATTLE

**Jersey Show Bull Calf For Sale.** Born November 29, 1921. Sire traces 6 times to Financial Count in 5 generations. Dam Register of Merit cow with 489 pounds butter on two milkings a day. Strong in Noble of Oakland and Financial blood. A splendid individual and priced to sell. Grant A. Brown, El Monte, Calif.

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys — Grape Wild Farms — Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Registered Holsteins For Sale**—Four bred heifers and 1 cow due to freshen early in the fall. All good ones. Tuberculin tested. T. B. Mings, El Monte.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Herefords—"Veramont Stock Farm,"** H. M. Barngrover, Prop., Stockton, California.

**Twelve Grade Holstein Cows,** heavy milkers, bred to good registered bull due before Oct. 1. Tuberculin tested. T. B. Mings, El Monte.

**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

**Registered Herefords—Anxiety IV strain.** Breeding stock for sale. Chas. Rule, Duncans Mills, California.

## MISCELLANEOUS

**Belt Users Attention**—10 in. extra quality heavy rubber belt, 6 ply 95c per ft.; 8 in. 6 ply, 75c; 4 in. 3 ply, 25c; 3 in. 3 ply, 20c; 2 in. 3 ply, 15c. Special discounts on large quantities. Send exact length and we will put in patent lacing free of charge. Headquarters for machinery of every description. 40 h. p. boiler complete with cast iron front $250. 60 h. p. gas engine, $500. Several deep well and centrifugal pumps from $75 up. W. D. Anderson, San Bernardino, California.

**Start a Business of Your Own.** We help you build unlimited money making business. No investment required. Write today for exclusive proposition. Brown-Pacific Co., Dept. H., 3342 Fulton St., San Francisco.

**Natural Leaf Tobacco**—Chewing 5 pounds, $1.75; 10 pounds, $3.00. Smoking, 5 pounds $1.25; 10 pounds, $2.00. Send no money. Pay when received. Tobacco Growers Union, Paducah, Ky.

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Natural Leaf Tobacco** — Chewing, 5 pounds, $1.75; 15 pounds, $4.00. Smoking, 5 pounds $1.25; 15 pounds, $3.00. Send no money, pay when received. Farmers Tobacco Association, Paducah, Kentucky.

**For Sale—Iron Tank.** Twelve thousand gallons. Good for water, oil or grain. Also large redwood tank. Low price. Owner, W. F. Tower, Glendale, California. Phone 786 W.

**3-Pound Box Absolutely Boneless Codfish,** fine white, new catch fish, delivered by mail. $1. Coffin Fish Co., Seattle, Wash.

## MACHINERY

**For Sale Reservoirs, Grain Bins**—We have several big redwood tanks. Cheapest thing money will buy. Tanks, 2,000 bushel capacity $68; 6,000 bushels, about 3,500 sacks, $125. Cement reservoirs crack. Quakes don't hurt wood tanks. 12,000 bushel capacity, $195 on cars. L. A. make, new galvanized tanks, 10 sizes, 175 gallons to 2,000 at $45.25; 1,000 gallons, $35.25. Also rebuilt tanks. Pumps at lowest prewar prices. Mail orders receive prompt attention. Demmitt Co., 120 N. Main, L. A.

**For Sale—Best "75" Tractor** ..used 3 seasons. Russell Rice Separator (36x60 inches) used only 15 days. Price $3,000.00 Your own terms. No initial payment to responsible party. W. B. Williams, R. 1, Box 51, Woodland, California.

**For Sale**—Two International 8-16 tractors, plows, harrows and double disk wagon and all tools cheap. G. F. Crowell, Newman, California.

**For Sale**—1 Owen's Bean Thrasher, 26x44 with belts, side feed sacker, etc. $350 at Buena Park Blacksmith Shop, Buena Park, California.

**For Sale**—Windmills, tanks, pumps, cylinders, pump rod 3, 4, 6 inch, irrigating rebuilt, new, for less. Demmitt, 120 North Main, L. A.

## SHEEP

**For Sale**—950 lambs and ewes. Will sell any amount including 200 Dorsets. Reasonable terms. Terry Sestino, 1014 H street, Modesto, California. Phone 820.

## DOGS

**For Sale**—Beautiful White Collie pups—pedigreed and eligible to registration. Box 724, Huntington Beach, California.

## DUROC-JERSEYS

**Mayflower Duroc Jersey Reds** are good ones—30 gilts, 20 boars, 8 bred sows. Priced to sell. Sired by four of the best boars in California. Their fair record stands behind them. Royal I Am, Craigs Pathfinder, Orion Cherry King J. K. and Defender W S K. Nothing but the very best sold and guaranteed to please. Kincaid & Muselman, E. Bakersfield, California.

**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

**Winsor Ranch Durocs**—The best of stock at reasonable prices. BONITA, CALIFORNIA.

## FOR LEASE

**For Lease**—167 acres improved, one mile northwest of Westminster, eleven miles east of Long Beach, known as Creedmoor Gun Club Ranch—would be ideal for dairy. Plenty buildings, two artesian wells, one pumping plant. Can be leased for term of years at fair rental, part of which can be paid in labor. Possession of buildings and part of land any time. W. F. Marks, 1318 West 3rd street, Los Angeles. Phone 52471.

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Best roofing and preservative paint under sun sold direct to you by the manufacturer for only 15c a gallon. Write for particulars and free sample. Woolner Oil Co., 4th and Commonwealth, Los Angeles, Calif.

## TREES

**For Sale**—25,000 Sour Orange Seed Bed Trees. 1,000 1 year old Valencia buds. Not touched by the freeze. In one of our nurseries near Garden Grove. Southland Nurseries, 1941 East Colorado Street, Pasadena, California. Phone Colorado 6352.

**For Sale**—Grafted walnut trees, also citrus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**For Sale—Grafted Walnut Trees** for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**Beeman Tractor Cheap** — Young man learn trade. Cash Nursery, Sebastopol.

## SEEDS AND PLANTS

**D. Lotus Seed**—Manchurian stock for Japanese persimmons. Let me include your needs in my 1923 importation from Manchuria. Fred W. Kelsey, Nurseryman & Orchardist, El Monte, California.

**For Sale**—500 sacks choice White Rose seed potatoes. I. Vanderlic. Phone Puente 225. Address, Baldwin Park, Cal.

**Seed Potatoes**—Certified White Rose No. 2 grade for $1.50 per cwt. Chester Barton, Temecula.

## HORTICULTURAL PRINTING

**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St., Los Angeles.

## TURKEYS

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

## GOATS

**A Real Sacrifice**—I have more goats than I am able to care for, and must sell 25 young Nubian grades; 10 fresh. See them or write. No reasonable offer will be refused. Also pure Anglo-Nubian buck, "Inkyo" Kapitan, No. P1138. Make offer. F. C. Neptune, Chula Vista, Calif.

with a short head and a long body; that also is not desirable. Breed only pure breds and breed for the type you want.

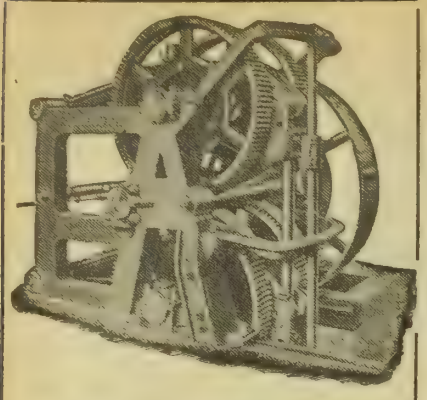
### Boar Retaining Urine

Is it a bad fault for a boar to keep a lump of urine under the belly, that is when it does not all drain out? A friend tells me it should be presssed out occasionally.—Subscriber, Brawley.

It is a fault and should be relieved occasionally as the friend suggests. There is no remedy for it.

### TULARE COUNTY FAIR AT TULARE, SEPTEMBER 13-19

Secretary Charles L. Kennedy of the fair committee calls attention to an error in news item appearing in the Cultivator of July 29 wherein it was stated that the Tulare County fair would be held at Visalia, September 12-19. The fact is, Secretary Kennedy writes, that the fair is to be held at Tulare and from September 13-19.



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Successful Planters Come Back for

McSweeny's

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Certified Seed Potatoes

Production Unexcelled
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Quality Unsurpassed

E. D. McSWEENY
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Baby Chicks

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# Poultry Queries

Conducted by Jean A. Koethen

### Blackhead

When I cut my young turkeys open I find their livers spotted and swollen. Is there a remedy?—Subscriber, Shafter.

You might try the ipecac treatment recommended by the Drs. Wegeforth of San Diego. Some turkey growers are finding the powdered ipecac, given in the food twice a week, a teaspoon of the powder to each unit of 20 turkeys, keeps their young turkeys from getting blackhead. For the birds that are already sick fluid extract of ipecac is recommended, 10 drops being given through the mouth three times a day for three days, then twice a day for three days, and finally once a day for three days. I hope some reader of the Cultivator will try the turpentine and ginger method of prevention which was sent us last year by a subscriber. To a pint of bran and a pint of breadcrumbs is added enough boiling water to make a crumbly mash. When this is nearly cool add one quart chopped greens, one small chopped onion and one cup chick grit or sand. To this mixture is added for each ten turkeys three drops of turpentine and one-fourth teaspoon ginger. This is fed twice a week in place of the regular mash, and twice a day for three days if white spots are noticed on the back of the legs.

### Cholera

I would like to know a remedy for cholera.—Subscriber, Shafter.

Dr. Beach said a couple of years ago at the poultry school that the most satisfactory remedy he had found for cholera was a thorough cleaning up. A bichloride of mercury tablet in the drinking water helps to prevent infection of other birds. All sick birds should be killed and the carcases burned or buried deep.

### To Retard Laying

My four and one-half months old pullets are making comb rapidly and some have commenced to lay. They have free access to a wheat stack and have a dry mash which is half commercial laying mash and half bran before them constantly. At 9 o'clock I feed six pounds mash moistened with sour milk into which cut barley is mixed. At 4 o'clock I feed six pounds sprouted barley and six pounds cracked corn. Since they have been laying I have added one-fifth corn meal to the mash. How shall I retard their laying? Would half ripe grapes have a retarding effect without doing any harm. I have 275 R. I. Reds.—Subscriber, Lancaster.

I am afraid you cannot feed much corn or corn meal in your climate in summer. Better talk with some old timer about it. If you wish to keep your pullets from laying till they are six months old you will have to feed more grain and less mash. Prof. Dougherty recommends for this purpose a maintenance mash of bran alone, with about 5 per cent bone meal added. As you have considerable sour milk you will hardly need the bone meal. You might keep plain bran before the birds, moistening it once a day with sour milk, and give barley at 4 o'clock, in addition to the wheat from the stack. Hard grain has been called the balance wheel of a hen's ration. If you wish to put fat on her bones and retard laying, feed more grain and less mash. When you want her to put all her energy into making eggs cut down the grain and give a good rich laying mash. Do not feed too many grapes. A few are all right, but the birds need grain if they are to develop properly.

### Overcome by Heat?

How can I stop my chickens' dying? They lose the use of their legs and die in from two to ten hours. They have good appetites, even when they cannot walk. They get very red around the eyes and the eyes draw down. They were hatched this spring.—Subscriber, Marwell.

From the data given I cannot say with certainty, but it looks to me as if those young chickens were dying from heat prostration. Have they abundant shade, fresh water always before them, green feed and a cool comfortable place to roost? These things are vital in hot weather. If you are feeding rice use it with other grains. One grain alone is never good, especially one containing as much starch as rice.

### 95 Per Cent Pullets

Can you tell me where I can get White Leghorn chicks that are guaranteed to be 95 per cent pullets?—Subscriber, Laws.

I know of no one who makes such a guarantee. If any one can furnish such information it will be appreciated.

### Sick Turkeys

When my turkeys are half grown they die off one by one. Post mortem shows liver covered with hard yellow spots.—Subscriber, Arroyo Grande.

Please note reply to Shafter subscriber. It is the same disease that kills nearly all the young turkeys that drop off before three months of age. Treatment is not very satisfactory, though the ipecac treatment is saving some. The trouble has its origin generally in improper feeding, more particularly in overfeeding, and can only be prevented by the most rigorous care.

### Pendulous Crop

The crops of two of my turkeys hang almost to the ground. What is the cause and remedy? How are your turkeys? Are they all living? I try to follow your instructions in feeding, but it seems I can't hit on the right plan. I think it is hard to get rid of the vermin, and I have tried every known remedy.—Subscriber, Glendora.

My turkeys are doing very well, thank you. They did not all live, but I have seven out of 13 hatched, and they are well past the critical period. I feel certain the method of feeding I follow in common with many other turkey fans is right, the only thing is, to avoid overfeeding. Watch as you may, it is impossible always to feed exactly enough and not too much. Grit and green feed are an essential part of every meal with little turkeys, and chopped hard boiled egg, when mixed with cereal and greens, and in limited quantity, is a standard feed which is giving general satisfaction. For the cereal part of the ration I consider rolled oats the one best feed. Bread and wheat flakes may be better at the start, but as the turkeys grow and develop they do very well on rolled oats and chopped onion alone. My older bunch, hatched the middle of April, is now eating bran and barley with the chickens, but "goes wild" over the well remembered bowl of rolled oats and onion. I have been fortunate this summer in having a great deal of sour goat's milk for my turkeys. There is nothing better.

For pendulous crop in turkeys, the best remedy is a firm bandage. There is an operation, the cutting out of a piece of the skin, but only an expert should try it. The cause of pendulous crop is overstuffng when the birds are young and the membranes easily stretched.

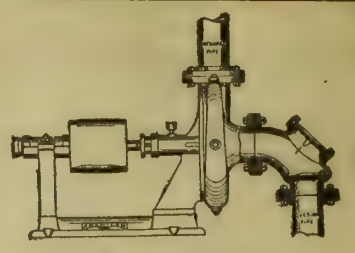
If you will buy a little can of buhach powder and dust the hen thoroughly twice during incubation, then dust her and the poults within a week after hatching, and every week thereafter you will not be troubled with lice. For mites the only preventive and cure is spraying or painting the coop with an insecticide, such as cresol, carbolineum or crude carbolic acid and kerosene.

### SONOMA COUNTY EGG LAYING CONTEST

Report for period November 1, 1921, to July 15, 1922.

#### Pens

J. J. King, Petaluma, 1458 eggs; J. F. Kohnke, Kenwood, 1455; G. E. Mahoney, Petaluma, 1429; H. R. Thomas, Petaluma, 1423; Des Praetzel, Petaluma, 1343; D. E. Cox, Petaluma, 1313; L. J. Ott, Petaluma, 1310; A. M. La Franchi, Petaluma, 1295; Garich & Sarich, Sonoma, 1294; E. O. Hussey, Petaluma, 1289; Roy Church, Petaluma, 1288; H. J. Hardin, Petaluma, 1275; Ed Dinic, Petaluma, 1274; C. E. Fuller, Petaluma, 1264; D. Ingerwersen, Petaluma, 1251; Peck's Poultry Farm, Petaluma, 1240; Brown Bros., Petaluma, 1239; C. C. Boyson, Petaluma, 1227; Jas. Gage, Novato, 1225;

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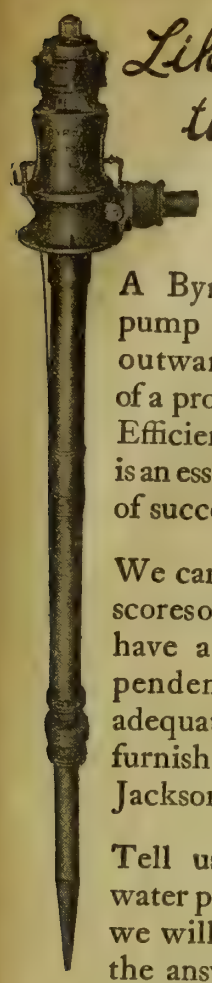

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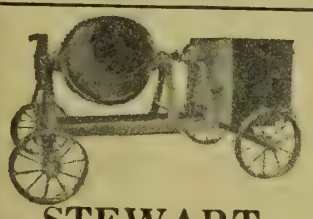

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V. H. Guthrie, Petaluma, 1216; C. H. Purvine, Petaluma, 1209; G. F. Warren, Sonoma, 1208; S. P. Neilson, Sonoma, 1196; C. C. Boyson, Sonoma, 1179.

High Hens:

No. 226, H. R. Thomas, owner, 214 eggs; 218, H. R. Thomas, 197 eggs; 468, G. E. Mahoney, 196 eggs; 22, Des Praetzel, 186 eggs; 556, J. F. Kohnke, 184 eggs; 61, Brown Bros., 182 eggs; 171, Peck's Poultry Farm, 178 eggs; 236, J. Koch, 178 eggs; 295, E. O. Hussey, 177 eggs; 224, H. R. Thomas, 174 eggs; 517, D. E. Cox, 168 eggs; 37, W. B. Hussey, 173 eggs; 105, J. J. King, 173 eggs; 564, J. F. Kohnke, 170 eggs; 462, G. E. Mahoney, 168 eggs; 517, D. E. Cox, 188 eggs; 270, T. B. Purvine, 167 eggs; 427, D. Ingwerson, 166 eggs.

## WHEAT MARKET PROSPECTS

The American Farm Bureau's news letter of July 20 contains a very interesting article on wheat market prospects for 1922, from a survey made by the department of research.

This report shows a carryover in the United States of 67,983,000 bushels, which is some 7,000,000 bushels below the average carryover. The estimated amount available for export from the United States, Canada, Australia, Argentine and India is 635,000,000 bushels, or about 57,000,000 bushels less than the total exported in 1921. Based on a normal increase the export demand for this year should be 725,000,000 bushels, this provided of course that the importing countries are able to buy what they need.

The crop in the United States for 1922 is estimated at 817,000,000 bushels which, with the carryover, makes a total available supply of 885,000,000 bushels, compared with 887,000,000 for 1921.

The report states that the shortage in the world's supply is due to decreased wheat acreage and poorer condition of the central and western European crop, which indicates a yield of 120,000,000 bushels less than last year.

Summing up the situation, the report states that buying should be strong during the remainder of the summer and fall and the indications are for a strong demand during the first half of 1923.

## AGRICULTURAL TARIFF SCHEDULES

The senate has completed consideration of the agricultural schedules of the tariff bill. Some of the more important rates are:

Wheat 30 cents bushel of 60 pounds; corn, 20 cents bushel; beans, green or unripe, ½ cent a pound; dried, 2 cents; a pound; potatoes, 58 cents per hundred pounds; peaches, ½ cent a pound; grapes, 25 cents per cubic foot; butter, 8 cents a pound; milk, 2½ cents a gallon, and cream, 22¼ cents a gallon.

The poultry people lost their fight to increase rates on dried and frozen eggs from 18 and 6 cents respectively as reported by the committee to 24 and 8 cents a pound. A special effort to increase rates on soy beans was defeated, and the committee rate sustained. Finally the senate returned to the vegetable oil schedule passed over without action some weeks ago and passed the rates on competing vegetable oils asked for, three cents on coconut and soy bean oils and 4 cents on peanut and cottonseed oils, but immediately thereafter by a vote of 24 to 33 refused to take out of the bill the proviso which if permitted to stand in the final action on the bill will admit these oils free of duty if they are to be used for non-edible purposes. Cotton and wool schedules are to be taken up next.

## FARM BUREAU MOTION PICTURES

Arrangements are being made for showing the first of a series of motion pictures by the farm bureau in this state. "Spring Valley" is the title of this particular play, especially gotten out to explain to non-members the benefits of joining the farm bureau. Arrangements to secure the film may be made with Grant W. Kenney, American Farm Bureau Federation Motion Pictures, 105 Montgomery St., San Francisco.


Dependable **Champions** For Every Engine Everywhere

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# Los Angeles Markets

Los Angeles,, August 9, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 43 cents.

Prices extras past week:

| August | 2 | 3 | 4 | 5 | 7 | 8 |
|---|---|---|---|---|---|---|
| | 44 | 45 | 45 | 45 | 43 | 43 |

### CHEESE

Brokers' prices:
California flats, 20@22.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 29, case count, 28; pullets, 23.

Prices extras past week:

| August | 2 | 3 | 4 | 5 | 7 | 8 |
|---|---|---|---|---|---|---|
| | 30 | 28 | 28 | 28 | 29 | 29 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 17; colored 30; broilers, 23@27; roosters, 35; old roosters, 14; fryers, 30; ducks, old 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 11@13; old, 8.

### LIVESTOCK

Los Angeles, Aug. 8.—Weighed and delivered off cars without food or water.

Hogs (hard grain fed) 125 to 150 pounds, 10.25; 175 to 225 pounds, 10.50.

Cattle (on foot, gross weight): Steers, good, 6.50@7.00; medium, 5.25@625; cows, good, 4.75@5.25; medium, 4.00@4.50; bulls and stags, 3.00@3.50; calves, 125 to 175 pounds, 8.00@9.00; 175 to 250 pounds, 7.00@8.00.

Sheep, ewes, 4.00@5.00; lambs, 9.00@11.00.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, August 8, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement slow, market dull. New Stock: best, locals, sacked 1.15 @1.40, mostly 1.25@1.35. Sweets, local lb., 5@6.

Onions: Demand and movement slow, market dull. Stocktons: Reds, 1.40@1.60; Yellows, 1.60@1.75; White, 2.50@2.75.

Garlic: Mex. best. 10@12.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, August 8, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: San Pedro: Kentucky Wonders, 4; Limas, 3½.

Bunched Vegetables: Per dozen bunches: Turnips, beets, carrots and parsnips, 30@35. Parsley and spinach, 20. Radishes, 15@20.

Cabbage: Market steady, quality generally good. Field cr., best mostly 2.00@2.25.

Cucumbers: Local, lug, 25@30.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, best 3.75@4.00; poorer, 3.00@3.50

Corn: Green, local, lug, 75@85..

Eggplant: Local, 6.

Lettuce: Market steady. Locals: Ordinary, leafy 1.00@1.10 crate.

Okra: Lb., best, small, ,7@9.

Peas: Best, Northern, lb., mostly 6@8; poorer, 4@5.

Peppers: Locals: Bells mostly, 6@7 lb.; Chilis, 5@6 lb.

Rhubarb: Local, best, Crimson, mostly, 50@75.

Squash: Market steady. Locals: Summer, lugs, 30@40; Italian, lugs, 60.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs best, green, 75@85; ripe, 50@60.

### FRESH FRUIT

These are actual prices obtained August 8 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc, as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Locals: White Astrachans,, loose 3 a lb., packed 3½@4 tier, 1.60@1.75; 4½ tier, 1.40@1.50 per box; Gravensteins, loose, 3@4 lb.; packed, fancy, 2.25@2.75; B grade, 2.25 per box.

Apricots: Locals: lugs mostly, 1.25@1.50; few best high as 1.25.

Cantaloupes: Turlock District: Demand and movement good, market weak, best stock, standards mostly 1.00; flats, 40@50; Locals: Tip tops, 1.00@1.25; Casabas, 1@2 per lb.

Grapes: Demand slow, market steady. Northern: Thompson Seedless, 5 per lb.

Nectarines: Local, 4@5; Northern, 6@7.

Peaches: Market steady. Locals and Northern, freestone and cling, 3 per lb.; Fosters and Elbertas, 3½ per lb.

Pears: Demand moderate, market steady. Northern: Bartletts, few best, 6@7 lb.; mostly 4@5.

Plums: Demand and movement slow, market dull. Per lb. Tragedy prunes, 1½@2; Satsumas, 2@4.

Watermelons: Imperials, Angeleno, 1½ lb.; Klondike, 2@2½.

### CITRUS FRUITS

These are actual prices obtained bebetween 7 and 8 o'clock, August 8, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms, cash on the walk. There may be slight fluctuations during the day's trading. Higher prices are frequently obtained where credit is given or goods are delivered.

Grapefruit: Market steady. Californias: Northern, packed box, fancy, 6.00@7.00; market pack, 3.75@4.50.

Lemons: Demand and movement light, market firm. Special brands, fancy, 6.75@7.00; choice, 6.00@6.25.

Oranges: Demand moderate, market steady. Valencias, special brands, 10.00@10.50.

### HONEY

Demand and movement moderate for carlots, market about steady. Extracted: Carloads f. o. b. usual terms—fancy water white orange and sage, 9¼@9½; white, 8½@9; several cars water white sage reported at 9; light amber sage, 6½@7; light amber alfalfa, 5½. Beeswax: Beekeepers reported receiving 22 per lb. Northern California new crop just starting to move. Market dull and demand light. Nothing being exported at present. Extracted: Hawaiian honey quoted lb. f. o. b. San Francisco, water white, 6½; light amber, 5½; dark amber, 5¼; honey dew honey, 3¾.

### BEANS

F. o. b. Cal.:

| | |
|---|---|
| Lima, Standard | 8.50@8.75 |
| Lima, Henderson Bush | 8.50@8.75 |

Cal. Lima Bean Growers Assoc. reports some sales made in June for Oct. delivery of 1922 Limas and Baby Limas at around $6.25@6.40 f. o. b. Coast. Demand for futures now quiet. Assoc. has been sold out of 1921 crop for some time.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 18.00@23.00 |
| Barley | 16.00@20.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 16.00@20.00 |
| No. 1 Alfalfa | 15.00@17.00 |
| Standard Alfalfa | 11.00@13.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@20.00 |
| No. 1 Dairy | 14.00@15.00 |
| No. 1 Alfalfa | 12.00 |
| Wheat Straw | 6.00@8.00 |
| Barley Straw | 4.00@6.00 |

### GRAIN

Prices L. A. Grain Exchange, August 8:
Barley: 100 ton lots August Del. 1.27½.

Grain Department California Farm Bureau Exchange:

Los Angeles, August 7.—Wheat: Heavy arrivals have somewhat weakened the market in Los Angeles and have filled all available buyers so that there is an easier tendency and prices have gone off from 5+ to 2½+ according to the grade. With continued weakness in the Chicago market, the future California market is entirely a matter of whether the farmers let loose at current prices or hold in hopes of later advances.

The fundamental position of wheat is rather strong and when the heavy run of wheat being harvested in the middle west has been taken care of, it is quite likely values will stiffen, especially if an export demand develops. Considerable California wheat has already been exported. This has held the price firm. At the present time there is no apparent further export demand and it is presumed that export orders can be taken care of now at lower prices than California can offer. Idaho wheat based on current eastern quotations should be available for California terminal markets in two or three weeks time at considerable less than present California values.

Barley: Barley has not come in so freely but the market has declined a full 5+ to 7½+ cents under last week's quotations. The best price obtainable today would be around $1.22½ to $1.23¾ for top grades of feed barley. Poorer grades would have to be sold correspondingly low.

Oats: Fancy Texas oats are offered now at from $2.00 to $2.15 delivered, California terminals. Eastern white feed oats can be bought at from $1.60 to $1.65 bulk, California terminals. California oats are bringing very high prices comparatively. We cannot quote a firm price in this market but San Francisco has been absorbing California oats at very high prices through the Exchange which has been able to obtain much higher prices than outside dealers. Los Angeles doesn't seem to be, at the moment, absorbing any California oats at anything like San Francisco prices.

Millfeeds: Some eastern white bran is offered about $2.00 decline. Red bran is about steady. Carload values are around $28.00 for Kansas red; $38.00 for Inter-Mountain white and blended.


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**WITH LESS OIL CONSUMPTION**

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115-119 South Los Angeles St., Los Angeles


# San Francisco Markets

San Francisco, August 8, 1922.

### BUTTER

Sales on Dairy Exchange:
Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 41 |

Prices Extras last week:

| August | 2 | 3 | 4 | 5 | 7 | 8 |
|---|---|---|---|---|---|---|
| | 44½ | 45 | 44 | .... | 42½ | 41 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 26½ |
| California Flats, fancy | 18 |
| Oregon Trips | 24½ |
| Oregon Young America | 26 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 28½ |
| Extra Pullets | 23½ |
| Undersized Pullets | 15½ |

Prices Extras last week:

| August | 2 | 3 | 4 | 5 | 7 | 8 |
|---|---|---|---|---|---|---|
| | 29 | 29 | 27½ | .... | 29 | 28½ |

### POULTRY

Prices furnished by state department of agriculture division of markets. Sales to retailers:

Broilers: 1 to 1¾ lbs., 29 to 31 per lb. Colored, 30 to 32 per lb. 2 to 2¼ lbs., 30 to 31 per lb. Colored, 32 to 35 per lb.

Fryers: 2 to 3 lbs., 32 to 33 per lb. Colored, 35 to 38 per lb.
Young Roosters: Colored 3¼ lbs. and up 43 to 45 per lb. Staggy, showing spurs, 23 to 30 per lb.
Colored Old Roosters: 17@18 per lb. Leghorn Old Roosters: 14@15 per lb. Leghorn Hens: 2½ to 3 lbs., 15@18 per lb. 3 lbs. and over, 18@20 per lb. Large Colored Hens: 29@32 per lb. Off stock, 26@27 per lb.
Ducks: Young, 18@20 per lb.; off grades, 10@15 per lb.
Geese: Young, 20@22.
Live Turkeys: 32@35.
Dressed Turkeys: Young, 36@40. Off stock, 25@32.
Belgian Hare: Live, 13@15. Dressed 18@23.
Squabs: Live, fancy, 50@52 lb.; common, 3.00@3.50 doz.
Old Pigeons: 2.50@3.50 per doz.
Guineas: Young, 8.00@10.00 doz.
Jackrabbits: 2.00@2.50 doz.

## LIVESTOCK

The Western Meat Company quotes:
Steers: First quality, 6½@7 per lb.; second quality, 5¼@6 per lb.; cows and heifers No. 1 4¼@4¾; second quality, 4@4¼; bulls, 2@3 per lb.
Calves: Light weight, 8@9 per lb.; heavy, 5@7 per lb.
Sheep: Wethers, 6½@7 per lb.; ewes and stags 3@4 per lb.
Lambs: 10½@11½ per lb.
Hogs: hard, fat, grain-fed, weighing 125 to 200 lbs. 12½ per lb.; 200 to 250 lbs., 11½ per lb. 250 to 300 lbs., 10½ per lb.; light sows, 10½ per lb.; heavy, 9½ per lb.
California Farm Bureau Marketing Association reports:

## POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.
Potatoes: New, 1½@2 per lb.
Sweets: Merced, new stock, 5@6 lb.
Onions: Gr. 1.25@1.50; Stockton Red, 1.25@1.40; Yellow, 1.40@1.65.
Garlic: Lb., 3@5.

## VEGETABLES

Prices furnished by state department of agriculture, division of markets:
Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock August 8, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.
Beans: Ky. Wonder, Blue Lake and Wax, 2@4 lb.; Italian, 7@8; Lima, 8@9.
Bunched Vegetables: Carrots, 50@760 per dozen; turnips, 50@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.
Cabbage: River, 2 per lb.
Cauliflower: Doz., 75@1.00.
Celery: Fy. cr., 3.00@4.50.
Corn: New, doz. 10@15.
Cucumbers: Lug, 65@85.
Eggplant: 3@5 per lb.
Lettuce: Local, best, 1.00@1.25 cr.
Parsnips: 3.00@3.25 per sack.
Peppers: Cal. Bells, 8@10; Chilis, 5@6.
Rhubarb: Box,, 1.00@1.25.
Sacked Vegetables: Carrots, 1.00@1.25; turnips, 1.00@1.25; parsnips, 2.50@3.00; beets, 1.00@1.50.
Spinach: Lb., 3@4.
Squash: Summer, 50@75; Italian, cr., 65@85.
Tomatoes: 50@1.00 lug; 40@50 crate; River, 1@1.25 lugs. Peninsula, 1.25@1.50 lug.

## FRESH FRUIT

Apples: New crop apples, green, 1@1.25 lug box; White Astrachans, 1@1.50; Gravensteins, fancy, 3½@4; tier, 2@2.20; Alexanders, 4½ tier, 1.50@1.75 box. Red June fancy, 2.50@4; Crabapples, 1@1.25 lug.
Avocados: 4.00@9.00 per doz.
Apricots, 6@7 lb. Poorer, 3@5 lb.; 1.75@2.25 lug.
Bananas: Hawaiian and eastern, 6½@7½ per lb.
Blackberries: Dr., 25.
Cantaloupes: Turlock Standard, 1@1.25; Pony, 75@85; flats, 50@65; few higher. Pink meats, 1.50 standard crate; Honey Dew, flats, 1.25; Persian Melons, 1.50@1.75 cr.
Currants: Dr., 1.25.
Figs: Double layer box, 1.50@1.75.
Grapes: Thompson seedless, 1@1.50 lug; Dattier, 2.50@3 crate; Malagas, 1.75@2 crate.
Loganberries: Dr., 40@45.
Nectarines: Cr., 1.25@2.25.
Pineapples: 5.50@6.00 per doz.
Peaches: 90@1.00 crate; basket, 50@1.00; lugs, 1@1.50; large, 1.75.
Pears: Bartlett, 1.75@2.00; box, No. 2, 1.00@1.50.
Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.
Plums: Burbank and Wickson, 1@1.25 crate, other 75@1 crate, lugs, 1.25@1.50. 1.50.
Raspberries: 50@65 dr.
Strawberries: Local, dr., 50@65.
Watermelons: So., 1@1¼ lb.

## CITRUS

Grapefruit: Southern Cal., fancy, spec. pack, 6.50@7.00; choice, 5.50@6.00.
Lemons: Spec. pack, 5.50@6.25; choice, 3.50@5.00; Lemonettes, 2.00@3.00.
Oranges: Valencias, fan boxes, 126-216s, 10.00@11.00; 250-288s, 9.00@9.50; smaller, 8.00@8.50; choice, 6@9.00.

## DRIED FRUITS

**Apples, 1922 Packers' Quotations f. o. b. Cal.:**

| | |
|---|---|
| Choice | 11 @11¼ |
| Extra choice | 11¼@11½ |
| Fancy | 12½@12¾ |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— San Joaquins | Southern |
|---|---|---|
| Standard | @19½ | @20 |
| Slabs | @20 | |
| Choice | @24 | |
| Extra choice | @25½ | |
| Fancy | @27½ | |
| Standard | | @20 |
| Slabs | | @20½ |
| Choice | | @24½ |
| Extra choice | | @26 |
| Fancy | | @28 |

**Figs, 1922, Packers' prices f. o. b. Cal.:**

| | |
|---|---|
| White Adriatic— | |
| Standard (in 50s) | 6½ |
| Choice (in 50s) | 8 |
| Fancy (in 50s) | 11 |
| Extra fancy | 11¾ |
| Bricks, 12 No. 10s | 1.02½ |
| Bricks 24 No. 8s | 1.65 |
| Bricks, 50 No. 6s | 2.65 |
| Bricks, 70 No. 4s | 2.75 |
| Layers, 10-lb., 4-row | 1.45@1.60 |
| Layers, 10-lb. 5-row | 1.35 |
| Black Mission— | |
| Standard (in 25s) | 12¼@12½ |
| Choice (in 25s) | 13¼@13½ |
| Extra choice (in 25s) | 14¼@14½ |
| Fancy (in 25s) | 16 @16¾ |

**Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:**

Opening quotations for the 1922 crop of figs released July 24 by the San Francisco representative of the California Peach and Fig Growers' Association, show substantial advances, particularly in black Missions. This grade is quoted at 11¼ cents this year, as against an opening price of 5 cents a pound in 1921.
The complete price list for 1922 crop Blue Ribbon, dried figs follows:
Adriatic—Price 6¼; standard, 6¾; choice, 8¾; fancy, 11¾.
Calimyrna—Standard, 8¾; choice 11¾; fancy, 14¾.
Black Mission—Standard, 11¼; choice, 14¼, fancy, 17¼.
These prices are for figs packed in twenty-five pound boxes, ¼c per pound less for packing in fifty-pound boxes.
Adriatics, ungraded, in bags....7¼c per lb.
Adriatic fig paste, 75-lb. boxes 5½c per lb.
12-10 oz., bricks, Adriatics....$1.10 per box
24- 8 oz. bricks, Adriatics.... 1.75 per box
50- 6 oz. bricks, Adriatics ..... 2.80 per box
70-d oz. bricks Adriatics.... 2.95 per box
24- 8 oz. bricks, Calimyrnas.. 2.25 per box
For foil wrap or brick figs add 10c per box.

| Box | Row | Inches Spread | |
|---|---|---|---|
| 10-lb. | 4 layer Adriatic | 2½ | $1.60 |
| 10-lb | 5 layer Adriatic | 2 | 1.40 |
| 10-lb. | 6 layer Calimyrna | 2½ | 1.90 |

PULLED CALIMYRNAS
48-1-lb round box....$10.40 per case
6-5-lb. boxes ....6.60 per bundle
All prices f. o. b. California common shipping points.
For shipment September, October, November, seller's option.
Terms as per dried fruit contract adopted by the National Wholesale Grocers' Association and the Dried Fruit Association of California, April 23, 1919.

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼@11½ | 15 @15¼ |
| 40-50s | 9 @ 9¼ | 12¼@12½ |
| 50-60s | 8 @ 8¼ | 10¾@11 |
| 60-70s | 7½@ 7¾ | 9¾@10 |
| 70-80s | 7 @7¼ | 8¾@ 9 |
| 80-90s | 6¾@ 7 | 8 @ 8¼ |
| 90-100s | 6¾@ 7 | 7½@ 7¾ |
| 100-120s | in 50-lb. boxes, 6¼ per lb. | |
| 120-up | in 50-lb. boxes, 5½ per lb. | |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | 11¼@11½ | 11½@11⅝ |
| Slabs | @11½ | @11¾ |
| Choice | @12 | @12¼ |
| Extra choice | @12¾ | @13 |
| Fancy | @13¾ | @14¼ |

**Peaches, 1922, California Peach and Fig Growers' Assoc. prices, September-October shipment:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @ | @11¼ |
| Choice | @ | @12 |
| Extra choice | @13¼ | @ |
| Practically Peeled— | | |
| Standard | @ | @12¼ |
| Choice | @ | @13 |
| Extra choice | @14¼ | @ |

11-oz. Cartons, 60 per case....7.00 case
2-lb. Cartons, 24 per case....8.25 case
5-lb. Cartons, 10 per case....8.50 case

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | 12½@12¾ |
| Choice | 14½@15 |
| Extra choice | 16½@17 |
| Fancy | 18½@19 |

**Raisins, Sun-Maid Raisin Growers' Prices:**

Raisin growers may expect to receive 5¾ cents for standard muscats, 6½ cents for standard Thompsons and 6 cents for Sultanas, sweat box basis for the 1922 crop, according to a statement given out July 31 by the Sun-Maid Raisin Growers in connection with the announcement of new prices on the holdover of raisins from the 1921 crop.
Prices on the new crop will not be officially given to the public until August 15, but in a statement made by General Manager F. A. Seymour the trade is officially assured that new prices will be at least one-half cent higher than those named on the old crop, and the general manager is authority for the prices which the growers may expect under this schedule. The prices to be named on August 15 are on a crop basis of 225,000 tons, according to Seymour.
According to the general manager, 35,000 tons of 1921 crop raisins remain to be marketed at the new prices.
The revised prices on the 1921 crop named August 1 are:

| | Revised Price |
|---|---|
| Bulk Thompsons | 9½ |
| Carton Thompsons | 10 |
| Blk. Seeded Muscats | 9 |
| Fancy seeded pkgs | 10¾ |
| 1 cr. loose Muscats | 8½ |
| 2 cr. loose | 9 |
| 3 cr. loose | 9½ |
| Bakers. Thompsons | 7½ |
| Sultanas | 8½ |
| Seeded Malagas | 8½ |

## BEANS

California Bean Growers f. o. b. Cal.

| | c. r. c. |
|---|---|
| Large Whites | 6.50 |
| Small White | 6.50 |
| Pinks | 5.25 |
| Mexican Reds | 7.50 |
| Red Kidney | 8.00 |
| Cranberries | 7.65 |
| Bayos | 5.00 |
| Blackeyes | 4.10 |
| Henderson Bush Limas | 9.00 |

## RICE

California Rice Growers Assoc. reports sales last week No. 1 Paddy 2.87@3.27. Crop practically cleaned up.

## HAY AND FEEDSTUFF

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions).

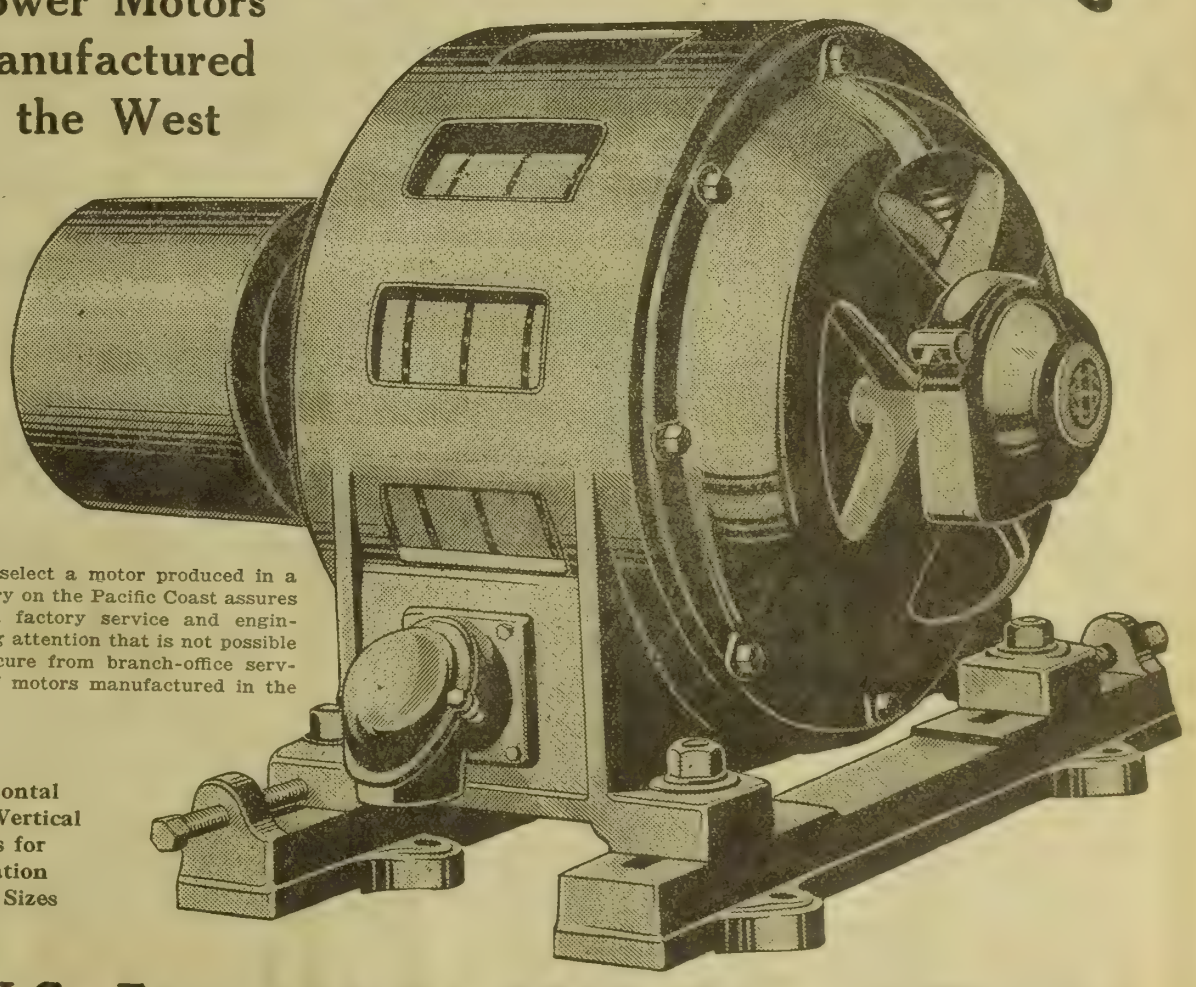
| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@17.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 14.00@16.00 |
| Wild Oat Hay | 10.00@12.00 |
| Alfalfa Hay, 1st and 2nd Cutting | 13.00@15.00 |
| Stock Hay | 9.00@11.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 28.00@29.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 30.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 55.00@60.00 |
| Coconut Meal | 31.00@33.00 |
| Alfalfa Meal | 20.00@22.00 |
| Cottonseed Meal | 50.00@55.00 |
| Sugar Beet Pulp | 32.00@34.00 |
| Molasses, tanks | 17.00 Barr 25.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

## GRAIN

Prices S. F. Grain Exchange, July 31, f. o. b. S. F. warehouse and storage charges paid.
Barley Feed. 1.15@1.20; shipping, 1.25@1.35.
Wheat Mill, 1.90@1.95; Feed, 1.85@1.90.
Oats: 1.40@1.50.
Corn: White Egyptian, nominal; colored milo, 1.90@1.95; No. 2 bulk, 1.80@1.90; No. 2 Eastern yellow, 1.58@1.60.


The Only Power Motors Manufactured in the West

U. S. MOTORS



To select a motor produced in a factory on the Pacific Coast assures direct factory service and engineering attention that is not possible to secure from branch-office service of motors manufactured in the East.

Horizontal and Vertical Types for Irrigation —All Sizes

U. S. ELECTRICAL MFG. CO.
Largest motor builders in the west since 1906
LOS ANGELES
Branch Office and Warehouse at Stockton

U. S. Motors have been accepted by leading Irrigation Companies and Ranchers because of our product's unfailing stamina and power performance. With effortless ease these motors deliver their full volume of power, operating unceasingly without over-heating.

2400 telephone wires in a cable little larger than a man's wrist.

## Science keeps down costs

When the Bell System installed its first successful telephone cable, fifty wires was the largest number that could be operated in a single cable without "cross-talk" and other interference. Today it would require 48 cables of the original type to accommodate the number of wires often operated in one cable.

Without this improvement in cable, the construction of new underground and aerial lines would have cost the Bell System upwards of a hundred million dollars more than has actually been spent. In addition, the cost of maintenance would have been greater by eighteen million dollars a year. These economies in the Bell System mean a saving in telephone rates to each individual subscriber.

In all branches of telephone practice science has similarly contributed to economy. Even in such a comparatively small item as switchboard cords, improvements have reduced the cost of renewal by four million dollars a year.

Every new telephone added to the Bell System increases the usefulness of *all* telephones, but this multiplication tends likewise to increase the complications and the expense of service. The scientists of the Bell System, to offset this tendency, are constantly called upon to develop new devices which simplify complications and keep down costs.

By virtue of a united system the benefits of these improvements are shared by all subscribers—and the nation is provided with the best and cheapest telephone service in the world.

"BELL SYSTEM"

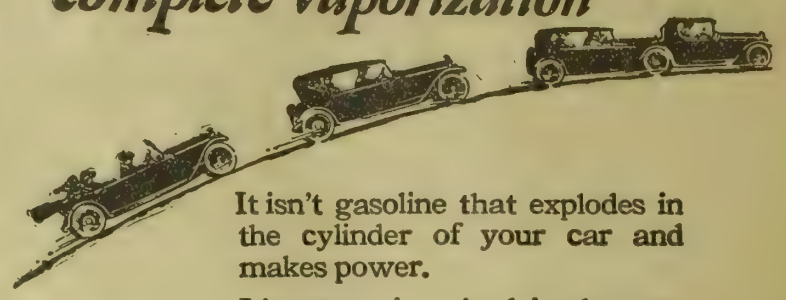
AMERICAN TELEPHONE AND TELEGRAPH COMPANY

AND ASSOCIATED COMPANIES

*One Policy, One System, Universal Service, and all directed toward Better Service*



# More mileage—
## the result of *complete vaporization*



It isn't gasoline that explodes in the cylinder of your car and makes power.

It's gas—air, mixed in the carburetor with gasoline to form vapor.

Red Crown gasoline *vaporizes completely*. It forms a homogeneous mixture with 12 to 16 times its volume of air. That mixture explodes cleanly and powerfully, leaving comparatively little carbon residue on valves, spark plugs and cylinder walls.

That's why you get better mileage out of "Red Crown"—and a cleaner, sweeter-running engine.

Fill at the Red Crown sign—at Standard Oil Service Stations, at garages and at other dealers.

STANDARD OIL COMPANY
(California)

## *Keeps Small Tractors on the GROUND-*

Every light tractor with its powerful engine is likely to climb over backwards and kill or seriously injure the man at the wheel when the plow strikes an obstacle.

Five minutes installs a Westgate Ground Holder which may save you five months in the hospital, or worse.

Keep your Tractor on the ground. An accident means doctor bills, repair bills, and delays your work just when delay may be costly.

As soon as the front wheels of your Tractor start to rise, the Westgate stops your motor. It is fool proof, has only two moving parts and is guaranteed not to get out of order for the life of your Tractor. Cost only $10 complete.

*INVESTIGATE A WESTGATE*

If your dealer cannot supply you write

**WESTGATE METAL PRODUCTS CO.**

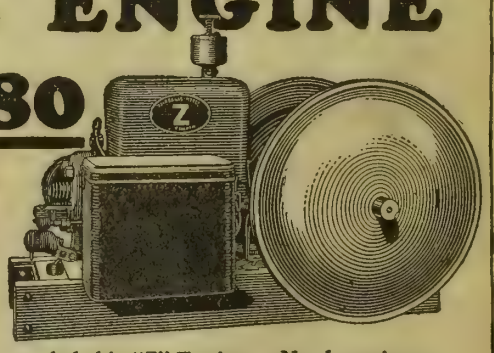
East 12th Street and 47th Avenue Oakland, California



## *Remarkable Demand Greets*
# This "Z" ENGINE

**$44.80**

F. O. B. FACTORY
1½ H. P. Battery Equipt



The enthusiastic welcome accorded this "Z" Engine proves it meets the popular demand as regards both dependability and price. It delivers more than rated horsepower, has simple high-tension battery ignition, control lever gives six speed changes. Over 325,000 "Z" Engines in use. See your dealer or write us.

*New low prices on other "Z" Engines*
With high-tension magneto and throttling governor

| | |
|---|---|
| 1½ H. P. | $ 67.00 |
| 3 H. P. | 100.00 |
| 6 H. P. | 160.00 |

All f. o. b. factory—add freight to your town. (58)

FAIRBANKS, MORSE & CO.
*Manufacturers* Chicago
Western Branches: San Francisco; Seattle; Los Angeles; Portland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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — August 19, 1922 — No. 8


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AUG 23

Original Washington Navel Orange Tree in Greenhouse, Washington, D. C.

# Never Before So Much Plant Food For So Little Money

## Facts Backed by Actual Field Tests and Confirmed by Scientific Research Prove Phosphoric Marine Shell Lime Worth Many Times Its Low Cost

IF you do your own thinking and use your own eyes you will be interested in the proof positive statements that follow:

We can show you orange groves within two hours ride of our Phosphoric Marine Shell Deposits that show an increase in yield of from two, three or four boxes of oranges per tree to SEVEN OR MORE boxes per tree because of the application of shell lime.

The owners of these groves will tell you it is their honest opinion that it was the liberal application of this lime that caused the condition making this increased yield possible.

We can show you cover crops where the same beneficial results were obtained in almost the same proportion.

We can show you soil that, before the application of Marine Shell was a hard unworkable, clay adobe and that with the application of this lime (calcium) it has become loose, mellow and rich, with heavy crop growths.

We can supply you with almost no end of scientific data showing why marine shell produces these desired results. No element of plant food has been accorded more painstaking experiments in the various branches of the department of agriculture than calcium—the main ingredient of Phosphoric Marine Shell. Calcium is recognized all over the world of agriculture as ONE of FOUR necessary elements in plant growth. **DO NOT MINIMIZE ITS IMPORTANCE.** Investigate, look and study and you will be convinced that at the exceedingly low price at which you can purchase **Phosphoric Marine Shell** with its calcium oxide, phosphoric acid and other plant foods, and its resultant action in the soil, liberating other elements that are inert without it, you will receive **More For Your Money When Purchasing It Than Any Plant Food You Can Buy.** CALCIUM is a necessary element—you may have it in your soil BUT IT MAY NOT BE AVAILABLE.

Dr. R. R. Snowden and practically every other EMINENT authority on plant foods has published statements and books showing the necessity of calcium to the growth of MOST PLANTS. These include ORANGES, ALFALFA, ASPARAGUS, BEANS, BEETS, CAULIFLOWER, PEAS, MUSKMELONS, PLUMS, BARLEY, WHEAT AND A GREAT LIST OF OTHER IMPORTANT CALIFORNIA CROPS. And those who have made the closest study of Calcium and its relation to plant growth, state that in many areas where it is supposed that calcium is in abundance in the soil—IT IS NOT IN AN AVAILABLE STATE. This is especially true in many California soils. The proof lies in the application of Phosphoric Marine Shell Lime. We can show you groves in land that tested high in calcium that were starving for that very element because the calcium, like much of the nitrogen and potash, were locked up in an inert chemical combination that only plant available calcium could unloose.

The tests in which our shell lime have proven its worth, corroborated by the eminent authorities who have proven conclusively that marl or shell lime is highly beneficial to plant life requiring lime, should convince any fair-minded person of its desirability.

Phosphoric Marine Shell Lime will not, cannot possibly do your crop any harm. It has done immense good on the lands of many others. Have you ever tried any, and if not, WILL YOU TRY some this year if only a sample on ONE TREE OR PLOT?

There is abundant additional proof to indicate the high value of Phosphoric Marine Shell. Send for our free booklet giving additional information as to what Phosphoric Marine Shell Lime will do.

### WHY PHOSPHORIC MARINE SHELL SHOULD BE FED TO THE ORANGE TREE AT FREQUENT INTERVALS

Every orange grower knows that the orange tree is encouraged in California to be a shallow rooted plant—as far as feeding roots are concerned. These roots use up rapidly all foods in the shallow top layer of soil. You recognize that you must replace phosphorus, nitrogen and potash at frequent intervals. How about calcium? The orange is a heavy calcium feeder. Many orchards cease to be good producers after a few years when the calcium is exhausted in the top layer of soil. Remedy the fatal oversight with Phosphoric Marine Shell.

Considering the high calcium content, its phosphoric acid and the resultant release of nitrogen and potash not all available without the action of the calcium, at the low price we are selling it, IT IS THE CHEAPEST FERTILIZER YOU CAN BUY. WILL YOU GIVE US AN OPPORTUNITY TO PROVE OUR STATEMENTS?

Pomona, July 28th, 1922.

TO WHOM IT MAY CONCERN:

This is to certify that I put 7½ ton per acre of Decomposed Marine Shell on my grove the first part of August, 1921.

In conjunction with the barn yard manure, I have the best results ever obtained from the use of any fertilizer, commercial, or otherwise.

I had considerable mottle leaf in my grove, but this condition is almost entirely eliminated. I have about one acre of very hard soil, and it is somewhat lower than the surrounding ground.

After using Marine Shell, this piece of ground is just as friable, and in as good mechanical condition as the rest of the grove. Notwithstanding abnormal conditions existing last winter in the way of cold weather, I have above the average setting of fruit for this season, and it looks fine at the present time. I am entirely satisfied with the results.

(Signed) A. L. CAHOON,
Pomona, Calif.

The Rare Gift of the Sea to the Land

### Pounds of Various Plant Food Elements in One Ton of Phosphoric Marine Shell

| | | |
|---|---|---|
| Phosphoric Anhydride ($P_2O_5$) | 30 | pounds |
| Lime (CaO) | 800 | " |
| Magnesia (MgO) | 52 | " |
| Potash ($K_2O$) | 8 | " |
| Sulphur ($SO_3$) | 3 | " |
| Iron Oxide ($Fe_2O_3$) | 18 | " |

**We sell Phosphoric Marine Shell based on the above composite samples taken from over 40 test pits.**

The mine of the Phosphoric Marine Shell Company is located within a short distance of San Pedro Harbor in the Palos Verdes Hills. Our product is an Organic Calcium, once digested in a living creature,—once in solution in the body juices and later deposited in shell or bone. **No crystalline mechanically ground Calcium is its equal for rapid and complete action.** Tests on our materials show that a very high percentage passes through a 200 mesh screen.

Our company is a producing and selling organization with absolutely no connections with any other lime company or selling agency. Car lot shipments or smaller quantities are sold by ourselves and through our dealers.

Based on a composite analysis of extensive sampling over some 45 test pits we offer Phosphoric Marine Shell Lime averaging 40% calcium oxide and 1½% phosphoric acid, $4.00 per ton at bins or $4.75 per ton f. o. b. cars, Wilmington Spur, San Pedro.

We can also deliver this on board ship at San Pedro, and are able to obtain very low water rates to San Francisco Bay points. This Marine shell is especially valuable as a soil amendment for the land surrounding San Francisco Bay.

Agents and Dealers are desired in unoccupied territory.

# The Phosphoric Marine Shell Co.

**236 Wholesale Terminal Building** — **Los Angeles**

CALIFORNIA LIME & FERTILIZER CO.
236 Wholesale Terminal Bldg.
Los Angeles

Dealers and Distributors

ALBERT T. GIBSON CO.
Riverside, Cal.

TURNER-HUSSEY CO.
226 Wholesale Terminal Bldg.
Los Angeles

# California Cultivator

Vol. LIX, No. 8 | Los Angeles, August 19, 1922 | One Dollar Yearly


# Prune Drying

By L. C. Barnard

PRUNES are plums which can be cured without the removal of the pit without fermenting and are of the European type. The varieties most used for curing in California are French, Sugar and Imperial. The following European plums are also dried to a certain extent: Silver prune, Italian prune, Robe de Sargent, Coates, Splendor, Standard, Golden prune, German Prune and the Tragedy.

Prunes which fall naturally from the tree contain the most sugar, dry heavier and give the best quality product. Therefore it is advisable to allow them to hang on as long as possible. Most growers go over their trees three or four times during the season. The first two or three pickings take place after sufficient fruit has fallen to the ground, at intervals of from one to two weeks, depending on the climate. The orchard soil under the trees should be perfectly clean and smooth to facilitate rapid and clean picking. Sometimes the tree is shaken lightly following the first picking. However, most of the growers confine their shaking to the third or fourth picking when the trees are stripped. Prunes which are not fully ripened are very noticeable during the dipping and drying process from their red color, also from the slowness with which they dry.

Crude but Effective
Home-made Prune Dipper

### Dipping Process

After harvesting prunes they are put in a wire basket and dipped in a solution of lye and hot water. The amount of lye used and the temperature of the solution varies considerably with different growers. However, the solution should be kept as near boiling as possible and the standard dip is four pounds of lye to 1000 gallons of water, good for about 400 boxes, providing care is observed to drain fruit well before dumping out of basket.

Sometimes when the solution is too hot and the prunes are dipped too long a depth of 1/32 of an inch just under the skin is cooked to a dark brown. This portion becomes jellied or partially solidified and during the drying process the moisture from the fruit does not evaporate properly, hence bloaters and chocolates occur. Members of the division of pomology of the state university have experimented with the following temperatures: 160, 175, 190 degree Fahrenheit, and boiling. A boiling solution gave the best results. The length of time the prunes are left in the solution is best learned by experience. The object of dipping is to remove the bloom and check the surface of the fruit sufficiently to facilitate rapid and proper drying. Fruit which is improperly checked makes many bloaters, therefore the person dipping should watch the fruit and see that the dip is long enough to secure proper checking. The prunes should not be dipped so long that large cracks appear, or until the skin sloughs off, as this makes a poorer quality dried fruit. The average dip is from 15 to 20 seconds, but varies with the condition, variety, whether grown on heavy or light soil, temperature and strength of solution, and condition of the fruit. The greener prunes tend to check easier than ripe ones. The hotter and stronger the solution the quicker the checking.

Prunes from heavy soils have tougher skins. The toughness of the skin of French, Sugar and Imperial prunes ranks in the order named. In fact, Imperials are so tender that a weaker solution is used and some growers spread the fruit on trays in the sun for three or four days before dipping them.

### Rinsing

After the prunes are removed from the dipping solution they are sometimes rinsed with cold water. This custom, however, was not practiced by the majority of growers during the 1921 season.

### Needle Board

The dipped fruit is allowed to pass over a shaking needle board which pricks the fruit in numerous places, facilitating drying, especially with under checked prunes. This practice, however, is only used by about half of the growers, probably due to the fact that the needle board often becomes covered with leaves and dirt, so that the pricking is not effective. However, experiments have been carried on to note the results of the use of a pricking board and seem convincing that its use gives the best quality of dried prune.

### Graders

After passing over the pricking board the prunes pass on over the grading screens. The screens are agitated while the prunes pass over them. The average number of grades handled by the majority of graders are three, No. 1, No. 2 and No. 3, or "pie" grade. Some dippers, however, are fitted up with screens to separate a larger number of grades. The No. 2 and 3 grades dry the fastest, owing to their smaller size and the fact that a good many of them are shriveled considerably already. Therefore the different grades should be dried separately to obtain best results.

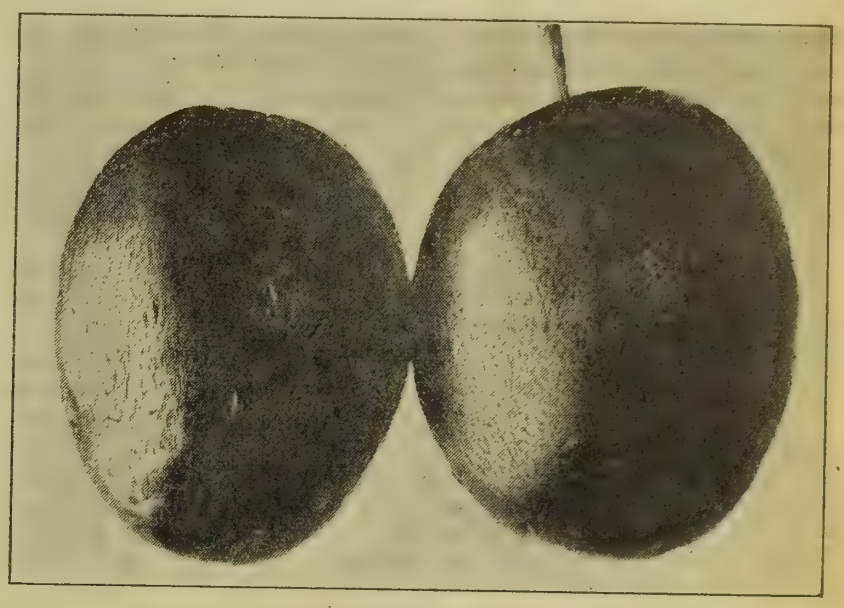
The type of dippers used can be the manufactured type or the ordinary home made affairs. Home made dippers can be of almost any type desired, as long as the fruit is treated in the proper manner.

### Lye

Some of the following brands of lye are used in the dipping process, and can be bought in one pound cans or in larger bulk quantities, being cheaper in the bulk: Babbits Concentrated, Red Seal Granulated, Banner High Test Pulverized, American Granulated Lye, Acme High Test Granulated Lye and Hercules Caustic Soda.

### Curing or Drying Process

As the fruit rolls from the grader onto the trays the prunes should be evenly spread over the trays, one layer deep. The trays are then placed on the tray car. After a sufficient number is on the car it is pushed to the drying yard. Here the trays are spread in the sun the same as for apricots. However, the different grades are kept separate. Sometimes during the drying process some growers rake over the trays with wooden rakes and separate the bloaters and chocolates while others do no culling or sorting until they are taken from the stacks. Prunes are exposed to the sun from five to ten days, depending on climatic conditions and the condition of the fruit. As a rule, when they are about three-fourths dry they are stacked similar to apricots. The fruit remains in the stack from one to four weeks, depending on climatic conditions.



Properly Checked Sugar Prune
Dipped in boiling lye solution for 15 seconds

### Indications that Curing is Complete

Well cured prunes should be leathery to the touch, flexible and fairly firm. If the prunes can be made to rattle on the tray they are too dry. The flesh of the dried prune should be amber colored and not dark. If a double handful is squeezed together and let fall the prunes should fall apart readily if they are dried sufficiently. Also the pit will not slip in the flesh when rubbed between the thumb and forefinger. If the fruit is not thoroughly cured when stored, frequent mixing or turning is necessary to prevent possible spoiling of the fruit before it is entirely cured.

### Yields and Drying Ratios

Prunes dry down from 2¼ to 3-1, depending on the variety, the French drying down the least. An average yield for the French, Imperial and Sugar prune is 2.12, 2, and 3 tons dried per acre respectively. However, the Sugar prune is not a consistent bearer.

# She Sells Sea Shells

By Ernest Braunton

SHE sells sea shells because a natural deposit of decomposed sea shells was found on her ranch. During the past year at several points, both at the coast and far inland, these rich mines of carbonate of lime have been uncovered and made available to the public so that through competition the price has been lowered to about one-half that prevailing a year ago, and large numbers of orchardists now find it highly profitable to use in liberal quantities.

### The World's Needs

Recognized authorities the world over are at present urging the more extensive use of lime in any and all forms as nearly all soils are deficient, especially those of granite formation. In the following excerpts from a bulletin of the United State department of agriculture, "The Lining of Soils" by H. J. Wheeler, it will be noted that two authorities speak of soils of granitic base as being especially benefited by application of lime:

"The recognition of the agricultural value of certain forms of lime is not new, and it appears probable from the writings of Pliny that liming was practiced by the Romans more than two thousand years ago. In England, Germany, France and other European countries the application of lime in various forms has been and is still practiced extensively.

"Deherain states that certain regions of France have undergone a veritable agricultural transformation owing to the use of lime and marl. Muntz and Girard assert that more than one-fifth of the area of France is of granitic origin, and that when the soils are supplied with lime and phosphoric acid, which they lack, they undergo a complete transformation.

"In certain sections of Germany carbonate of lime in the form of a marl plays an important part in maintaining the fertility of the soil. According to Wicke, the yields in certain districts of Germany have at times been quadrupled by the employment of marl, and many plants whose cultivation was

(Continued on page 191.)

# Agricultural News Notes of the Pacific Coast

## Northern California

Pear growers of El Dorado County need expert pickers.

Farm center meetings in Glenn County: Grapevine, August 23; Glenn, 25.

The Paradise farm center, Butte County, has organized a very active boys' and girls' club.

Ten Butte County peach orchards are entered in the Sutter County peach growers contest.

Stockmen of Nevada County are planning to hold a community sale of cattle some time in October.

A special fast fruit express leaving Marysville, August 2 carried to canneries at Oakland 65 cars of peaches.

Army worms have been very destructive in the alfalfa fields and gardens around Grimes, Colusa County.

The American Jersey Cattle Club is planning a large educational cattle exhibit at the state fair, September 2-10.

The Orangevale, Sacramento County, Fruit Growers Exchange is shipping under its new label "June Brand."

At the annual meeting and picnic of the Butte County farm bureau Fred Cornehl of Wyandotte was elected president.

Statistician Kaufman of the state department of agriculture reports rice in Glenn County in fine condition now that the weather is warming up.

The Butte County farm bureau has organized a grain department which will market through the state exchange. Offices in the Waterland-Breslauer Building, Chico.

The old state fair pavilion which has stood at the corner of Sixth and M streets in Sacramento for 63 years is now being torn down. The present fair grounds cover 112 acres.

Peach growers of Sutter County have plenty of help for the harvest. Auto campers are coming from every direction to work in the orchards. A large majority of these workers will go to Butte County for the prune and almond harvest.

President Sheehan of the California Grape Growers Exchange says that more than two-thirds of the members have contracted with Eastern firms for their grapes at prices from five to 15 per cent higher than the 1922 schedule announced in June.

Sealers of weights and measures of the state held a two day conference in the assembly hall of the department of agriculture at Sacramento, August 3-4. Discussion chiefly concerned with discrepancy in scales, the weighting of bread and berry and fruit containers.

As a result of the "Hands Across the River" meeting at Chico last week a number of committees were appointed to push the work. The work of one committee is to complete plans for advertising the "Sacramento Valley Loop" highway by erection of signs at Davis and Red Bluff.

Eight million dollar bond election on Sutter project set for August 26. Counties affected are Sacramento, Sutter, Yuba, Butte, Yolo, Colusa and Glenn. Protesting land owners have appealed to the United States supreme court against decision invalidating the assessment for which bonds are to be issued.

## Central California

G. L. Wolf has been appointed fruit inspector at Turlock.

The community fair of the Delhi district, September 16.

Delhi and Turlock are making large shipments of sweet potatoes.

Today, August 19, has been officially proclaimed by Governor Stephens as Egg Day.

Oakdale, Stanislaus County, is making big plans for its district fair, September 21-23.

Watermelon shipments from Turlock continue fairly heavy, melons of unusually fine quality.

The California Farm Bureau Grain Marketing Association will establish a Tulare County office.

Ranchers in the Stoddard district of Stanislaus County report severe injury by army worms.

Turlock grape growers report selling Malagas and Zinfandels at $60 a ton; Thompson Seedless, $35.

A long dispute between ditch owners along Feather River and riparian water users has been adjusted.

Stanislaus County Poultry Breeders Association is planning to hold a poultry show at Modesto this fall.

The California Peach and Fig Growers has moved into its new headquarters at Inyo and Van Ness Streets, Fresno.

Manager Elliott of the swine department of the Tulare County fair is receiving many entries for exhibits of pure bred stock.

The Di Giorgio farm of 500 acres in the Weed Patch district of Kern County will close its melon shipping season with a record of 112 cars.

Farm center meetings will be held in Kern County ata Mountainview, 21; Pond, 23; Indian Wells, 24; Muroc, 25; Shafter, 28; Arviin, September 1.

Farm center meetings in Kern County: Mountain View, August 21; Pond, 23; Indian Wells, 24; Muroc, 25; Shafter, 28; Arvin, September 1.

The Weed Patch farm center of Kern County will hold its first annual community fair September 2 at the farm center hall near the Vineland school.

The Navel crop of the Porterville district is generally estimated at 65 per cent of normal. The drop on the outside of the trees has been unusually severe.

President Niswander of the California Peach and Fig Growers says that two weeks after peach prices were announced half of the new crop of dried peaches was sold.

The melon market improved last week at Turlock, prices on August 7 going to 80 cents, said to be the highest price paid for cantaloupes at this time of the year.

Thirty big combined harvesters are busy in the Tulare Lake grain district. More than 200 trucks are hauling the grain to warehouses at Corcoran, Guernsey, Stratford, El Rio, Angiola and Alpaugh.

The fig cannery of the California Peach and Fig Growers at Turlock has commenced operation. The cannery will handle about 20 tons of figs a day and it is expected the run will last about two months.

## Southern California

Oyster culture is being promoted by an Orange County man in Newport bay.

Experiments in growing Acala cotton at Perris, Riverside County, show satisfactory results.

Fogs in the central coast counties have been exceedingly favorable to the growth of Lima beans.

A bean drying plant is being erected on the Cadwell ranch a short distance west of Old Town, Ventura.

The bean crop for the state is now estimated at 92 per cent of normal compared with 79 last year.

Beekeepers of northern San Diego County are getting together on a project to pool their honey.

Walnut growers of Southern California will assemble at Santa Barbara, September 1-2 for their second annual field day.

The Arcadia center of the Los Angeles County farm bureau has organized a poultry club with T. H. Holmes president.

At the annual meeting of the Oxnard Citrus Association held at Hueneme it was voted to increase the capital stock from $30,000 to $150,000.

Manager Churchill of the California Lima Bean Growers Association has left for a tour of Eastern markets to prepare for the selling campaign.

Ventura County supervisors have voted an additional sum of $10,000 for building improvements. 100 additional stalls and pens for livestock will be built.

The grape shipping season for Imperial Valley is ended. A total of 180 cars was sent out against 51 last year. Coachella Valley has shipped out a total of 74 carloads.

Secretary McNaught of the Orange County Farmers Mutual Fire Insurance Company says his assocaition now has 5,378 policies in force, carrying $10,225,000 insurance.

The Ontario plant of the California Growers Association is started on a big peach run which will probably continue until the middle of October. The weekly payroll approximates $18,000.

Apple growers of Beaumont, Banning and Riverside sections met recently at Beaumont and passed resolution requesting the state department of agriculture to inspect apples before shipping.

The Los Angeles County farm bureau has arranged for field survey of several hundred citrus groves to establish best fertilizer practice. Prof. R. S. Vaile of the citrus experiment station will be in charge of the survey.

At the recent meeting of the Southern California Purebred Livestock Association committees were named for each of the Southern counties to make careful census of breeders and stock survey of feed conditions with the idea of taking definite steps toward improving stock conditions.

The state department of agriculture has arranged with the Riverside County authorities to place a quarantine inspector at the Blythe ferry to inspect automobile traffic arriving from the southern states. The work is to be carried on as a cooperative measure, the expense being borne by Riverside County and the department of agriculture on a fifty-fifty basis.

## The Coast and General

Showers over the ranges of Arizona last week helped out the feed situation.

A rainfall of 1.10 inches was reported from Flagstaff, Arizona, August 8.

Practically all of the loganberries in the Newberg district of Oregon are being sent to the driers this year.

The apple crop in Washington for 1922 is estimated at 7,750,000 bushels; in Oregon, 1,490,000; California, 1,704,000.

Most of the alfalfa seed has been harvested in the Yuma district of Arizona. Some early cotton is being picked.

The production of barley in the United States this year was estimated at 191,507,000 bushels; last year, 151,181,000 bushels.

Arizona's late summer honey harvest is practically completed except where bees had access to cotton and other cultivated crops.

The United States department of agriculture reports the world's visible supply of American cotton on August 1, 1,860,055 bales against last year at the same date 4,031,594.

Arizona's Thompson Seedless grapes are ripening 20 days later than usual. Berries have been full size for some time but deficient in sugar content owing to cool weather. Malagas, Tokays and Missions are about ready to ship.

The estimated production of Irish potatoes for the whole country is 439,900,000 bushels compared with 346,823,000 bushels last year. California's production is estimated at 11,309,000 bushels against 10,545,000 last year.

The first really good rains in the southeast and moderate showers in the north central portions have improved ranges and stock materially and replenished diminishing water supply, which is now reported good in most sections.

The price of milk for the Seattle markets has been raised as follows: July, $2.40 per hundredweight; August, $2.65, and September, $2.75. This, of course, applied only to milk which goes for the city trade and is based on a 3.6 test.

The American National Livestock Association and the National Wool Growers Association have brought formal charges of maintaining unjust, unreasonable and discriminatory rates on the sale and purchase of livestock and of conducting "an overdone and overmanned business" against the livestock exchanges at Chicago, Kansas City, Omaha, St. Paul and Portland and all commission men and market agencies at these markets.

The North Pacific Cooperative Berry Growers' Association has put up more than 1000 barrels of strawberries this season, most of which will be held for future sale. The association has found that it can in this way take care of a large quantity of surplus fruit and prevent its being dumped on the market at a low figure, or becoming a total loss. The season was very short this year and in spite of the fact that prices were low the entire crop of the membership was handled satisfactorily.

# Beating the Storm King: Putting in a Crop Despite the Weather

By Cornelius Roberts

LOOKING backward not later than the period of the touring car with a rear door one can remember when a great deal of farming land lay idle from year to year because weather conditions interfered with planting it. In those days when the tractor was a youngster and the draft horse was still the main reliance of the farmer it was not possible to seize upon a short period of sunny weather and get the planting job done.

If rains were continuous with a rainless period only now and then the farmer had simply to wait and watch the sky. This was particularly true on the lower lands where wetness interfered with cultural operations. But, thanks to the mechanical power of 1920, it is now possible to take advantage of these short periods of favorable weather and put in a crop over an area that would have taken weeks to cover in an earlier day.

Northern California had a striking example of the advantage of ample mechanical equipment last season. The winter of 1920-21 was one of almost continuous rains. By continuous rains I do not mean that it rained every day, but there were not long enough periods between wet spells to permit the soil to dry out. The word "California" ordinarily means "sunshiny," but California has and needs its rains just as do other states of the Union. The normal rainfall of the Sacramento Valley is from 20 to 35 inches, but usually comes in three months, December, January and February. For 1920-21 it was spread over a longer period, from November to the first of April. The result was that thousands of acres of land, normally plowed in November, December and January and sown to wheat and barley, could not be turned over until April 1 and thereafter. Since the harvest comes in the latter part of June and it is then customary to irrigate these lands and replant to beans, it will be seen that the period of time for planting grain was rapidly reaching the danger point.

How this problem was met by the Sutter Basin Company which has a tract of more than 45,000 acres, about half of which was being planted to cereals, will be described in what is to follow. This company, operating near the town of Maddock, in Sutter County, had probably 10,000 acres to plant to barley and wheat, and plowing was started about the first of April. In the meantime a large part of the land planted had brought forth a volunteer crop of barley and wheat. This volunteer in some cases was so lusty and thick that it was allowed to stand. But wherever there was a question as to its developing a big crop the decision was to plow it under and resow. In the old days before the big tractor, such an operation would have hardly been possible, for rank volunteer takes power to get it under.

When the soil was right for plowing this company started twenty-three 60 and 75 horsepower tractors to work. When I visited Sutter Basin I saw six of them in a 640 acre field following each other around as if they were on parade. It was a scene of feverish activity. The foreman of the crew was running around in a big automobile and a fuel truck was kept steadily busy carrying drums of distillate from the railroad station to a corner in the fields where the tractors stopped. Besides this there was a truck with a complete repair outfit, parts and the like, subject to call in case of a breakdown. Nothing was neglected to keep the army of tractors busy during the period of favorable weather.

Whenever I put a question to the foreman about the amount of work being done, he talked in "shifts." I asked what he meant and he replied that a "shift" was ten hours.

"See those headlights on the engines?" he asked. "They keep going night and day. A day's job for a tractor is 20 hours. The rest of the time is for tanking up, oiling and greasing. So you see each outfit requires two drivers and two men to operate the plows, one for each shift.

The foreman told me that those six tractors in the one field with their plows and harrows represented an investment of more than $60,000. The Sutter Basin Company owned 11 of its

(Continued on Page 177.)

Cultivating Beans with a Tractor Outfit

# Extortionate Meat Margins

By A. L. Spellmeyer

THE searchlight of fact directed towards the dark places may help bring a remedy. Publicity, like sunshine, sometimes cures. I hold no brief for any interests, and whether right or wrong suffer from a conviction that it is a patriotic duty to work for the livestock industry and meat needs of the country and to assist any development or give publicity to injustice which interferes with the best interests of production. To advocate stockyards, which I believe will help small man production, may not please some large cattlemen, and the statements that follow may not please some packers, but if these articles don't suit, you, ordinary farmers and stockmen who subscribe to the Cultivator, you can tell the publishers so, and they won't want to print them. If they do suit, you can say so. and the Cultivator which dares and has dared to stand strong for convictions will feel encouraged.

Last week and before you have been reading about the seven cent general steer offers. Last week I heard on excellent authority that a contract had been closed for August delivery beef steers at 7 cents f. o. b. Bakersfield. The association bulletins of July give up to 7½ delivered Los Angeles for steers and 6 cents for cows. One bunch of steers, the near fat end of a beef sale, is being topped off now in local yards, and the owner says he will get 8 cents for them.

While all this is going on you hear of straight out offers f. o. b. Arizona, of 5 cents for feeder steers, and this means over 6 cents delivered California, when freight expense and shrink is figured on weights here. We hear of 8 to 9 cent prices prophesied for the fall and winter fat steers.

This covers an average of 7 cattle, and lambs run about ten cents and hogs about 11, but I will give you a different story as to what an ordinary rancher within 30 miles of Los Angeles experienced last week. I am going to give you a story of extortionate meat margins that is plain and unadulterated robbery, considered from any margin that has in the average of the past 20 years been considered reasonable. I do not say what killers are making in net profit. They may be going bankrupt, but that has nothing to do with my contention. There must be competition as some 80 men or firms have slaughter licenses in Los Angeles County. It is not a fault of the Big Five packers as the independents adopt the identical margins. It may be too much overhead and too much competition and too little volume, but whatever it is, the condition is such that neither national, state or city government should tolerate it if there are any laws to apply in correction, and if not the people should speedily make some, for this is adding to an intolerable living cost, with consumers paying the high prices and producers suffering a constant corroding loss that is cutting production and food supply.

Last week a man had a carload of fat steers and cows to sell. These young steers weighed, after a 15 mile drive shrink 944 pounds so they were very fair. Their carcass shows it. The cows went some 860 on same drive and shrink, and were beef grades, not dairy breeding.

A call upon the abattoirs, independent and regular, brought identical price offering, viz: 5 to 5.50 for steers and 3.50 to 4 for cows.

One killer who has just bought 1500 head and was loaded up stated they were actually worth 6½ but he couldn't handle.

These cattle sold at five for steers and four for cows as the best price obtainable after driving 15 miles.

At this identical time steers are reported sold from a large producer 130 miles distant at 7 cents f. o. b. ranch. Is there any better argument that a market is needed in Los Angeles?

(Continued on Page 186.)

...ied 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

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## Saturday, August 19, 1922

OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## EDITORIALETTES

The orange tree from which buds were taken to produce the two original Washington Navel trees now in Riverside, which are parents of all the Washington Navel oranges in California, is still alive and in fairly healthy condition in the greehouse on the grounds of the department of agriculture. The tree is now considerably more than half a century old. This is particularly remarkable in view of the fact that the unnatural greenhouse conditions are so different from those which we usually consider are required by an orange tree. The Cultivator camera was brought to bear on this tree only a few weeks ago, and we hope we may later give a reproduction of this photograph. The photo on the cover of this issue was taken by Ernest L. Crandall, photographer for the department of agriculture and an artist who is winning fame with his camera. It was taken January 6, 1920. At this moment large growth of surrounding trees has shut in this one so that a complete view cannot be taken.

* * *

From the photograph on the cover it may be seen that the tree had more or less diffcult times in preserving its existence. At one time it was cut off four feet above the ground and a new top made. Much of the old trunk is dead and serves only to support the tree. This tree is one of the most prized exhibits of the department or agriculture and living proof, as are the orange orchards of California, of the great work which has been done by the bureau of plant industry.

* * *

Mr. Saunders, who was, more more than any other one, responsible for the introduction of this tree from Bahia, Brazil, made in his private note book references to the introduction of the Navel, from which we quote: "Some time in 1869 the then commissioner of agriculture, Horace Capron, brought to my office and read to me a letter which he had just received from a correspondent at Bahia, Brazil. Among other matters, special mention was made of a fine seedless orange of large size and fine flavor. Thinking that it might be of value in this country, I noted the address of the writer and sent a letter asking to be the recipient of a few plantings of this orange. This request brought, in course of time, a small box of orange twigs, utterly dry and useless. I immediately sent a letter requesting that some one be employed to graft a few trees on young stocks and that all expenses would be paid by the department. Ultimately a box arrived containing 12 newly budded trees, and, being packed as I had suggested, were found to be in fairly good condition. I believe that two of them failed to grow. I had a supply of young orange stocks on hand, and as fast as I could secure buds they were inserted in these stocks. The first two young plants that were sent out were sent to a Mrs. Tibbetts, Riverside, California. The lady called here and was anxious to get some of these plants for her place and I sent two of them by mail. They prospered with her, etc."

* * *

"We budded many hundreds from time to time and sent them to Florida, where it has never become very popular owing to its not bearing plentifully. Why it fruits better in California than it does in Florida is not known. In the orangehouse of the department it has never fruited heavily but is most profuse in flowers."

* * *

It is strange that this fruit which has brought such great wealth to California has been of practically no commercial value to Bahia, the place of its nativity. The tree has seemed to take to California conditions, and the fruit has been declared to be the finest citrus fruit in the world. The first planting in California was in 1876. Its worth was at once appreciated, but it was not until the Cotton Centennial Exposition held at New Orleans in 1884 that laboratory determinations gave to the Washington Navel the place of honor amongst citrus fruits.

* * *

The strike has ceased to be a strike and has become an insurrection. At this moment the effort seems to be not so much to secure justice to the workmen as to promulgate Bolshevism. The trouble is that those who are punished or who are suffering or losing money as a result of delayed freights and passenger service are entirely innocent parties.

* * *

It is estimated that California peach, plum, grape, orange and other fruit growers are losing a million dollars every 24 hours through freight refused or lost in transit because of delays. Growers who have toiled for a twelve month to produce food for striker and executive as well as other consumers, and at prices scarcely above cost, are now compelled to see the fruit rot or be disposed of at prices which make no return for even costs of production. The time was when Washington took a hand and the continuance of the injustice was stopped. Have the people no friend at Washington now?

* * *

As a result of present transportation and marketing conditions many a farmer or fruit producer is faced with the problem of serious losses. We are reminded of action taken by fruit growers of Ontario, Canada, especially by those with orchards lying along the northern shores of Lakes Erie and Ontario. These producers for years took the lean with the fat and when the report came back that owing to glutted markets their products had been dumped in the lake, possibly the next week made up the loss in part. But they were soon tired of this condition and ultimately organized cooperative marketing organizations which helped but were still insufficient. Finally they said "We will build our own canneries to handle this waste." Now when the glut comes former waste is thrown into the canneries and when normal conditions return to the market the fruit is disposed of in its fresh state. Economical, reasonable, even commonsensible.

* * *

Californians—some of them—have also been wise along this line. But many are not so situated as to cooperate with their neighbors, hence the home canner and the home dryyard have been of value. It takes a wealth of water, of fertility and abundance of hard work to produce California fruit. Let us save it all.

---

## A FIELD

George Washington fathered and laid the foundations for the greatest nation on earth. He dreamed and helped plan and builded a beautiful city which might be exclusively the nation's own. He was a great engineer, a greater general and the first and greatest of our presidents, but he was far from the greatest of farmers. His farm was known as Mount Vernon. It contained some 5,000 or 6,000 acres. It raised considerable tobacco, a little corn, some beans and sweet potatoes. It had a private deer park of a thousand or two acres, and the homestead possessed wide expanse of rolling lawns and a view of wonderful beauty up and down the Potomac. It is possible Mr. Washington, farmer, made the old place pay, but history has it that after his death the heirs failed to keep up the taxes, and year after year small farms were parceled off and sold to any buyer to cover the delinquent taxes.

These farms were not rich. They were Virginia farms, furnished with a soil of red clay mixed with liberal supply of coarse gravel. The liberality of the gravel increased in the subsoil, which is often underlaid with soft sandstone. Occasionally there are little valleys, or a strip of bottom land just above the marshy river edge, where corn and tobacco are looking well. But in general the question first in the mind of a farmer who has seen California's rich valleys is "Why is a Virginia farm?"

George Washington, as a young engineer, saw much of America, as far west as Eastern Ohio, so why did he choose those Virginia hills overlooking the Potomac? I think it must have been because of his appreciation of the beautiful and that his eye, trained in engineering, was fitted to judge the landscaping possibilities with those hills of wild grape, honeysuckle, oak and scrub pine.

Whatever Washington accomplished in farming he created a great estate, a small portion of which is today our most loved shrine. For a half century after his death, Mount Vernon remained in the Washington family—such of it as was not sold off each year. Then patriotic women organized and purchased from the heirs the small remnant of about 200 acres, and the old place, including the mansion, servants quarters, flower and vegetable gardens and that portion of the place which Washington in his will stipulated should be retained for a tomb for the Washington family, is now controlled and owned by all the people for all time.

### Virginia Farms

One farmer said: "No, our farms are not much like those out west in Ohio and beyond, but we're building up a little with more dairying and the use of soy beans and other green manure crops. Occasionally one sees a corn field of, say, an acre—once in a great while, larger—of which a little more than half is worth while. If the land rises in a knoll the sides are sure to show dwarfed and yellow stalks perhaps a few inches high, while the crop on the lower level is of stalks of six or seven feet, and with sizeable ears almost ready for the roasting. Tobacco appears to like the conditions better and is looking well.

Speaking of tobacco, it was once "legal tender," and a nearby great estate was bought some time back in the 17th century for some 1100 pounds of tobacco. Now a day's ride from the city of Washington through Richmond, Petersburg and on south toward Raleigh, North Carolina, shows but few tobacco fields.

### Millions in Goldenrod

If one could only coin all the gold in the goldenrod in these tens of thousands of acres of it he could soon establish a great estate on the banks of the Potomac. Some fields which seem to be abandoned as crop producers and which are now returning to nature's way and growing up to scrub pines and other natives, prefer to spend a year or two in battle royal between the goldenrod, ferns, lilies and other mild mannered plants and the small forest trees. This battle is of short duration, for the trees are sure winners.

### Erosion

I have solved the problem of these poor crops on the hillsides. For some 200 or 300 years these hillsides have been cultivated and the summer's thunderstorms have torn away the best soil and put it in the hollows. Many a planter is now planting rows on contours, and some have continually plowed in such a way that small terraces have been formed. This may help to save the day in the future, but present conditions must make it a rather heartaching proposition.

"In the Blue Ridge mountains of Virginia," makes good singing, but awful poor farming. Farther south cotton, tobacco and watermelons and more diverse crops appear. At one station we met a long freight train, every car filled with watermelons.

Civilized man finds some use for everything. So scrub pine has found its place. For miles I noted occasional piles of pine, like four foot stove wood only cleaned of its bark, much as is the pulpwood up in Canada. But in this case the use is not for pulpwood, but for excelsior. The small pines six or eight inches in diameter are sent to mill, shredded and baled, and the scrub pine becomes useful.—C. B. M.

# A FEW FACTS About Frost Protection With Kell-Oil Heaters

The serious losses sustained in California, during the freeze of the past winter, also losses at various times, bring before the growers the need of protection to prevent such losses.

In order that the growers may become familiar with modern methods of Frost Protection with fuel oil heaters, the following analyses of requirements are given: **EFFICIENCY, CAPACITY, DURABILITY and COST.**

## EFFICIENCY

The efficiency of a heater is measured by the amount of heat produced from fuel consumed. To accomplish this economically established basic principles must be adhered to. The first requirement is perfect combustion, and this is obtained by furnishing the necessary amount of air, and bringing it into contact with the fuel gases in that part of heater known as combustion chamber, the outer surface of which is known as radiating surface. The proper location of the air-intakes, located at the most advantageous points, furnish the oxygen to bring about perfect combustion. If these air-inlets are not perfectly located, imperfect combustion will be the result, and consequently a waste of fuel.

Part of the combustion chamber in most cases consists of a pipe or stack the surface of which is the principal radiating surface of the heater, and therefore should be of ample capacity, and also of sufficient height to insure good draft, as there is no economical heat production without sufficient draft. This must not be misconstrued, owing to the sound or roar that may be created.

A certain amount of fuel under combustion will make more of a roaring sound with a five-inch stack than it will with a seven, but the seven-inch stack has forty per cent more radiating surface than the five-inch, and therefore will furnish forty per cent more heat, providing the inner construction of the heater is properly proportioned and sufficient air is admitted at proper points below the stack. The heat loss will go still further, as the smaller diameter stack will give more force to the ascending gases in the stack and therefore bring them up at a much higher point outside of the heater, in fact, too high to be of practical heating value. This would not be the case with a larger stack. If heaters are working properly there will be almost an entire absence of smoke; imperfect combustion is shown by the amount of smoke, and this simply means a waste of fuel. It is very important that this is well kept in mind.

## DURABILITY

It will be readily seen that a certain per cent of heater equipment is lost where light weight materials are used, owing to rust and exposure to weather.

There is no question as to the advantage of using a cast iron heater, providing the cast iron is of a high grade, and of a very close texture to prevent a seepage of oil through the pores.

Growers will recognize these facts as experience with light weight heaters demonstrates the need for a more durable material.

Kell-Oil Heaters are made from "strokel" iron. This is a high grade cast iron of very close texture and high tensile strength, of exceedingly long-lasting qualities, and was developed by H. D. Keller and used by the Homer Furnace Company of Coldwater, Mich., in the manufacture of artillery hubs and flanges for U. S. Government during the world war.

## CAPACITY

There are all kinds of opinions as to the capacity of a heater. In considering this, we must first consider that all heaters should be cleaned after ten hours' burning. A heater large enough to operate ten hours, that is one that has sufficient capacity, is all that is required, in fact very seldom is a heater operated over eight hours in one stretch. Now if the oil-containing part of heater were large enough to run two or three nights in succession, it is most likely that the cleaning out would be neglected, which is not the case where the heater is only of ample capacity for one night's run. Cleaning is absolutely necessary in any oil burning heater to accomplish the best results, and the construction should be such that this can be done in the shortest possible time.

The oil-filling arrangement should also be such that, if desired, will enable the filling of heater without extinguishing the fire.

## COST

In figuring the cost of protecting a certain amount of acreage, the first thing to be determined is the heat furnishing capacity of the various heaters. Next, the length of life, or durability of heater, and finally the cost in dollars and cents. We will give two illustrations. First, we will take a heater with an average three-year limit of life. We will assume that it will take forty of such heaters to the acre, and we will assume that they can be bought for two dollars and one-half each, figuring interest on the investment at 8%. The investment will be one hundred and eight dollars, and this divided by three, the number of years, will bring the annual cost to thirty-six dollars per acre for heaters.

We will now assume that Kell-Oil heaters are used, which have an average life of considerably more than ten years (in fact they are practically indestructible) and that, owing to the fact that they deliver 40% more heating capacity than the best of other makes now in use, only thirty heaters per acre are required. Assuming the cost is six dollars each, this with interest figured at eight per cent would amount to one hundred and ninety-four dollars and forty cents per year, but on account of the difference in length of time that the heater will last, this would only cost nineteen dollars and forty-four cents per year, in a way of depreciation. The fuel carrying capacity for the year's requirements and storage containers for the fuel would be the same in either case, and would therefore make no difference in cost of operation, only to the extent that where the least number of heaters were used, that cost of care in case of a freeze would be less.


**KELL-OIL HEATERS PRODUCE 40% MORE HEAT**

*And Have More Radiation Close to the Ground Than Any Other Heater Ever Before Offered in California*

**Do not order your Protection until you see the Kell-Oil Heater.**
**Write, phone or call for demonstration and Literature.**

L. M. Railsback Co.

Los Angeles, Calif.
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Phone Broadway 4781

LOS ANGELES
ANAHEIM

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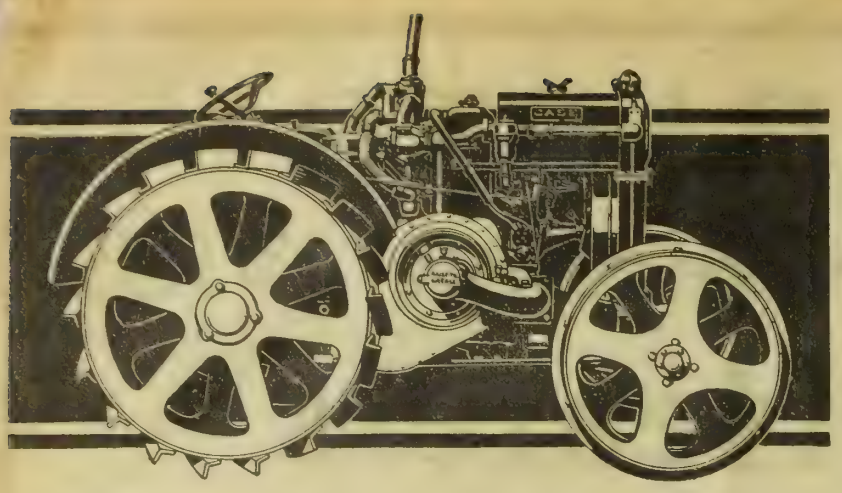
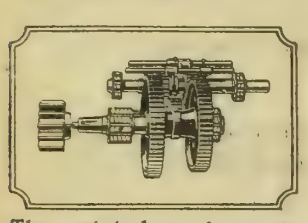
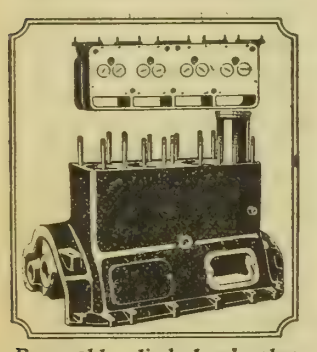
Anaheim, Calif.





*These cut steel spur gears, carried on roller bearings and running in oil, transmit more of the engine power to the drawbar.*



*Removable cylinder head makes it easy to keep engine clean and valves properly fitted. Cylinder barrels are replaceable. These features save time, money, and increase the efficiency of the tractor.*

# A *Better* Tractor

Here is the new Case 12-20—a better tractor.

It is a compact machine, of the size that is most profitable to most farmers—a tractor that will pull three 14 inch plows or drive a 22x36 Case thresher under ordinary conditions. It is equally satisfactory for traction or belt work.

Besides being far above the average in efficiency and fuel economy, this tractor is good for many years of service after the average tractor would be worn out.

The Case 12-20 is durable because:

It has ample power to take care of its load without over-taxing the engine.

It has a rigid one piece frame which holds all bearings, shafts and gears in permanent alignment.

All bearings are of more than adequate size and are positively lubricated.

All working parts are enclosed in dust and dirt proof housings, operated in oil and are easily replaceable.

Some of the special features which add to the durability of this tractor are—a patented Case air washer, removable cylinder barrels, new two piece pistons, gears of special steel, roller and ball bearings throughout.

A booklet on this tractor is now ready. Write for it today. Also, ask for the new book "Better Farming with Better Tractors."

**J. I. Case Threshing Machine Co.**
Dept. V4 Racine Wisconsin

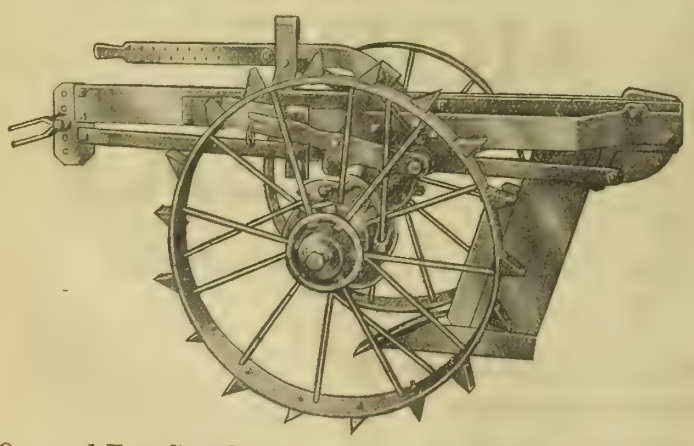
CASE

TRADE MARKS REG. U.S. PAT. OFF. AND IN FOREIGN COUNTRIES.

KEROSENE TRACTORS

# TOWNER'S SUBSOIL PLOWS

FOR ALL TYPE TRACTORS



One and Two Standard Plows, Automatic or Screw lift.

Three and Five Standard, Screw lift only.

Our patent Oscillatory Standard installed on all plows is an added feature not found on any other tool of this type.

Lister attachments, special or regular. Built to fit the plows.

For particulars see your dealer or write

**TOWNER'S**

SANTA ANA CALIFORNIA

When Writing Advertisers Please Mention the Cultivator.


# California Fruits and Nuts

By E. E. Kaufman, Statistician California Cooperative Crop Reporting Service

Fruiti crops show improvement over month ago, apples being now 87 per cent onrmal as compared with 60 last year and a ten year average of 76. Forecast of production indicates 7,867,000 boxes as against 6,500,000 boxes in 1921. Forecast indicates approximately 420,000 tons peaches as compared with 320,000 tons in 1921. Pears show slight improvement; shipments are running slightly larger than last year, crop in the neighborhood of 100,000 tons. Apricots have turned out considerably better than early estimates. Last year the total crop was about 105,000 tons; this year it will probably amount to more than 120,000 tons. Prunes also improved slightly,, as some localities find a better crop than early reports indicated. The total crop will be very close to 100,000 tons. Plums show no change in condition since July 1. Shipments have been very heavy, running considerably more than last year at this time. The crop will be from 15 to 20 per cent larger than in 1921.

### Citrus

The citrus crop declined during July as the "drop" continued. Oranges estimated 56 per cent normal as compared with 86 last year and a ten year average of 76. A light crop however will have a tendency to increase the size of the individual fruits and large sizes can be expected from the present crop. The lemon crop is estimated to be only 53 per cent of a normal as compared with 84 last year and a ten year average of 80.

### Figs and Olives

Fig crop higher than on August 1, 1921. Shipments of fresh figs are now being made and will be materially increased over last year. The production of canned and preserved figs will be greater than in any former year. Olives show a very spotted condition, one of the leading counties reporting only 20 per cent of a crop while none of the leading olive counties show better than a 60 per cent crop. Less than half a normal crop for the state as a whole is now indicated.

### Almonds and Walnuts

It is safe to predict more than 9,000 tons of almonds will be produced in the state this year. Quite a marked improvement is noted in the condition of the walnut crop. Early reports from Ventura County, particularly, indicated severe damage from frost. The latest estimates, however, minimize this damage, and practically a normal crop is now reported from that district. With the increase in bearing acreage and older trees it is more than likely that the total production will be equal to or greater than the record crop of 1919, when more than 28,000 tons were produced.

### Grapes

Condition of wine grapes remains at about normal and the total production will be very close to 400,000 tons. Raisin grapes were slightly sun burned in some localities and consequently slightly lower condition was reported as compared with July 1. However, at the present time the crop bids fair to be a record breaker and will probably amount to about 220,000 tons. No change is indicated in the condition of table grapes and the total production is forecasted at about 175,000 tons.

# California Crop Report August 1.

From report issued by E. E. Kaufman, statistician, California cooperative crop reporting service:

Conditions were generally favorable during the past month for both field and fruit crops. Temperatures remained comparatively high during the month but no material damage was indicated. In fact, it is generally believed there was some improvement through the hastening of the ripening of some of the fruits. The corn crop showed a slight improvement in the principal corn growing section and the forecast of production shows 4,215,000 bushels as against 4,060,000 bushels on practically the same acreage in 1921. The preliminary estimate of the production of wheat throughout the state indicates the largest average yield per acre for over 20 years. Conditions were very favorable to this crop where sown on summer fallowed land, and large areas have averaged from 15 to 20 sacks per acre For the state as a whole the preliminary estimate is placed at 21.5 bushels per acre which on the estimated area to be harvested, gives us a crop of 14,900,000 bushels. Harvest is practically over except in the extreme north and northeastern counties. Oats show a slight improvement compared with July 1.

As the barley harvest progressed it was noted that the production was going to be larger than indicated by early condition reports. August 1 showed an improvement of 4 points in the condition, the crop now being estimated at 94 per cent of a normal as compared with 80 last year and a ten year average of 83. On the basis of our preliminary estimate of acreage, a total crop of 38,400,000 bushels is now indicated. The rice crop improved slightly the past month particularly in the northern counties in the Sacramento Valley. On the assumption that the estimated area planted will all be harvested and that average conditions prevail until harvest time the probable crop will amount to about 3,780,000 bags, 100 pounds each.

# Tractors to Pull Crowd.

Mr. Farmer has marked his calendar as a reminder that the Sacramento state fair opens on September 2 and continues until the last fireworks sputter out on the night of the 10th. And this year Mrs. Farmer is coming, too! For the past two years Secretary Payne has carefully studied what the women like. This year the grounds will be cleaner than ever before. There will be good music—and plenty of it. There is a playground for the babies. There are adequate rest rooms. A visit to the fair insures pleasant change of scene, the meeting of many friends, lots of fun and something educational.

### Record Tent Erected

The California Tractor and Implement Club has again arranged for elaborate and thorough exhibit of the newest developments in power farming. There are 60,000 square feet under canvas in the big tent and near it a complete showing of pumps and allied equipment. The exhibit will be even more confusion free than in past years, for the whole show is under the expert hands of W. V. Freeman.

Here's a partial list of the exhibitors: International Harvester Co., H. C. Shaw Co., L. D. Armstrong Co. (Trundaar), Cushman Motor Co., F. A. Frazier Co. (sprayers), Standard Oil Co., Oliver Chilled Plow Co., Fordson Dealers, Schmeiser Manufacturing Co., John Deere Plow Co., Union Oil Co., J. I. Case Plow Works Co., Advance-Rumley Co., H. V. Carter Motor Co. (Allis Chalmers, Beeman), Pacific Implement Co., Lytle Scraper Co., Killefer Manufacturing Co., Chas. Berg Imp't. Co., (New Britain), Junior Monarch Hay Press Co., J. I. Case T. M. Co., Cleveland Tractor Co., Yuba Manufacturing Co., Harris Mfg. Co., Pacific Tractor & Machinery Co. (Henneuse), Holt Manufacturing Co., C. L. Best Tractor Co., Knapp Plow Works, Shell Oil Co., Edward R. Bacon Co. (road machinery).

### Forerunner of Better Business

With prices at rock bottom, with fac-

tories again in lively operation; with farmers replacing old and worn equipment, there has this year been an eagerness among all tractor and implement firms to make attractive display of newest devices to the critical eye of the California farmer.

Do you know what a crowder is?

Do you know about the new science of sub-surface irrigation?

Have you heard about the latest spraying method?

Do you know how to rig up your pump to get fire protection on your farm?

These questions and many others you will find an answer to in the big tractor tent in Sacramento.

### BEATING THE STORM KING: PUTTING IN A CROP DESPITE THE WEATHER

(Continiued from Page 173.)

own engines and plowing outfits and was using 12 more at so much per day. These big outfits, fully manned, command about $5 an hour.

Four of the six tractors were plowing 120 acres in a 10 hour shift which means that they turned over 240 acres a day. They were followed by tractors of similar size with disk harrows, cutting up the clods, chopping the volunteer barley and wheat and working down the seed bed.

But this is not all of the operation of putting in a grain crop between wet spells. The foreman took us to another field where the plowing and disking had been finished. The field, too, was a-sputter with tractor activity. Three 60 horsepower engines, each with from 40 to 50 feet of grain drills, were busy here putting the seed in the ground. One of these outfits, the foreman said, could seed 100 acres to wheat or barley in a ten hour shift, which means that the three outfits were capable of putting in 600 acres in a day. While we were watching this work the seed wagon drove in sight and one of the tractors stopped to take on a few sacks of wheat. The next arrival was the water boy who dashed onto the field at the wheel of a light, pneumatic tired motor truck and distributed canteens hurriedly. He passed the water cans to the men while their machines were moving. No valuable time could be spared.

The tractor has proven a mighty versatile brute. In another field that day we saw a 40 horsepower machine with 50 feet of spike tooth harrow behind it. Sutter Basin bean and sugar beet growers used tractor outfits for their cultivators. I do not mean special tractor cultivators. These farmers used tracklaying machines to draw the regular horse cultivator outfits.

Another period of feverish activity is to come for those big machines which have turned over the soil and put in the grain, for double cropping is practiced in California wherever the soil is rich and water for irrigation is available. When the barley or wheat comes off it is the practice to irrigate the land, plow again and put in some late crop like beans. Here again the time is short and it is necessary to get the harvester over the land quickly, turn on the water and get the beans into the ground. If beans are not planted by the first week in July farmers must look forward to all sorts of troubles incidental to late harvest and the approach of the rainy season.

When one sees farming as it is practiced in this age of big engines, he marvels that our forefathers were able to raise enough to eat with their crude implements. Yet it seems that the farmer works just as hard today and puts in nearly as many hours as did his father in an earlier day. In the broad view it must be admitted that mechanical power on the farm, with its greater production per man, has had no small part in raising the standard of living in America and in permitting the average city man as well as his country brother to go out for a Sunday picnic with his family in his motor car.

### DOWNEY COMMUNITY FAIR

Seventh Annual Downey Community Fair will be held at Downey, August 24 to 26. There will be exhibited fruit, vegetables, poultry, goats, rabbits, canned goods, fancy work, art, etc., representing the various industries of the community. The tent will cover a space of 100 by 350 feet. In this will be shown automobiles, trucks, farming machinery, and there will be a large stage to accommodate musicians and speakers. Fair will open at 10 a. m. of the 24th, grand parade at 10:30, speaking at fair grounds at 11:30. The management of the fair is bending every effort to make this the biggest and best fair ever held in Downey. All Southern California invited.—W. M. Booth, President.

### AVOCADO ASSOCIATION REPORT

The 1921-22 annual report of the California Avocado Association is out and, like its predecessors, is better than any previous one. Two features in which it excels are the Hertrich report on frost injury and the Nirody paper on avocado breeding. The first gives temperatures experienced and varieties injured at many points in the five southern counties. On these experiences future planting may be intelligently based. In the Nirody paper are suggestions of the proper varieties to cross breed to get the best commercial types, with the reasons therefore; a really scientific treatise which should be a guide to future breeding experiments. This year book is sent free to members and may be had by others if one dollar is sent to the secretary, Karl M. Wagner, 2160 East Seventh street, Los Angeles.

### TEXAS MELON GROWERS OBJECT TO SLATTING CHARGE

The Texas Watermelon Growers Association is trying to remove charge of $5 per car for slatting stock cars used in transportation of melons. The growers contend that because southern carriers cannot supply regular ventilated fruit cars the charge for slatting should not be borne by the growers. The transportation department of the American Farm Bureau Federation is aiding them in presenting the matter to the railway rate committee.

### PURE SEED NETS GROWERS $3.804,000

A survey of the state just completed by Professor G. W. Hendry of the University of California shows 634,000 acres of University cereal varieties to have been planted this season as follows: Mariout barley 350,000. Tennessee Winter barley 200,000, Bunyip wheat 40,000, Yolo 20,000, Four Thousand barley 10,000, Honey sorghum 7,500, Selected Milo 5,000, Federation wheat 1,500.

All of these varieties were first tested on the Davis trial grounds prior to distribution and found superior in yield to previously grown varieties and estimated to have added about $6 per acre to crop values, or a total annual increment of $3,804,000. This amount capitalized at four per cent represents a permanent agricultural endowment of $95,100,000.

Nearly all the large streams of California have their headwaters in the national forests. Many furnish drinking water. For the purpose of securing better sanitary protection on lands within the national forests the California state board of health will deputize forest officers as sanitary inspectors..


The New Oakland Six

$995

Prices at Factory

| | |
|---|---|
| Chassis | $ 795 |
| Roadster | 975 |
| Touring Car | 995 |
| Sport Car | 1165 |
| 2 Pass. Coupe | 1185 |
| 4 Pass. Coupe | 1445 |
| Sedan | 1545 |

Touring Car

The GUARANTEED Car That Makes Good Oakland's Promise

Many months ago the Oakland Motor Car Company announced its purpose to build the finest light-six in the world. It was admirably equipped to undertake this difficult task.

As a permanent division of General Motors Corporation, it was enabled to utilize the technical genius of the General Motors laboratories, as well as its own six years of experience in manufacturing light-sixes exclusively.

Oakland held fast to its purpose. It built the finest motor car that the sum of this engineering and manufacturing genius could build. It called this car The New Oakland Six-44.

So certain was Oakland that its new car was *right*, that it placed upon it —in addition to the manufacturer's standard warranty—a special written 15,000 mile performance guarantee.

Many thousand New Oaklands are now in service. If you would learn whether Oakland has accomplished its high purpose—question any one of these thousands of owners.

They will tell you that they have never driven a car more powerful, more flexible, more economical or more unwaveringly dependable.

They will praise its wonderful six-cylinder, overhead-valve engine, which insure such abundant power with all of the flexibility and quiet natural to a six.

They will tell you of its unusual pulling power through mud and sand; of its uncommon hill-climbing ability; of its troubleproof construction which makes it such an ideal car on the farm and in communities far removed from service or garage facilities.

Nor will they fail to tell you of the care and attention given to details of comfort and convenience: long, buoyant springs; unusually roomy body; door-opening curtains; genuine leather upholstery; cord tires, and other similarly high grade and complete equipment. Examine this New Oakland yourself.

Remember, it is the only car in the world that carries, in addition to the manufacturer's standard warranty—a special written 15,000 mile performance guaranty; and yet—at the reduced prices announced August first, it is one of the world's lowest-priced sixes.

*Oakland's special, written, 15,000 mile engine guarantee is conclusive proof of high quality in every part of the New Six-44. It is possible to give this unusual guarantee only because of this high quality. The guarantee PROTECTS you; the New Oakland car will do infinitely more — it will satisfy you COMPLETELY in every thing that you demand in a fine motor car.*

OAKLAND MOTOR CAR COMPANY, *Pontiac, Michigan*
*Division of General Motors Corporation*

The New Oakland Six

# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Oil and Soda Dipped Raisins

What are dipped and bleached raisins? What do they look like? Is the taste changed in any way? Please describe the process if it is not asking too much.—Reader.

We know of no better answer to these questions than is given in the "Dear Al" letters written by Mr. Howard of the Sun Maid Growers to explain some of the problems of raisin production to the sales force.

"Because of the poor drying weather in some sections at raisin curing time it has been found necessary to devise a method to hasten the drying time, so the growers dip the fresh fruit in a weak lye solution. The growers around Marysville have places fixed up with two large vats. One of these vats is fixed with oil or steam heat to keep the dip warm, or rather 'hot.' This hot dip contains about one per cent lye.

"When the Thompsons are ripe, they are picked in boxes and hauled in to the dipper, and are dumped into a wire hopper which is on the end of a pole arrangement which made me think of the 'old oaken bucket.' The basketful of grapes is immersed in the hot alkali water and almost immediately lifted out and allowed to drain. They are then swung around and immersed in the clean water for rinsing and then placed on the drying trays.

"The purpose of this hot dip is to slightly crack or check the skin of the grapes, thus permitting it to dry more rapidly. The experienced men up there can tell at a glance if their dip is the right temperature—if there is lye enough in it, and if they have been immersed long enough to acccomplish the desired result. After the grapes are placed on the trays they are hauled out to the dry yard and dried in the sun the same as the natural raisins. The finished product, Al, is what you sell as soda dipped raisins. Just like any other raisins except that they have been dipped to crack the skin, thus promoting more rapid drying. Of course, the color is somewhat changed, as well as the flavor.

"I suppose you are wondering what oil dipped raisins are, and that story is briefly told. The same sort of dip is used except olive oil is added, and as the grapes are dipped, a thin coating of oil adheres to the fruit. The oil dipped raisins are darker in color and will usually remain in a soft pliable condition for a longer time.

"The sulphur bleached raisins are handled the same way except that after they are placed on the trays they are stacked in tight compartments called sulphur houses, and subjected to the fumes of burning sulphur for several hours. The action of the sulphur fumes causes the fruit to bleach after it is exposed to the sun, and if the fruit is of good quality and the dipping and sulphuring properly done, they will be a beautiful, clear, golden yellow in color. You know what they look like better than I do Al, I'm sure.

"After all, the big thing to remember about these dipped and bleached raisins is that they are the dried product of the raisin grape but are cured in a different manner. They are all dried in the sun, so they are really Sun-Maid raisins, and there is nothing mysterious or harmful in their make-up."

### Melons Not Blooming

Please tell me the trouble with my watermelons. Fruit will not set. They bloom and bloom, but that is all. They were planted early and some were nipped by frost.—Subscriber, Bakersfield.

If you were in a coastal section we would ascribe non-setting of fruit to weather conditions. Cool damp weather often defeats pollination. But in your section this is quite unlikely to happen. Watermelons thrive best in a short hot season of growth. It may be possible, though not probable, that your vines are bearing only male blossoms, those with stamens. The female blossoms have none, only a central stigma. We will confess to being puzzled and several melon growers state they have never experienced such trouble.

### Cultivating Sub-Irrigated Land

Do fruit trees and grape vines need more than one cultivation during year on subirrigated land? Thanking you for your interest in the ranchers welfare, we very much enjoy reading the Cultivator.—Subscriber, Elsinore.

We think you will find that your trees and vines will do better even on sub-irrigated land if regularly cultivated. Cultivation keeps the soil in better condition and is usually necessary on such land to keep the weeds down.

### The Jujube Crop

Have noticed several articles in the Cultivator on jujubes, processing the fruits, etc. We will have between three and four tons of jujube fruits this year. Can you advise us of firms who might purchase?—Subscriber, Hamilton City.

Leading confectioners state but one firm in California produces glaced or candied fruits, the Lyons Glaced Fruit Company, San Francisco. All other supplies come from eastern processers.

### Size of Potato Seed

I have been told that to get large potatoes I should plant small ones. I have always heard that like begets like. Is it so?—Subscriber, Escondido.

It would take too much space to fully discuss the laws of breeding, etc. Like begets like within certain limits. A child is not necessarily representative of its father or its mother, but inherits the characteristics of the families of its parents; some in one factor, others in others. Your seed potatoes represent the particular variety and strain of that variety of which they are a part. If the strain has been a good one for several generations it matters little if you plant large or small ones, if not so small as to represent dwarfed individuals. Neither plant the very largest. Cut up and plant good sized, smooth, well formed potatoes and you will get best results. Cut into about four pieces, not more, and of nearly equal size.

### Wheat Counties

What counties in state produce the most wheat?—Subscriber, Gilroy.

According to the United States census of 1920, California produced 16,866,882 bushels on 1,086,428 acres. The acreage and yield of the ten leading counties were, in the order named: San Joaquin, 73,272 acres, 1,594,310 bushels; Yolo, 55,520 acres, 1,301,555 bushels; Solano, 42,828 acres, 1,035,049 bushels; Sacramento, 60,669 acres, 914,289 bushels; San Luis Obispo, 62,777 acres, 908,260 bushels; Kings, 51,984 acres, 892,852 bushels; Stanislaus, 51,397 acres, 797,106 bushels; Butte, 44,177 acres, 750,679 bushels; Tulare, 74,784 acres, 732,739 bushels; Sutter, 45,174 acres, 649,584 bushels.

### Cost of Producing Fruit

Have you ever published detailed statement of crop expenses for mixed deciduous fruits, comparable to the one you published for citrus? Am particularly interested in cherries, pears, peaches and apples.—Subscriber, Los Angeles.

Professor Adams in his book "Farm Management" gives the following average costs for raising an acre of apples, cherries, peaches and pears in California for the year 1919:

| | Per acre |
|---|---|
| Apples (400 packed boxes) | $365 |
| Cherries (4 tons) | 464 |
| Peaches (8 tons) | 136 |
| Pears (10 tons) | 181 |

This covers all labor and material used in connection with the growing and handling the crop but does not include marketing charges, interest on the investment or taxes.

The very high average cost for handling apples and cherries is no doubt due to the cost of packing boxes necessary for shipping these fruits whereas the peaches and pears are probably figured as being delivered to canneries, which would eliminate this expense.

Labor and material costs were high in 1919, and it would probably be safe to figure present average costs some 20 or 25 per cent lower than those given above.

It must also be remembered that the above figures are averages for the state. Local conditions may either raise or lower the amount of labor, water, etc. necessary for an acre production.

### THE NEW RAISIN PRICES

While the announcement of a considerable drop in raisin prices on the 1921 holdover crop came as a disappointment to some of the members of the Sun-Maid Raisin Growers, most of them realize that a drop was necessary if the market was to absorb not only the holdover from the 1921 crop but also the 225,000 ton crop expected for 1922. In a statement issued at the time the price was announced, F. A. Seymour, general manager, said: "We felt it was better to name a price which would move the entire crop rather than a higher one which would leave a holdover at the beginning of next year."

The new price schedule will be found on market page.


EASY NOW TO RID YOUR PLACE OF FLIES

Widely Known Scientist Discovers Wonderful Chemical That is Fatal to Flies. Not a Poison—Harmless to Stock.

Flies are one of the most dangerous and annoying things with which the farmer has to contend. Now, through the discovery of E. R. Alexander, widely know scientist, you can rid your house and barns and livestock of these pests almost instantly, and with no trouble at all. This discovery is in the form of an organic chemical that is fatal to flies, and similar pests, such as chiggers, mosquitoes and moths.

This new discovery, which is called Alexander's Rid-O-Fly, is not a poison. Though it kills flies like magic, farm animals and human beings are not affected by it at all. In addition to killing these insects, Rid-O-Fly is a strong repellant. Flies will not come near stock or buildings where Rid-O-Fly has been used. Rid-O-Fly is particularly valuable for cows and horses, as it is a known fact that flies do untold harm to these animals.

So confident is Dr. Alexander that his discovery will rid your house, barns and live stock of these pests that he offers to send a $2.00 supply for only $1.00 on the guarantee that if Rid-O-Fly does not solve your fly problems it will cost you nothing. Two big Kansas City banks guarantee the reliability of this offer.

SEND NO MONEY—just your name and address to the Alexander Laboratories, 1577 Gateway Station, Kansas City, Mo., and this introductory offer will be mailed at once.

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Do not adulterate these sulphurs with any inert material such as Lime or Kaolin, etc. Coating the sulphur particles with an inert material PREVENTS the FUMING ACTION caused by the sun's rays.

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They are heavily constructed of clear oak and hickory with natural finish put together with through and through bolts, the all steel castings, cold rolled screw, oversize feed rollers give these mills and presses larger capacity and greater strength than other mills.

Made in a variety of suitable sizes. Write for folders and price list.

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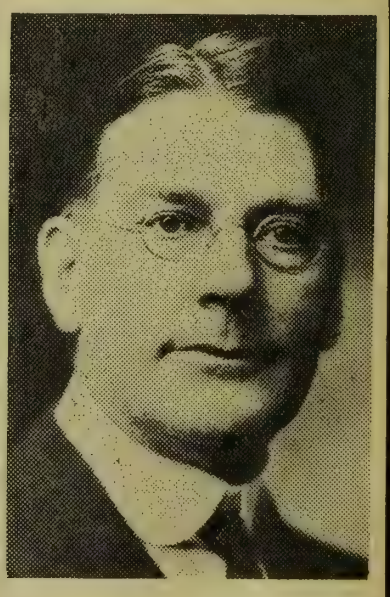

For Chief Justice
Curtis D. Wilbur
Associate Justice
of the Supreme Court

The Primary Election will determine who is to be the next Chief Justice.

# Household Department

## GARDEN ODDS AND ENDS

By Ramona Cordero

USUALLY our vegetable garden comes to a sad end. Why not gather up all the odds and ends and see what appetizing dishes we can make for the winter table? Pickles are always nice. Chili sauce adds much to the flavor of your meat course and how easily it is made! Cantaloupe pickle is very new and is a very good way of disposing of your cantaloupes before the frost catches them. They don't have to be ripe. Cut off the vine just before the stem cracks around the edge. Cabbage relish is good and well worth the time it takes to make it. All canning must be done in a closed kitchen. Wash and place jars in a large boiling kettle and cover with warm water, bring slowly to a boiling point. Have the heat very gradual or they will break. Keep lids very dry. (Bands don't need to be hot). Bring vegetables to a boiling point. Stand jar upright in boiling water and fill to the top with vegetables. Place on the lid and screw on the band. Let stand in warm kitchen till cool.

### Combination Pickle

One quart carrots, 1 cup celery, 1 green pepper, 1 cup white onions, 1 cup string beans, 2 pints vinegar, 1½ cups sugar, 2 teaspoons mustard, ½ teaspoon paprika, 2 teaspoons salt. Dice the carrots and cut the beans in short pieces. Cook them in salted water until tender. Add the other ingredients, cut in small slices, and add the vinegar, spices and sugar. Cook the mixture for two hours. Seal in hot jars.

### Chili Sauce

Twelve ripe tomatoes chopped fine, 2 medium sized onions chopped fine, 1 green pepper chopped fine; remove seeds and hard core which runs down side of pepper. Three cups vinegar, 3 tablespoons salt. Cook 1 hour, and then stir in 1 tablespoon cinnamon, 2 tablespoons sugar, 1 tablespoon mustard, 1 tablespoon celery salt, 1 teaspoon cloves. Cook 1 hour longer and if not thick enough cook longer. Seal in hot jars.

### Cantaloupe Pickle

Cut one underripe cantaloupe in small sections, (cut off outer skin). Soak the cantaloupe in ½ cup salt to 1 quart water for three hours. Take out of brine and place in colander to drain. Add the well drained cantaloupe to a pickling syrup made from 4 cups of water, 4 cups sugar, 1 cup vinegar, tablespoon of cinnamon, 1 tablespoon allspice, 1 tablespoon cloves. Boil the cantaloupe rapidly in this syrup for 15 minutes. Let stand over night. Then drain the cantaloupe again from the syrup and boil the syrup until it coats the spoon. Add the cantaloupe and cook until clear, which will take one hour or more. Seal in hot jars.

### Cabbage Relish

One quart cabbage chopped, 1 quart green tomatoes chopped, 1 pint white onions chopped, 1 cup sugar, 1 tablespoon mustard, 1 tablespoon celery salt, 1 quart vinegar, 1 large green pepper chopped fine, (remove seeds and hard core which runs down sides of pepper). Soak the cabbage and tomatoes in ½ cup salt to 1 quart water, overnight. Drain the vegetables for 15 minutes. Add the other ingredients and cook slowly for 2 hours. Seal in hot jars.

## HOUSEHOLD QUERIES

### Save Cultivator of June 17

I see in the Cultivator where you speak so highly of an article by Mr. Christie on jelly making. Would be very grateful if you would send me same as I was away from home about that time and suppose the paper was destroyed.—Subscriber, Millville.

Copy of the Cultivator of June 17 containing Mr. Christie's article on jelly making has been mailed to our Millville subscriber. We have had a great many requests for this article since it was published and are taking this occasion to again call our readers attention to its value and suggest that if your Cultivators are not all saved and filed you forthwith hunt up this issue and put it away for safe keeping.

### Canning String Beans

I think in the August 6 number, 1921, was an article on canning string beans without the cold pack process. Can you give me the recipe?—Subscriber, Norwalk.

This recipe was given by a subscriber who wrote that she had used it several years and found it simple, quick and satisfactory, that she "never lost a jar of beans canned by this recipe, and others who have tried it like it very much: To half gallon fresh string beans add ½ cup vinegar, 2 level tablespoons salt, 2 level tablespoons sugar. Add water to cover beans and boil 20 minutes after they come to boil. Seal while hot. In winter pour off all the water and cook as fresh string beans."

### Pickles of Various Kinds

Please give us some pickle recipes through the Cultivator. All kinds of cucumber pickles, sweet, and sour, and dill, also green tomato pickles and onion pickles.—Subscriber, Fresno.

Directions for making sweet, sour and dill cucumber pickles will be found in two preceding issues of the Cultivator. Following are others as requested:

Chili Sauce—Two quarts ripe tomatoes, (peeled), 4 green sweet peppers, 4 tablespoons brown sugar, 1 hot pepper, 4 onions, 1 tablespoon ginger, ½ teaspoon nutmeg, 2 tablespoons salt, 1 teaspoon cinnamon. Chop the vegetables, add the other ingredients and cook till tender (1½ hours). Then add 3 cups vinegar, boil 5 minutes and seal hot in jars.

Green Tomato Pickle—One gallon green tomatoes, ½ dozen large onions, 3 cups brown sugar, ½ lemon, 3 pods red peppers, 3 cups vinegar, 1 tablespoon whole black pepper, 1 tablespoon cloves, 1 tablespoon allspice, 1 tablespoon celery seed crushed, 1 tablespoon mustard seed, 1 tablespoon ground mustard. Slice the tomatoes and onions very thin. Sprinkle over them ½ cup salt and let stand overnight in a crock or enameled vessel. Drain well. Tie the pepper, cloves, allspice, and celery seed in a cheesecloth bag. Slice the lemon and chop 2 pepper pods very fine. Add all seasoning except one pepper pod to the vinegar, then add the drained tomato and onions. Cook for one-half hour, stirring gently at intervals to prevent burning. Remove spice bag to prevent darkening of the product. Pack hot in small jars and garnish with slender strips of the red pepper, placing them vertically on opposite sides of the jar. Place covers and rubbers on jars loosely and process 15 minutes at 212 degrees and seal.

Chutney—Four cups sliced sour apples, 8 cups chopped green tomatoes, 4 cups chopped raisins, 1 shallot chopped ¼ cup salt, 2 onions chopped, 4 cups brown sugar, 1 quart vinegar, 1 inch ginger root, 1 teaspoon cayenne. Mix all ingredients and cook gently all day. Cool, then boil hard five minutes, stirring constantly. Fill sterilized jars and seal.

Cucumber Ketchup—Three large cucumbers, 1 large onion, 2 tablespoons grated horseradish, 2 tablespoons salt, 2 cups vinegar, 2 tablespoons pepper, 1 teaspoon paprika. Grate cucumber and onion, add remaining ingredients, boil five minutes, bottle and seal.

Red Pepper Relish—Eight quarts red pepper, 2 quarts vinegar, 4 pounds brown sugar, 1 teaspoon salt. Remove seeds from peppers; cut peppers in narrow strips, using scissors. Cover with boiling water, keep on back of range ten minutes, but do not boil. Drain, cover with ice water, and let stand ten minutes. Repeat this process twice. Boil sugar, vinegar and salt 20 minutes. Drain peppers, pack sterilized jars with peppers, add syrup to fill jars. Seal and keep in cold place.

### Drying Apricots and Peaches

Please give me some recipes for drying apricots and peaches.—Subscriber, Los Angeles.

Cut in two and pit peaches and apricots. If you wish to sulphur place cut side up on shallow trays, one layer of fruit only, cover with tight box and burn sulphur under trays for about


# Are your nerves sound?

HEALTH authorities agree that children should let coffee and tea alone, that their nerves may be kept free from the caffeine drug disturbance, and grow up in natural health.

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[Political Advertisement]

# Re-Elect Hiram Johnson

There could be no more timely evidence of Senator Johnson's value to the State of California, in his present capacity, and the absolute necessity of returning him to the Senate for another term, than the important concessions he has gained for California growers in the tariff bill.

Johnson for California
California for Johnson

The increased rates on California products obtained by Senator Johnson are as follows:

| | House Rates | Senate Rates |
|---|---|---|
| Almonds, unshelled | 4c per lb. | 5c per lb. |
| Almonds, shelled | 12c per lb. | 15c per lb. |
| Walnuts, unshelled | 2½c per lb. | 4c per lb. |
| Walnuts, shelled | 7½c per lb. | 12c per lb. |
| Beans | 1¾c per lb. | 2c per lb. |
| Raisins | 2c per lb. | 2½c per lb. |
| Figs | 20c per lb. | 40c per lb. |
| Rice | (Same in House and Senate) | |
| Honey | 2½c per lb. | 3c per lb. |
| Olives | (Same in House and Senate) | |
| Olive Oil | 56c per gal. | 60c per gal. |
| Olive Oil in bulk | 49c per gal. | 50c per gal. |
| Lemons | 2c per lb. | 2c per lb. |
| Citric Acid | 12c per lb. | 18c per lb. |
| Citrate of Lime | 7c per lb. | 6c per lb. |
| Lemon Oil | 20% ad val. | 30% ad val. |
| Live poultry | 2c per lb. | 3c per lb. |
| Dead poultry | 4c per lb. | 6c per lb. |
| Eggs, in shell | 6c per doz. | 8c per doz. |
| Eggs, frozen | 4c per lb. | 6c pre lb. |
| Eggs, dried | 15c per lb. | 18c per lb. |
| Quicksilver | 35c per lb. | 25c per lb. |
| Casein | Free | 4c per lb. |

Oranges and grapefruit were not included in the House bill and were cared for in the Senate through the efforts of Senator Johnson.

When Writing Advertisers Please Mention the Cultivator.

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You will see little holes, or pores, through which flowed the sap in the living tree. In new shingles much of this natural oil is still present. But if roofs are left unprotected, the weather dries out the wood, causing it to warp and crack.

You can keep *your* shingles "alive"—by treating them with ORONITE SHINGLE OIL. It penetrates the wood fibre, fills the pores, and retards evaporation of natural oils. Rain cannot easily soak in, nor can sun or wind effectively attack roofs or shingled side walls treated with this excellent preservative.

Our agent, near you, has formulas for mixing ORONITE SHINGLE OIL with colors. Have him show you how easily it may be applied.

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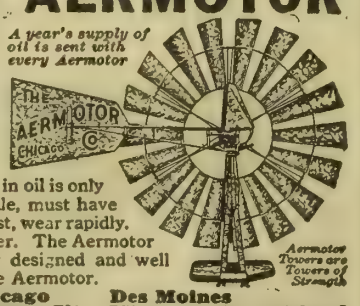


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Any windmill which does not have the gears running in oil is only half oiled. A modern windmill, like a modern automobile, must have its gears enclosed and run in oil. Dry gears, exposed to dust, wear rapidly. Dry bearings and dry gears cause friction and loss of power. The Aermotor pumps in the lightest breeze because it is correctly designed and well oiled. To get everlasting windmill satisfaction, buy the Aermotor.

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**MAKE MONEY CUTTING WOOD**

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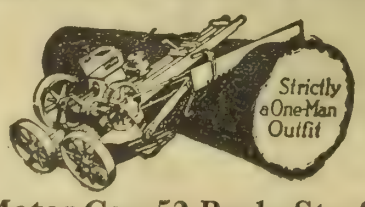


Start RIGHT Use a Warner Drag Saw

H. V. Carter Motor Co., 52 Beale St., San Francisco


three hours. Then place trays in sun and turn frequently to hasten drying. (To turn put empty tray over full one and reverse). If weather is very hot it will be better to pile trays on top of each other when fruit is nearly dried so that fruit dries in the shade. Sort out the fruits that are slow in drying and place again in sun. Do not let the tray full get hard while waiting for a few moist pieces to dry. Properly dried fruit should be soft and leathery. Pack the dried fruit tightly in large boxes and "sweat" for a few days. This will equalize the moisture, making the fruits more uniform. Dip in boiling water to kill insects or eggs, dry again and pack in cans or jars or in paper bags placed in boxes or cloth sacks. If fruit is very dry drain after dipping and pack without redrying. Examine in a couple of days to make sure no fruit is molding. If it is take out, pick over and redry. Examine fruit occasionally where it is stored to make sure no insects have found it.

### Salt in Scalding Figs

Would like to know if there is any rule as to the amount of salt to be used in the water when scalding figs preparatory for drying.—Subscriber, Porterville.

About four ounces salt to one gallon water.

### Horseradish—Milk Drinks

Can you give me some information in your columns as to when and how to prepare horseradish for the table. Also cooling drinks to be made of separator milk.? Thanking you in advance for the service I feel sure of.—Subscriber, Roseville.

Clean the horseradish roots, scrape or peel outer rough part, then grate or put through fine knife of food chopper the white root, add strong vinegar to taste. Bottle.

For cooling drinks from separator milk see Page 85 of the Cultivator of July 22. Combinations with rich fruit syrups will be especially good with this skimmed milk.

### Pickles—Grape Juice

Will you please publish in your paper recipes for the following: Spiced small sweet cucumbers, pickled Seckel pears, preserving grape juice without sugar, green tomato pickle?—"Subscriber, Yorba Linda."

Directions for making spiced sweet cucumber pickles may be found on Page 62 of the Cultivator of July 15; for green tomato pickle in the Cultivator of August 12. If this subscriber has not saved these copies of the Cultivator and will send her name and address we will be glad to mail them to her. The request was merely signed "Subscriber, Yorba Linda."

Seckel pears are pickled whole, with stems if possible. Select, of course, only absolutely perfect fruit, inspecting blossom end carefully to see that no insect has made entrance there. Wash pears carefully but do not peel. Stick three or four whole cloves into each pear. Meanwhile have cooking a rich syrup of 3 pounds sugar, 2 cups vinegar (this amount for 6 pounds pears). Add spice bag containing 4 tablepsoons whole cloves and ¼ cup mixed spices. Add a few pears at a time to the boiling syrup and cook until tender, handling carefully so that skin is not broken. Fill carefully into small fruit jars and seal. Many prefer not to put cloves into the pears as this darkens them, but most of us are like children; we like to pick out the fragrant cloves and munch them.

Grape Juice Without Sugar.—Crush grapes with the hands or with potato masher. Heat slowly to 140 degrees. Red grapes should stand about 12 hours after heating to extract color. Use a thermometer. Grapes may be squeezed through a cloth bag but a small press is better if it can be secured. Strain several times through a cloth bag. Standing for 12 hours before straining will settle some of the sediment. A slight cloudiness does not injure the flavor. Scald bottles and fill with the cleared juice to within 1½ inches of the mouth. Close with corks which have been boiled in water for ten minutes and tie down corks with string. Ordinary preserving jars may also be used. Seal the jars after filling. Place the bottles on their sides or corks down in a boiler with enough water to cover them. A screen at the bottom of the boiler will prevent breaking. Heat the water to 180 degrees Fahrenheit and keep at this temperature for 15 minutes. Higher or longer heating injures the flavor. Remove the bottles, stand on end, dry the corks with a towel and when nearly cold dip the ends of the necks of the bottles into melted paraffin. Store upright in a cool place.

### Spanish Tomato Sauce, Canned Pimientos

Will you kindly publish a recipe in the Cultivator for making Spanish tomato sauce as near as possible like what you buy in the cans on the market; also the canned red pimiento peppers that you buy on the market.—Subscriber, Glenn.

Spanish Sauce—1 red pepper, 1 green pepper, clove garlic, 1 onion; chop all fine and cook together in butter or olive oil, 10 minutes. Strain off liquor from quart can tomatoes, mix smoothly into this a tablespoon flour, add to above and cook 15 minutes longer, adding salt to taste, 1 teaspoon Worcestershire and ½ teaspoon celery salt. Stir constantly while cooking to keep it smooth.

Canned Pimientos—Use only perfectly sound peppers. To remove seeds cut around stem of each with slender paring knife and remove inside portions. To peel place in hot oven from six to ten minutes until skin blisters and cracks, watching carefully to see that they do not burn. Remove skin with slender paring knife. Flatten peppers and pack in horizontal layers in jars, adding no salt nor water. Put on top, place in waterbath (home made canner of wash boiler or kettle.) Bring water to boiling point in canner, boil 20 minutes for pints, 30 minutes for quarts. Irregular or broken peppers may be cut in strips or chopped and canned in same way.

### Drying Prunes

Will you kindly tell me if there is a satisfactory way of drying prunes in this vicinity in a small way for home use. Would like to be able to dry some without sulphur if it can be done. Have a very sweet small prune and do not know how to go about drying them. If there is any way please send me the information.—Subscriber, Anaheim.

Prunes are placed in a wire basket and dipped for a few seconds in a solution of lye (one pound to 30 gallons of water), held at the boiling point. Shake basket sharply so fruits will shift position and be wet on all sides. Dipping the prunes causes a slight checking or cracking of the skin near the stem end, which facilitates drying. If the lye is too strong or immersion too long, the skin may peel off. After dipping, the prunes are spread in a single layer upon trays and dried in the sun. They may dry unevenly. In the cool of the day the properly dried fruits may be removed. Prunes are dry when they are leathery to the touch, but not hard enough to rattle against the tray. When too dry they may be dipped momentarily into boiling water and piled in bins or on a clean floor while still damp. The moisture is soon equalized. It is well to turn them over a few times.

### Fruit Cocktail

Please print recipe for making fruit cocktail such as you get at soda fountains.—Subscriber, Fontana.

Any pleasing combination of fresh fruits in season with canned pineapple, peach, etc. One sampled at a fountain yesterday was made of cubes of fresh peaches, pineapple and a little apple, with a small amount of pineapple juice added and a little grapefruit juice to give a bit of tang, no sugar. Topped with spoonful of whipped cream and Maraschino cherry. Ordinarily banana is added; pineapple, banana and peach being a favorite combination. Often candied cherries or Maraschinos are cut and mixed with other fruits.

### "CALIFORNIA HOUSE" IN ARMENIA

"California House," a stone building which houses one of the largest boys' schools in Armenia, was dedicated near Alexandropol, Armenia, recently. This building is one of 65 buildings, formerly a Czarist army barracks, which make up the "orphan city" of Polygon, a suburb of Alexandropol.

The entire group, constituting the largest boys' orphanage in the world, is supported by Near East Relief. More than 5,000 Armenian boys are being brought up and educated at Polygon. California House includes principally boys of 6 to 10 years, representing the first to fourth grades. At the dedicatory exercises, the state of California was represented by E. W. Rankin of Monrovia and L. Ray Ogden of Oakland. Mr. Rankin is the general director of the Near East Relief work at Polygon; Mr. Ogden is the superintendent of the Industrial Schools, where all the boys are being taught trades which will make them self supporting at the age of about 16. Alexandropol formerly was the greatest southern military outpost of the Old Russian Empire.

## HINTS FROM HOUSEKEEPERS

A reader at Escondido sends to the office name of another grocer having chain of stores, who handles pectin for jelly making. She says she has found it fine. This commercial pectin was first referred to in Mr. Christie's article on jelly making which appeared in the Cultivator of June 17.

### Canning String Beans—Easy Cucumber Pickles

I am sending in a recipe for canning string beans, also recipe for making cucumber pickles. Both are easy. I have used this method for several years with very good success.

For beans, use fresh beans cut into short lengths, wash well, pack in jars, then fill with cold water. Put on the rubber jar rings and covers lightly. Leave on until contents are to be used. Place jars in boiler on laths, with cold water nearly to top, carefully adding hot water as it boils away. Bring all to boiling. From this time boil for three hours steadily. Lift a jar out at a time, fasten down caps without ever taking off. Keep the rest boiling until the last jar is out. Use for boiler a honey can which holds seven quarts, with one side cut loose. This serves as cover.

For Pickles—Use small cucumbers, wash well, pack in jars. For each quart put in one tablespoon salt, then fill with vinegar. Place caps on. Will be ready to use in a month. Sugar and spices may be added.—Mrs. Hector, Zelzah.

### Patching Overalls—Hanging Over-Drapes

Here are two hints for household department:

Overalls.—When patching overalls do not put patches over each hole, but take the full length of the back of an old pair, turn it wrong side out, and stitch it down the front of the good ones. Be sure and baste it first, turning it neatly on the pockets and down the front. When stitched, cut out the old cloth. They look like new.

Drapes.—When hanging drapes, it is not necessary to have double rods. Take old fashioned curtain pins and pin them to the material so they won't show through. Hook on to the rod, over lace curtains.—Mrs. R. H. Simonds, Orland.

### Renewing Brussels Carpet—Keeping Butter

The subscriber at Rohnerville can make her Brussels carpets like new by cleaning them with soap and warm water while they are stretched on the floor. Don't make too wet. Let dry, then take the water colors the children use in school and paint the colors of the carpet and it will look like new. Some hotel men pay a woman to brighten their rugs and carpets in this way.

If "Subscriber, Lodi," will put a teaspoon sugar and a little saltpeter in her butter when she packs it, it will keep sweet, but first of all, my mother, who is 80, says to work it and salt it, set it away until the next day or even the next, then put in the sugar and saltpeter, about as much as will lie on the point of a knife, or a small pinch with your fingers to about three pounds of butter; work it well and pour off all the water that comes out when you work it. She says that is what keeps it. Then put a clean cloth over it and put a layer of salt on top—and Mother knows; she was raised and lived on a farm in Pennsylvania and they are noted for their good butter. They get the highest prices for their butter.—Subscriber, Anaheim.


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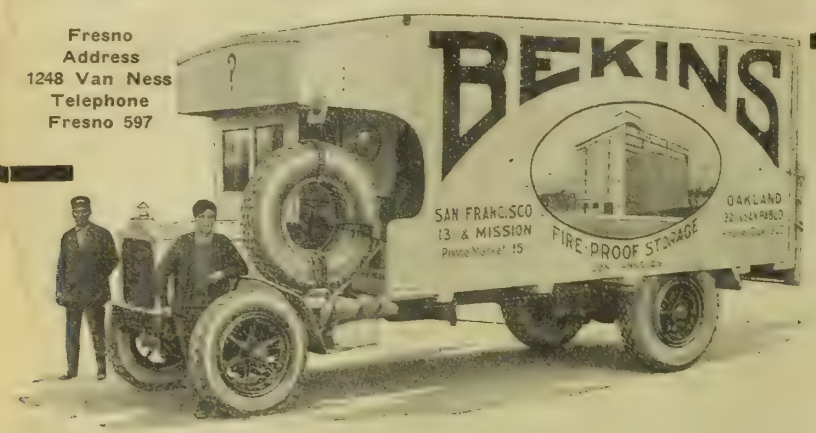



When Writing Advertisers Please Mention the Cultivator.


# Frequent Picking of Canning Fruits Means Larger Profit to Growers

By S. W. Cunningham, Secretary, Southern California Canners Bureau

As a result of the concerted campaign of demonstrations and publicity on thinning deciduous fruits, carried on during the past few months by the agricultural extension service of the University of California, in conjunction with our organization, it is now apparent that a better average job of thinning peaches has been accomplished this year than ever before in Southern California.

Some growers, however, were negligent in their duty toward themselves and the industry in this matter and are now having trouble in disposing of their crops because the fruit will not size up properly for canning purposes. The crop for the whole state will run into tonnage figures never before reached and the natural result is that canners choose the better fruit first. It is hoped that next year proper thinning can be more uniformly accomplished in the orchards.

### Picking Method Now Important

Growers who have made a sincere effort to thin properly, and other growers as well, should now give serious consideration to the matter of picking the fruit in a manner that will produce the highest results possible, both as to quality and tonnage. It is perfectly possible for a grower who has done an excellent job of thinning to lose a large part of the benefits that should result by doing a poor job of picking.

It would, of course, be a most desirable situation if all the peaches on a tree would ripen at the same time. If such were the case the whole crop could be taken off at one picking and picking would be a simple matter. However, peaches do not ripen that way and therefore, more than one picking is necessary. The question that now arises is: What are the benefits to the grower of making several pickings and how many and how frequent pickings should be made to secure the greatest benefits? A grower who picks his orchard over often enough to get off a high percentage of fruit at just the proper stage of ripeness for market gets the following benefits: High tonnage. Uniform quality both as to ripeness and size. Top market price on account of quality and size. Surety of market every year on account of becoming known as a consistent producer of uniform size and quality.

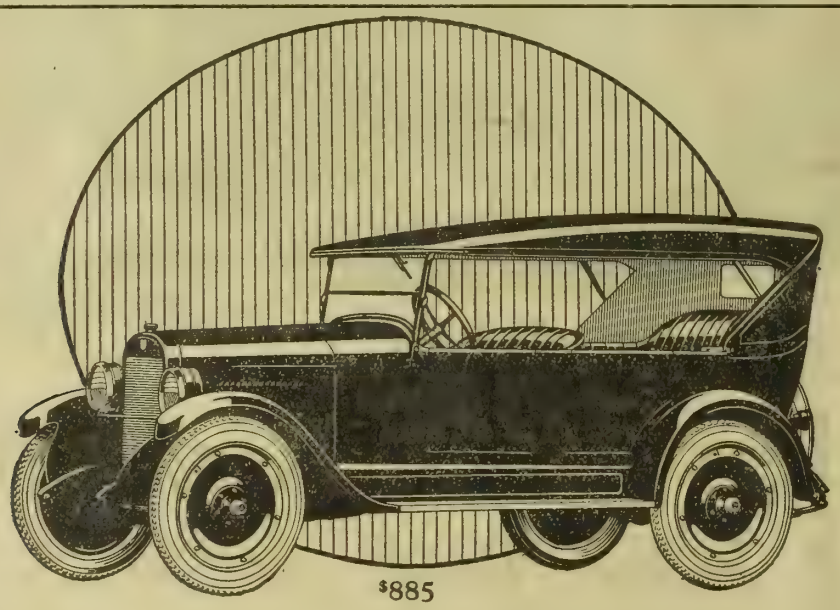
Higher tonnage is produced by frequent pickings as against less frequent pickings because, first: When picked often, practically all the fruit taken at each picking is very close to the exact point of ripeness desired and therefore, heavier than if some of it had to be picked three or four days ahead of that point so it would not be too ripe before the next picking. Second: By taking off all fruit just as it reaches the "Ripe but firm" stage, which is the stage at which it is most desirable for canning, the fruit left on the tree gains better size because some of the strain has been taken off the tree.

Growers who make four or five pickings of peaches deliver to the canneries a much more uniform quality and size of fruit than those who make only two or three pickings. The former catches nearly every peach at the proper "ripe but firm" stage and that means the period in that peach's life when it is full size and weight and well rounded out. On the other hand, the man who makes only two pickings has to take off many peaches that have not fully developed to the "ripe but firm" stage and therefore are under the full weight they would reach at that stage. He has to take them off because if left to the second picking they would be overripe for canning. He also gets many over-ripe peaches when pickings are a considerable time apart and this is not desirable. While the loss in weight for each peach picked ahead of the "ripe but firm" stage may be only an ounce or even a fraction thereof, it mounts up to a considerable figure on the whole crop.

Taking the picking proposition as a whole, the interests of the grower and canner are identical, just as in thinning. The canner would like to receive every peach at the "ripe but firm" stage and if the grower could pick them all at that stage by frequent pickings, he would get better tonnage, higher and more uniform quality, make a more satisfied customer of his canner and assure himself of a market for his crop every year because of recognition as a producer of uniformly good fruit.

One of the main reasons why Northern California canners can put 70 per cent or more of their pack into the high syrup grades of fruit is because their growers have discovered the benefits of frequent pickings by experience and consistently go over their trees four or five times each harvest season and thus get a larger percentage of the fruit to their canners at just the proper stage of ripeness for canning, than is the case in Southern California.

It is plainly impossible for any canner to make a high quality canned product out of low quality raw product, nor can the canner pay the much increased prices being paid to growers this year and come out at the end of the season with a profit unless the fruit comes to the cannery in sufficiently good condition to make a considerable percentage of high grades.

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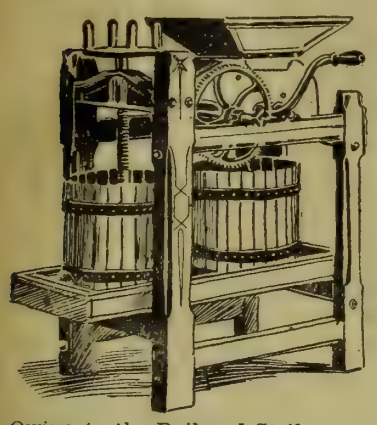
# CIDER MILLS
## FRUIT PRESSES
MADE IN LOS ANGELES



Owing to the Railroad Strike considerable quantities of fruit and grapes will be turned into local markets at low prices. **This fruit should be saved.**

**Buy a Fruit Press or Cider Mill and make palatable beverages.**

We offer a complete line of Cider Mills and Fruit Presses made in Los Angeles. They are strong, durable, wood parts made of oak and hickory, heavy bolted construction, over-size steel castings and feed rolls. Wide range of sizes. Special sizes made to order. Write for prices.

**Warr Implement Company**

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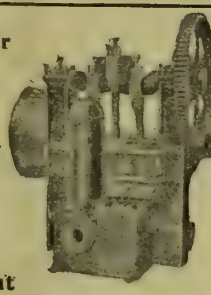
Whenever Pump Users Get Together To Talk Shop Certain Pumps Stand Out



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Installations can be made in wells 8 inch or larger. Produce 100 to 4,000 gallons per minute. Ask for Folder No. 4. Johnston Pump Company, 407 E. 3rd St., Los Angeles.

Extra parts are always available without delay for standard advertised machinery. This class always found in the California Cultivator.


### GRAFTED ORANGES AND FROST RESISTANCE

This letter from Mr. Weidenmueller will no doubt be of interest to those who contemplate experiments with reference to the frost resistance of grafted citrus trees:

I've just been reading the lucid account your Mississippi subscriber has favored us with, of grafted orange trees successfully resisting freezing temperatures of 18 or 19 degrees, to which trees of same age and kind and under similar conditions of culture, but budded, succumbed. It is, to say the least, a remarkable, a baffling phenomenon. It is my very humble opinion, that the greater vigor, hence greater power of resistance, of the grafted trees is attributable to the fact of the union between bud and stock being in close proximity to the "seat of vitality" in the plant, which is the crown at the surface of the ground where the osmotic force is the greatest in the plant. The farther removed from this seat of vitality the bud is the less potent is its viability, (that's an axiom in nature) and its equivalent power of resistance to antagonistic environs. I am not so presumptous as to offer this as an explanation at all, but assuming the correctness of the described phenomenon and knowing there can be no kind of result without corresponding causation, it is the only opinion I, a layman, can arrive at. I, for one, would like to see this mystery solved! For there is a solution and of it we are unconscious!—F. R. Weidenmueller, Upland.

### SUNBURN CAUSES MELAXUMA

Walnut trees affected with melaxuma were found where the disease is on the sunny side only. More than one-half the trees in a nine year old orchard were in serious condition. The trunks have never been whitewashed and there remains no question but the fungus first found entrance through sunburns. It had been progressing for at least three years. A coat of whitewash renewed once a year until trees shaded their own trunks would probably have been sufficient protection. Now at least one-half the trees will have to be cleaned of the affected bark and Bordeaux paste applied and still the trees must be whitewashed. Literally an hour at the right time would have saved nine.

### WALNUT GROWERS' FIELD DAY

Under the joint auspices of the farm bureaus and extension service of the walnut producing counties of Southern California, walnut growers from all Southern California will assemble at Santa Barbara on Saturday, September 2, on the occasion of the Second Annual Walnut Growers' Field Day. A program contributed to by the leading experts in all phases of the walnut industry has been prepared by the committee in charge, which is expected to result in drawing together the largest crowd of walnut growers ever assembled in the history of the industry. An additional attraction will be an old fashioned Spanish barbecue provided by the Santa Barbara County farm bureau and Santa Barbara County Walnut Growers' Association. Plans are being made to feed and entertain 1000 people. Special hotel rates have been secured by the local committee, and the Santa Barbara Chamber of Commerce will act as host on Friday, September 1, to show the visitors the beauties of Santa Barbara County.

For the convenience of the committee, walnut growers expecting to attend the Field Day and desiring hotel accommodations or expecting to be present at the barbecue are asked to write to the secretary of the Santa Barbara Chamber of Commerce.

**The Program**

10 a. m.—Address of Welcome, E. W. Stowe, Goleta. Walnut Growers' Departments, their Growth and Accomplishments—Robert W. Hodgson, farm advisor Los Angeles County. The 1922 Season's Outlook—W. T. Webber, sales manager, California Walnut Growers Association. New Developments in the Cooperative Movement—C. C. Teague, president Walnut Growers Association, or George E. Farrand, agricultural legislative committee.

1:30 p. m.—Field Trip. Up-to-date Information on Pest Control by Dusting—Prof. R. E. Smith, college of agriculture. Soil Moisture Demonstration—Prof. J. W. Nelson, college of agriculture. The Necessity of Better Harvesting and Curing Methods—H. C. Sharp, field department, California Walnut Growers' Association. Performance of Walnut Varieties—E. S. Kellogg, horticultural commissioner, Santa Barbara County.

# ELMER BROS.
## Improved Prunes

It pays to grow quality fruit. Our improved Prunes bring handsome returns to the grower. Unsurpassed for

**QUALITY**
**SIZE**
**SUGAR CONTENT**

**30 YEARS OF EXPERIENCE**

Our 30 years of experience in Fruit growing and the nursery business are at your command. Write us if you want to know what, where and how to plant.

Prolific bearers. Our prunes are the result of years painstaking selections and propagation. Ask about them.

**Ask About Our "Early Order" Offer**

It gives you the full benefit of early ordering and ends any possible benefit of waiting. Ask about this offer at once. It's the fairest offer ever made by any nursery concern.

# Elmer Bros. Nursery

Established in 1892

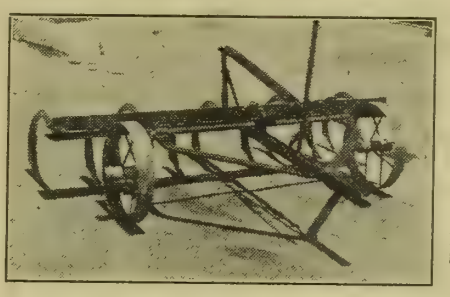
"The Nursery That Helped to Make Santa Clara Valley Famous"

78 South Market St. San Jose, Calif.



HURLEYS NEW **GOOSE NECK Cultivator**

The Best Furrowing and Leveling Machine on the Market—
Built for Horses, also Largest and Smallest Tractors.



This is the lightest weight efficient Cultivator and Furrower on the market. Its construction of spring steel gives it a crossbar that yields to sudden strains and it springs back. Detach the shovels and wheels and you have THE BEST LEVELER YOU CAN BUY.

Patented reinforced spring steel drawbar 5 in. x ⅜ in. with bar below 5 in. x ⅜ in. reinforced on two edges with angle iron. Shanks diamond shape 1¼ or 1⅛ in. Hitches for all tractors or horses. 6 ft. size only $110 with 1¼ in. shanks. 6 ft. with 1⅛ in. shanks $105. Made in 6, 7 and 8 ft sizes. Horse drawn cultivator has front truck. Over 300 in use and all giving best of satisfaction. Order direct.

You can go any depth from 5 in. above the ground to 15 in. deep, setting the teeth to prevent cutting the roots.

**ONE OF ORANGE COUNTY'S PROMINENT CITRUS GROWERS WRITES:**

M. H. Hurley, Whittier. Anaheim, July 18, 1922.

I want to express my appreciation of the work done by your Gooseneck Cultivator. I had a crusty soil condition in one part of my grove that other cultivators would not handle but your Gooseneck Cultivator went right into it, ripped it up and all the ground now permits water to enter easily, gives air to the roots and the trees that were showing signs of touble before are healthy and doing fine. It was the cultivating that did it.

ADOLPH MOSS.

**M. N. HURLEY, Manufacturer** **138 So. Comstock, Whittier, Calif.**



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11 Different Models with or without power

Immediate Delivery from Stock

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Twelve sizes — home supply or irrigation units.

Write for complete free information and catalog to Seattle Machine Works, 65 W. Lander Street, Seattle, Washington.

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# A RARE DISPERSAL!

## MAXWELL FARMS HERD

## 120 REGISTERED HOLSTEINS 120

### Hollywood, Calif., August 30-31, 1922

This is positively the greatest offering of high record Ormsbys ever made in the entire west, and with their great pedigrees they carry splendid average type and physical condition throughout the herd. Look at this list of groups in the sale:

DAUGHTERS OF KING SEGIS PONTIAC, headed by the famous 37 lb. 3 year old K S P Lily McKinley, that also made 1,199 lbs. butter in 365 days.

DAUGHTERS OF SIR ORMSBY SKYLARK, sire of the noted world's yearly record butter producer, Duchess Skylark Ormsby.

DAUGHTERS OF KING PIETERTJE ORMSBY PIEBE, including his highest record daughter, a 34 lb. 4 year old.

DAUGHTERS OF TRITOMIA PIETERTJE ORMSBY, the National Grand Champion.

DAUGHTERS OF SIR SKYLARK ORMSBY HENGERVELD, the famous sire of Gerben Abbekerk Maid.

DAUGHTERS OF KING PONTIAC NETHERLAND SEGIS 3D, the great proven son of Gerben Abbekerk Maid.

DAUGHTERS OF MAJOR ORMSBY PIETERTJE, headed by a 20 lb. junior 2 year old.

### THESE GREAT BULLS WILL SELL

MAJOR PIETERTJE ORMSBY, a son of Sir Pietertje Ormsby Mercedes and a 1,000 lb. granddaughter of Spring Brook Bess Burke 2nd. Here is an unusually high class son of the great Sir Piet., and he has every right to command one of California's top prices.

SIR ORMSBY SKYLARK PIETERTJE, a son of Sir Ormsby Skylark and a 33 lb. daughter of Sir Pietertje Ormsby Mercedes that made 1,160 lbs. butter in one year, second dam a 30 lb. daughter of Canary Mercedes Paul that made 907 lbs. butter in one year.

A WONDERFUL SELECTION OF HIGH RECORD YOUNG BULLS, the largest list of sons of 30 lb. or 1,000 lb. dams that has yet been offered in a California sale.

**Every animal positively guaranteed to be a breeder; every animal over six months old tuberculin tested and sold subject to retest by the buyer. NOT A SINGLE REACTOR WAS FOUND IN TESTING THE HERD FOR THIS SALE.**

TERMS OF SALE: California Breeders Sales and Pedigree Co. will extend the usual terms of one-third cash, balance in three, six, and nine months to responsible parties who arrange for credit prior to sale.

PLACE OF SALE: Maxwell Farms, about 4 miles north of Hollywood on Ventura-Calabasas Road. Headquarters for out of town buyers will be Angelus Hotel, Fourth and Spring Streets, Los Angeles

MANAGEMENT
CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
C. L. Hughes, Sales Manager, Sacramento, Calif.

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# You Should Not Buy a Bull Unless:

**You have seen his dam and know that she is the type you want his daughters to be.**

**Or you have seen a good picture of her with a close-up picture of her udder.**

**She is a big producer of milk with a high percentage of fat.**

**Our cows are the tops of all the big sales in the state for the past three years.**

**Practically all of them have high 7 day and yearly records. They hold 4 world's records. Our herd bull is Sir Aaggie De Kol Mead, whose five nearest dams average 1130.66 pounds of butter in a year testing over 4%.**

**You should have one of his sons out of a high record dam.**

**Call or write for our long-time, easy payment plan.**

**Lankershim, Cal.** Fred Hartsook Ranch **Visitors always welcome.**



# *MR. FARMER:—*

**You are contemplating the purchase of a service bull next year. Why not save 50 per cent of the purchase price by buying a registered Holstein bull calf now? Pay for him next year when he is ready for service.**

**Sons of SIR VEEMAN KORNDYKE PONTIAC, who has 27 A. R. O. daughters, and of BURR WALKER SADIE VALE, whose seven nearest dams average 29 lbs. of butter in 7 days, included in this offer. Call or write at once.**

**BURR FARM** **26th and Downey Road, Los Angeles**
**RFD 2 Box 120**



# GUERNSEY COWS

produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

## ROSEMOOR FARM

**W. H. Dupee, Owner Riverside, Calif.**



## Italian Vineyard Company
## GUERNSEY CATTLE

**Herd Headed by the King of Hollow Hill**

**BERKSHIRE HOGS**

**Stock of Both Breeds For Sale**

**Alex. Wilson, Supt. Guasti, Cal.**



## California Breeders

have sold more than $500,000 worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.

**California Breeders Sales & Pedigree Company**

**C. L. Hughes, Sales Mgr. Sacramento, Cal.**

**A Better Dip in a Handier, Cheaper Form**

Comes in cube-marked cakes instead of cans. Solid like soap. You simply cut off and drop one of the handy Tarx cubes in a gallon of water and you have 1 gallon of the best dipping and disinfecting solution you ever used.

**Each Cube Makes 1 Gallon**

No guess work—no waste—no bother—no leakage—no breakage. You pay nothing for bottles, barrels or cans. No freight on factory water which you can just as well add at home. Easily shipped anywhere. Packs in small space. Keeps indefinitely.

**Order Direct from This Ad**

Send only $3.00(check or M. O.) for 6-lb. package. Makes 150 gallons. Shipped prepaid. If you are not pleased your money will be refunded. You take no risk. Send today.

**TARX CHEMICAL CO. (5)**
**52 Peoples Gas Bldg., Chicago**

**A 40 Lb. PACKAGE MAKES 1200 GALLONS**

**SHARPLES PORTABLE MOTO MILKER**

NEVER HAS HURT A COW
Inexpensive Operation—Long Life

**INVESTIGATE**
**SEND FOR CATALOG**

**JORDAN-HILL CO.**
112 MARKET STREET SAN FRANCISCO, CAL.


# How the Show Ring Helps the Livestock Industry

**By E. A. Stuart, President, Pacific International Livestock Exposition**

FOR a good many years the American farmers and breeders of livestock have, in in their various communities, met at some given place for the purpose of comparing the products and animals raised on their farms with those produced by their neighbor.

Some grand old philosopher has said "Things are, only in comparison to others." Thus, to show improvement in propagating, whether it be farm products or livestock, it has always been proven that an upward trend toward betterment and efficiency comes only by comparison.

If you ask a breeder who is a consistent showman why he follows the circuit year after year, he will tell you that he finds exhibiting at fairs and shows the greatest source of publicity he can possibly use. He secures more sales, immediate and prospective, through exhibiting at these places than through almost any other medium. At fairs and shows he meets others in the business, and when he has something really worth their attention he can establish a market.

It is a breeder's post graduate course. A man who cannot learn a great deal during and following a competition should not be a breeder. The best of breeders are quite frequently the humblest. Those who win consistently are the first to say that they learn many pointers at such gatherings.

The opportunity to study your own production as compared with others is not the only benefit gained by showing. There is no place better adapted for buying and selling. You may find next to you the very sire you need to build up a second generation. If you can't get him you may negotiate with the owner for some of that blood and style. The best are all there.

There are men who raise domesticated animals and yet who have no pride in them. But I have yet to find a man who fits animals for fair, show or sale who does not increase his pride in them. It is a right and worthy pride, pride which advances the cause of good livestock.

A majority of exhibitors do not make their expenses out of premium money, nor is it to be expected. But premium money helps pay the expenses and the other advantages are so great that no breeder who pretends to a superior quality of livestock should hesitate about the cost.

The awarding of premiums is a constant source of surprise to the uninitiated. Those who are not familiar with the results are inclined to believe that nobody has much of a chance but the largest and wealthiest breeders. At the Pacific International Livestock Exposition last year about 3500 head of purebred dairy cattle, beef cattle, heavy horses, sheep, goats and swine, many of them blue ribbon winners at other great fairs and shows, were gathered together. The grand champion Jersey bull came from a small farm and was owned by a man who had never exhibited outside his own county. He was pitted against animals of same breed from several states known for show quality.

I know of another man who, on the first occasion he ever showed at Portland, won the grand championship on his Holstein cow which he valued at only a few hundred dollars. After the show he sold her at public auction for $2100 and the purchaser later sold her for $5,000 and her heifer calf for $2,800.

The constructive breeder of standing who has won a place for himself in the country is the first to give his showring experience great credit for raising the standard of his herd. The small breeder therefore should not hesitate to show at his county fair and state fair, as it will mean the raising of standard in type which in the end will mean increased production in individual herds. If only ten herds per year per state are thus improved, it would not take many years to raise the standard of our livestock breeds to the point of at least 25 per cent greater production and profit.

# Advertising the Purebred Herd

**By Prof. E. H. Hughes**

IF the buying and producing of livestock were the only problem which presented itself to the average livestock producer his task would be a comparatively simple one. The production of livestock includes buying, growing, breeding and feeding of animals. The successful producer is in addition a successful advertiser. We find our large manufacturing concerns employing highly trained advertising men. These men are responsible for developing new trade and for selling the manufactured article. The selling of surplus livestock is as big a problem as the problem of production.

### Advertising is Done in Various Ways

We hear considerable these days about trade names, and practically all the pure bred producers in this and other states have their own farm names which soon become a part of their regular advertising scheme. Some of these men use their farm name as a part of the registration names for their animals. As an example, one that is familiar with Shorthorn cattle recognizes the name of Anoka Sultan as the name of a Shorthorn bull that was bred at Anoka Farms in Wisconsin, and the proprietor is Frank W. Harding. Many examples of this sort can be mentioned in our own state. The reputation of the farm itself becomes sooner or later one of the best advertising methods, depending of course upon the class of livestock produced—the methods of dealing with the buyer and the goodwill created by the owner in his breeding and dealings generally. The buying public soon learns that certain farms stand back of their products, and this surely becomes an important factor in the advertising and selling of the products of this particular farm.

Advertising is not something definite that can be measured by any material methods, therefore, means of investigating the efficiency of various forms of advertising usually pay large dividends. This can be done by keeping accurate records of the results of various advertising methods.

There are several specific kinds of advertising, namely; the farm sign located near the entrance of one's ranch, signs at crossroads, better advertising in our trade livestock journals, exhibits at county and state fairs, association sales, aiding in the developing of pig and calf clubs, personal and form letters, pamphlets, photographs and many other forms of general publicity work by the owner himself. Many times loaning of pure bred sires to neighbors becomes an important means of local selling.

The George Junior Republic at Chino in showing at the state fair last year won prizes of which any firm would be proud. This fact has created new interest among the boys at this particular institution. It has advertised their products in more ways than one.

### Advertising Percherons

Another example of the value of winning prizes is that of the Percheron stallion, Carnot, that was purchased by W. S. Corsa in the fall of 1909 for $10,000. This stallion won the grand championship at the Chicago International that year. At the time this price was considered an outrageous one and many people felt that Mr. Corsa used poor judgment. However, this stallion has become famous as a sire, and colts sired by him have won the get of sire classes in practically all the shows in recent years. In 1913 Mr. Corsa made a statement

that he had already sold more than $13,000 worth of colts sired by Carnot and that he had as many of the colts on the farm sired by him as he had already sold. In addition he had Carnot left. A few years later he sold a half interest in this horse for $20,000. It is impossible to estimate the amount of advertising Mr. Corsa got from purchasing this stallion and mating him to the right kind of mares. Mr. Corsa has always kept before the public the name and number of this well known horse. This is merely one example of many which goes to prove that it takes advertising to put a thing across.

### Selling by Mail

Many men are able to sell their stock by mail. The best known example of this method of selling is that of the S. M. S. Ranch at Stamford, Texas. The late Frank S. Hastings developed this method of selling to a very high degree of efficiency. The S. M. S. standard feeder cattle are known as far east as Maryland, as far west as California, as far south as Texas, and as far north as Michigan.

One of the best aids to selling is prompt answering of all inquiries; using proper kinds of stationery; making affirmative rather than negative statements when one has something to sell. The right sort of equipment often has a psychological effect upon the buyer. If one intending to buy goes to a farm where things are kept up in excellent shape; where the gates hang on good hinges; where the corrals are clean; he is more apt to buy than if he goes to a place where dust is in evidence and where there is little regard for order.

### Farm Papers

One of the important forms of advertising is through the use of our agricultural press. In selecting a paper to advertise in, the reliability, reputation and the circulation of this particular paper are important considerations. It has been found as far as results are concerned that some advertising is cheaper at $4 a line than at $4 a page, depending, of course, upon the attractiveness of the advertisement; the paper itself and where the advertising is located. Some essentials of a good advertisement are that it attract attention, make an impression upon the reader, induce him to buy and lead to a response. A proper heading to an advertisement is most important because from it the reader gets his first impression. The size, shape, margin and position of an advertisement all affect results. In writing an advertisement some expression that associates it with your products adds greatly. Who is it that does not associate "eventually, why not now" with a prominent milling company?

The subject of advertising is a big one. In statements appearing in this article are only a few suggestions that might call to mind some of the things to take into account in placing before the buying public livestock that one has to sell.

## PREMIUM LISTS FOR DAIRY PRODUCTS

The state fair premium lists for dairy products are available and are being distributed by Dr. C. L. Roadhouse of the university farm at Davis. The prizes offered are extremely attractive and should induce entry of a large number of competitors.

A class is provided in which dairy inspectors may enter. Awards in this exhibit are based on the five highest scoring samples of milk and cream produced under the jurisdiction of the inspector. All employes of the division of animal industry are urged to cooperate with Dr. Roadhouse and the state agricultural society in making this part of the fair a pronounced success.

## THE TARIFF ON WOOL

**By J. F. Wilson, University of California**

Many newspapers throughout the country are publishing propaganda to the effect that the proposed tariff of 33 cents per scoured pound on wool imported into the United States will work an untold hardship on the wearers of wool clothing. So successful have the manufacturers and clothiers been in disseminating this propaganda that at least one large San Francisco daily published as "news" a statement that "the proposed rates will add at least $2.50 to the cost of every woolen suit of clothes, $3.50 to the cost of an ordinary overcoat, and $5.00 to the cost of a heavy ulster." Another daily, this one from New York City, dispenses with all introductory remarks by boldly stating: "The actual reason why 107,000,000 pounds of wool is being held in bond (in different ports of entry in the United States) is because of the 'joker' in the emergency tariff law, which levies a double duty on 'skirted' wool, and thereby puts a virtual embargo on all importations."

The public, it is to be hoped, will not be led astray by such plain misstatements of fact.

The United States was once a wool exporting country. Today we import more than half the wool we consume. While the population has increased enormously, our flocks of sheep have dwindled 12 million head in the last ten years. The decrease has been due to one factor; they have not been profitable. A tariff is necessary for the protection of the industry. It is better to have the tariff, make wool growing profitable, and slightly increase the cost of our clothes than to see the industry wiped out and later pay a much higher sum for clothes imported from a foreign country or made entirely from foreign grown wool.

If a fellow thinks he is in a hole, nine times out of ten he is simply in a rut.


# REMCO TANKS

We will ship immediately on receipt of order, any Remco tank, dimensions or capacities shown below, at prices listed:

WATER AND OIL TANKS
Made from 2-inch Clear Air-dried Redwood

| Capacity Gals. | Outside Dimensions Diameter ft. | in. | Height ft. | in. | Shipping Wt. Lbs. | Price |
|---|---|---|---|---|---|---|
| 500 | 5 | 5 | 3 | 11 | 440 | $24.00 |
| 750 | 5 | 9 | 4 | 11 | 580 | 30.75 |
| 1,000 | 6 | 6 | 4 | 11 | 655 | 35.25 |
| 1,500 | 7 | 1 | 5 | 11 | 830 | 45.00 |
| 2,000 | 8 | 1½ | 5 | 11 | 975 | 52.50 |
| 2,500 | 8 | 4 | 6 | 11 | 1,145 | 60.75 |
| 3,000 | 9 | 1½ | 6 | 11 | 1,270 | 69.00 |
| 3,000 | 8 | 5 | 7 | 11 | 1,290 | 69.00 |
| 4,000 | 9 | 10½ | 7 | 11 | 1,555 | 87.00 |
| 4,000 | 9 | 2½ | 8 | 11 | 1,580 | 87.00 |
| 5,000 | 10 | 11 | 7 | 11 | 1,745 | 98.25 |
| 5,000 | 10 | 3½ | 8 | 11 | 1,790 | 98.25 |
| 6,000 | 11 | 4 | 8 | 11 | 2,010 | 111.00 |
| 7,000 | 12 | 1½ | 8 | 11 | 2,160 | 118.50 |
| 8,000 | 12 | 8 | 9 | 11 | 2,375 | 130.50 |
| 10,000 | 13 | 7½ | 9 | 11 | 2,770 | 150.00 |

We will allow 5 per cent for cash with order or 2 per cent for cash in 10 days from invoice date.

All prices are for tanks complete, ready to erect, K. D., F. O. B., Pittsburg, Cal.

Complete instructions for erection accompany each tank. If erected accordingly, we guarantee a watertight tank.

Order from Above List

We supply towers ready to erect at low prices, or will give you tower plans with your tank.

**Redwood Manufacturers Company**
1604 Hobart Building, San Francisco
308 East Third Street, Los Angeles

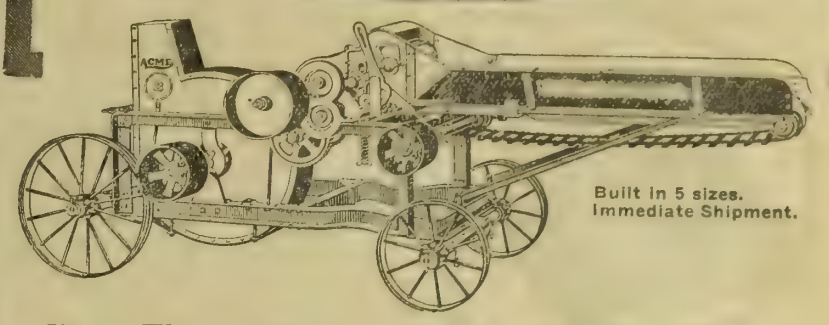
# STERILIZER
**One Cent a Gallon**

B-K Bacili-Kil Trade Mark

Sterilize pails, milker, cans, strainer and separator with B-K in rinse water. Kills germs that sour milk and cream — makes utensils sweet. Helps protect stock. ***Very cheap — one gallon B-K makes 400 gallons sterilizer.*** Write for bulletin 320-B. Money back if not satisfied—at your dealer. ***None genuine without our big blue label and trade mark.***

GENERAL LABORATORIES
214 Santa Marina Bldg., 112 Market St., San Francisco, Cal. Factory: Madison, Wisconsin.

# ACME




Built in 5 sizes.
Immediate Shipment.

## Put This Dependable Silage Cutter on Your Job

IF you knew of the superior cutting ability of the Acme, its light running qualities and greater durability, you would use no other cutter.

Let us tell you about it by sending you the descriptive Acme Cutter Catalog. Yours by return mail.

The Spiral Cutting Knives of the steel-framed Acme will produce a more uniform silage and do more work in a given time than cutters of any other type. Furthermore, the Acme is a combined silo filler, hay chopper and alfalfa meal machine—useful at all seasons.

**DE LAVAL PACIFIC COMPANY**
61 Beale Street San Francisco

# Attention
# Dairymen and Ranchers

We Are Ready to Serve You in Conducting

# Live Stock Sales—Anywhere

We are in a position to handle all paper and settle with the seller immediately after the sale.

For Further Information, Call or Write

Daly or Handley, Live Stock Department

Room 624, Pantages Theater Bldg. Phone Broadway 1018

**C. H. O'Connor & Son, Auctioneers**
Los Angeles, Calif.

### EXTORTIONATE MEAT MARGINS

(Continued from Page 173.)

The man who sold the 4 to 5 cent bunch is struggling along in the Newhall mountains trying to earn a living. He knows cattle as he is an authorized agent of the state in cattle inspection. He has no particular enemies and was under no black list or prejudice, and that was the best he could draw, less by $9.44 per head than open offers for northern Arizona feeders on a delivered California basis. Is that the way these Los Angeles killers build up the home livestock supply? Is there understanding and coalition? If the chamber of commerce desired to buld up livestock production around Los Angeles it can well look into matters of this nature, for such methods are killing off the livestock supply. If there are any laws that prevent price coalition such a condition should interest federal authorities if it exists.

This cattle seller went to many packing houses. Some asked him, are your cattle heavy or light? He answered "Medium." Some asked if they were heavy and he said "No." They said all they wanted was heavy cattle. Others asked if they were light, and he said "No," and they stated all they wanted was light cattle. Suspicious, he repeated on one well known firm. The first trip they told him they wanted heavy and the next light, or exactly opposite each time what he stated he had, and then he blew up with wrath, asked their game and charged them with being crook buyers.

Remember while all this is going on there is one bunch that expects to get 8 cents and will get seven fifty or better, owned by a large man.

We thought such prices and practices things of the past, that a new deal had come, etc., but, Mr. Farmer and Mr. Consumer, these people haven't yet seen the light. The politicians did not see it until after their machines began smashing this year, for the people are handing out their displeasure with votes. Party lines make no difference, for what people want is a lower cost of living and taxes and better economic distribution, and their political servants who have not bestirred themselves are getting the ax.

The second part of all this is, what are the packers getting for these five cent steers and four cent cows? Irrespective of the meat lists, which are bunk for the easy buyers, the competitive carcass steer beef price is 12½ to 13 cents and for cows from 10 to 11½.

Those steers dressed 500 pounds of meat, which even at 12 cents brings $60. The hide is worth $3 to $4, and offal edibles as much. Anyone will kill for $1.50 per head, blood and waste offal. There is on a bargain basis $64.50 from a $47.20 steer, $17.30, or, outside of selling and delivery, the killer figures more than 35 per cent on the producer price.

Let us see what happens when the same steer sells for 13 cents? The meat brings $65 and hide and edible offal at least $7 more, or a total of $72 gross on a $47.20 steer, or $24.80 per steer. Do you wonder why I for one have no confidence in any independent killing bringing better producer prices, when a thing like this occurs where the big bulk of the kill is independent?

What is happening in cattle is happening in lambs and hogs. I have seen bills on lambs from 27 to 30 cents for carcass. On a 70 pound lamb that costs about $7 (some are being bought at $5 to $6 per head f. o. b. range) there is a profiteering margin. The pelt is bringing over $1 now, and there is the edible offal that more than pays killing expense, but a 35 pound dressed lamb carcass at 30 cents is alone bringing $10.50 or $3.50 gross profit. Figuring on the high basis of $2 for pelt and edible offal it becomes a gross $5.50 on a lamb if bought at $7, or $6.50 on a lamb if bought at $6. More for the one phase of handling, that formerly should have been figured at 50 cents, than the producer gets out of that lamb. And even so $6 to $7 lambs make money. When the retailer gets through with his profits you know why you pay so much for meat. I may be accused of figuring these lamb profits too strong, but the seven dollar 70 pound lamb or 35 pound dressed at 27 cents figures $11.45 including $2 for pelt and edible offal, or the extortionate margin of $4.45 gross.

I don't know how many cattle are being bought on the 7 cent ranch basis as compared to the 5. I am only dealing in a fact. On the 4 cent cows that sell even at 10 cents the killing margin runs up to a $16 gross that should not be half, and which in producer abattoirs has been proven to cost $2.

What profit is there in 11 cent hogs and 30 cent pork? 75.25 per cent is what a hog dresses or roughly three-quarters of its live weight. A 200 pound hog is good for 150 pounds of pork. 150 pounds of pork at even 25 cents is $37.50 and 200 pounds of live hog at 11 cents is $22. $15.50 per hog is going some.

On such prices as 13 cent steer beef and 12 cent cow beef, 27 cent lambs and 25 cent-up pork, live weight prices under any standard that is familiar to us of margins in the past years, the live weight prices would be 7 to 8 cents on cattle, the price claimed as being paid to large producers, cows 6, lambs 14, and hogs 14.

The producer is being robbed and business is stagnant. The budding encouragement and interest in cattle is being nipped and destroyed in its tender blossom by existing piratical practice. How long will people put up with it?

### HARTSOOK AGAIN WINS SWEEPSTAKES

The annual report of the Los Angeles County cow testing association for the year 1921-22, which ended June 30, has just been issued.

It shows an average production of 8,857 pounds milk and 348.9 pounds butterfat produced by 2443 cows in the association. It also shows that the average production of all purebreds in the association was 11,234 pounds milk and 397.8 pounds butterfat as against an average production of all grades of 8,546 pounds milk and 342.5 pounds butterfat, which shows an increased production of 2,688 pounds milk and 55.3 pounds fat over that of the grades. This is certainly a good argument for purebred dairy cows. This report also shows that the production of all old members in the association was 353.6 pounds butterfat as against 312.2 pounds butterfat by the new members, which shows that the old members have been able to improve their production by using the association records.

This report embodies the winners of the yearly competition for the same period. Cows milked three or four times a day have a certain percentage deducted in order to place them on the same basis as the two timers, and are reported in pounds of butter fat allowed.

Highest producing heifer (pure bred)
1. Brant Rancho, credit 657.5.
2. Brant Rancho, credit 607.6.

Highest producing heifer (grade)
1. Santa Monica Dairy, credit 491.4.
2. Arden Dairy, credit 485.8.

Highest producing cow (purebred)
1. Fred Hartsook, credit 712.4.
2. L. A. County Farm, credit 644.7.

Highest producing cow (grade)
1. James D. Hoffman, credit 659.8.
2. Santa Monica Dairy, credit 634.2.

Best five cows in herd under 20 (pure bred)
1. F. F. Pellisier, credit 528.7.
2. Santa Monica Dairy, credit 458.3.

Best five cows in herd over 20 (pure bred)
1. Fred Hartsook, credit 630.4.
2. L. A. County Farm, credit 577.5.

Best five cows in herd under 60 (grades)
1. J. J. Scott, credit 574.
2. Jas. D. Hoffman, credit 568.4.

Best five cows in herd 60-150 (grades)
1. E. L. White, credit 592.9.
2. L. A. County Farm, credit 526.6.

Best five cows in herd over 150 (grades)
1. Arden Dairy, credit 589.
2. Santa Monica Dairy, credit 581.8.

Highest herd average 20 cows or under (pure bred)
1. F. F. Pellisier, credit 446.5.
2. Adohr Stock Farm, credit 351.2.

Highest herd average over 20 cows (pure bred)
1. Fred Hartsook, credit 446.
2. L. A. County Farm, credit 433.

Highest herd average under 60 cows (grade)
1. Jas. D. Hoffman, credit 453.2.
2. I. J. Scott, credit 433.2.

Highest herd average 60-150 cows (grade)
1. E. L. White, credit 417.2.
2. L. A. County Farm, credit 404.3.

Highest herd average over 150 cows (grade)
1. Santa Monica Dairy, credit 366.7.
2. Adohr Stock Farm, credit 350.4.

The sweepstakes cup awarded to the dairyman winning the greatest number of points for monthly and yearly production was won for the second time by Fred Hartsook of Lankershim, with a total of 190 points. Eight herds had over 100 points each, but could not equal the production of Hartsook's great Holsteins.

---

One of the best known herds of Hereford breeding cows in the entire Southwest will be dispersed at the ranch of Ex-Governor W. R. Stubbs near Hereford, Texas, on Monday and Tuesday, September 11 and 12. This herd of 2800 head of cattle was started 35 years ago by Jeff Thompson in the use of registered Hereford cows and bulls. Nothing but the best females were used for replacement purposes, the balance finding their way into the feed lot to be converted into beef. In later years Ex-Governor Stubbs of Kansas purchased the entire herd, continuing the policy adopted by Mr. Thompson. From the records made in both the show yard and the feed lot this herd has established the enviable reputation of becoming one of the most noted breeding plants in Texas.

---

An old bachelor says that the difference between firmness and obstinacy is merely a matter of sex.

**ADMINISTRATRIX SALE**
30 Registered Jerseys
25 High Grade Jerseys
**HYNES, CALIF.**
(Rhoades & Rhoades Pavilion)
**Monday, August 28, at 10 A.M.**

Owing to the sudden death of W. H. Rough, Arlington, Mrs. Rough will make a complete dispersal of the splendid producing herd of registered and high grade Jerseys, at public auction.

Every Animal Over Six Months Old Tuberculin Tested and Sold Subject to Retest By the Buyer Except as Announced At Sale

TERMS OF SALE: California Breeders Sales and Pedigree Co. will extend the usual terms of one-third cash, balance in three, six, and nine months, to responsible parties who arrange for credit before sale.

Management
California Breeders Sales and Pedigree Company
C. L. Hughes, Sales Manager, Sacramento, Calif.
Auctioneers:
RHOADES & RHOADES, Los Angeles

# Famous Stubbs' Hereford Sale

The greatest event of the year in the cattle world will be the closing out public sale of Ex-Governor Stubbs' herd of full-blood, non-registered Herefords.

## September 11-12, at Stubbs' Ranch

Eighteen miles northwest of Hereford, Texas, only 40 miles southwest of Amarillo and 60 miles northeast of Clovis. Nearest railroad point, Hereford, Texas, on main line of Santa Fe.

## 2800 Purebred Non-Registered Herefords

This auction sale will dispose of 900 cows, 400 heifer calves, 375 bull calves, 300 yearling heifers, 250 two-year-old heifers and 60 registered Hereford bulls. In addition, the sale will include 200 two-year-old steers and 300 yearling steers of Stubbs quality.

**PRIZE-WINNING STOCK AT YOUR PRICE**

This herd had a foundation stock of wonderful registered cows. For 35 years the choicest blood strains in the Hereford world have been added by use of only registered herd bulls. The Stubbs cattle have quality to spare. They are great, rugged, heavy-boned, low-down beef producing animals in good condition and running uniform to the best Hereford type.

For many years the bull calves have been sold at prices ranging from $75.00 to $150.00 per head for range service. The bulls and heifers have been prize winners at the American Royal and have topped the Kansas City market for both weight and price for the day, month and year, and for all times previous to that date.

This sale will afford you stockmen the opportunity of a life-time to buy seed stock from a cow herd that has been more than a generation in the building. Remember, other men have spent a life-time breeding them for you. Cattle are scarce; good cattle are very scarce.

**ENTIRE HERD MUST BE SOLD SEPT. 11-12**

Sales will be made in car-lots. Terms, 12 months' time with 7% interest will be extended to parties furnishing approved security. Good railroad accommodations. There will be bargains for all who come. Don't fail to take advantage of this eventful offering. Will hold cattle for 30 or 60 days if purchaser desires. For more particulars, address

E. H. PUGSLEY, Sales Manager, 214 Commerce Bldg., Kansas City, Mo.

Auctioneers: Colonel Fred Reppert and Colonel P. M. Gross.

**IF YOUR VETERINARIAN** Uses "Cutter's" Serums and Vaccines he is doing his best to conserve your interests. 25 years concentration on one line count for something.

**The Cutter Laboratory**
*"The Laboratory that Knows How"*
Berkeley (U.S. License) California

**Why You Will Make Money**
With a Son of King Korndyke Pontiac Mead:

| | Age. | Lbs. Butter 365 Days |
|---|---|---|
| Dam | 4 years | 1011.71 |
| Sire's Dam | 3 years | 1113.57 |
| Sire's Second Dam | 4 years | 1011.71 |
| Paternal Sister | 3 years | 1158.19 |
| Maternal Sister | 3 years | 1113.57 |
| Dam's Three Sisters | | 1100.47 |
| | | 1054.06 |
| | | 1021.72 |
| Average of Eight Records | | 1073.12 |

CONSISTENCY in Production and in Transmitting Production!
COME, CHOOSE, BUY
Los Angeles County, Farm. Hondo, California
Three Miles South of Downey on Downey-Long Beach Boulevard

# Classified Liners

**The direct selling method from producer to consumer, and a clearing house for California's prosperous farmers. Weekly liner rates: Each insertion 4½ cents per word. No ads accepted for less than ten words. Cash with order. Mail all classified copy to Los Angeles Office.**

## POULTRY

### BABY CHICKS

Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.

Write for prices.

FANCIERS' EXCHANGE

640 So. Main St. Los Angeles

**White Leghorn Trapnest Stock,** our own famous Yesterlaid Egg Ranch strain. Cockerels from hens, records 200-301 eggs, mated to males whose mothers laid 250 and up to 316 and 333. Buy your stock now. We have cockerels 8 weeks old and up. Also offer for sale several thousand pullets, yearling hens and good breeding hens and cock birds. Write for circular. Yesterlaid Egg Ranch, Kent, Washington, "Home of the 300 egg hen."

**For Sale**—We have fall chicks hatched from Mr. Craig's flock Sept. 1st. This flock has proven itself the most vigorous breeding flock in California. We have not had a single poor hatch all season. Price Sept. 1-10, $130 per 1,000; balance of Sept. $140, and October, $150 per 1,000. Rocks and Reds $15.00 per 100. L. Brahmas $25.00. Send for new circular. P. Cook Chick Ranch, 1717 Valley Blvd., Alhambra, California.

**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

**Profitable Poultry News**—Capacity 200,000 chicks—off every week of year. Booking Fall delivery. Thousands pullets, breeders, money-makers reasonable. 180-290 egg Leghorns, Reds, Rocks, Anconas, Minorcas, Wyandottes, Ducks, Turkeys. Imported, trapnested, selected for vigor, growth, beauty, eggs. Write Profitable Poultry, 13 North Fair Oaks, Pasadena.

**Certified White Leghorn Baby Chicks.** Booking orders now for Summer and Fall delivery. Safe arrival, live vigorous chicks guaranteed. No money in advance; pay on delivery. Established 1898. Sonoma County Farm Bureau Accredited Hatchery. MUST HATCH INCUBATOR CO., 438 Seventh Street, Petaluma, California.

### BABY CHICKS

White Leghorns, Anconas, R. I. Reds. Order now for Fall and Spring delivery

THREE MONTH OLD PULLETS
All selected—no culls

"QUALITY SUPREME"

ORANGE COUNTY HATCHERY
Santa Ana, California

**Fall Profits from Fall Chicks**—Get some—White Leghorns, Barred Rocks, R. I. Reds by the thousand, Black Minorcas, White Rocks, Brown Leghorns—smaller quantities. Hatching weekly, good chicks, reasonably priced—any quantity, 20 chicks up. Send for circular. Mission Hatchery, Box 27, Campbell, California.

**Baby Chicks**—Reds, Rocks, Anconas, and White Leghorns. Hatches every week after August 1st. Write at once for price list. Place your order at once, as we have several thousand now sold to old customers. Est. 1915. Hargett & Son, Route 2, Box C, Compton, California.

**Baby Chicks** from my pure-bred, heavy laying strain of S. C. White Leghorns, June and July delivery $12.00 per 100; $33.00 per 300; orders taken now for August and September delivery. Write for particulars. J. R. HEINRICH POULTRY YARDS, Arroyo Grande, California.

**Finest Hatchery in the World** at Pebbleside Poultry Farm. Baby chicks and hatching eggs from our own selected heavy layers. Visit our farm and have a look. Pebbleside Poultry Farm, Sunnyvale, California.

**Union District Hatchery** is booking orders for the fall chick. Chicks from the best tested layers at right prices. White Leghorns, Rhode Island Reds, and Barred Rocks. F. & L. Downing, Los Gatos, California.

**Fall Chicks Pay**—Order now for September and October delivery. White, Brown, Buff Leghorns, B. Rocks, Reds, Anconas, B. Minorcas. McDonald Poultry Ranch, Rt. 1 Box 246, San Jose, California.

**White Leghorn Baby Chix** for summer and fall months from stock Accredited by Sonoma County Farm Bureau. We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Watch Us Grow**—We are now booking orders for fall chicks. Brown and White Leghorns, Rhode Island Reds, Barred Rocks and Anconas. Ohlen's Hatchery, Campbell, Calif.

**White Leghorn Cockerels,** fine stock $1.50 up. Also Brown Leghorn pullets, fine stock. Stubbe Poultry Ranch & Hatchery, P. O. Box 67-E Palo Alto, Calif.

## POULTRY

**The Archibald Hatchery** will supply through September and October White and Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons and Wyandottes. Our folder may interest you. B. W. Archibald, Soquel, Santa Cruz County, California.

**Fall Chicks**—Hatches every week. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. Stubbe Poultry Ranch and Hatchery, P. O. Box 67-E, Palo Alto, California.

**Slightly Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

**Pit Games**—Old and young trios. R. H. Crane, Santa Rosa.

SICILIAN BUTTERCUPS wanted by F. G. Zimmerman, Cloverdale, Calif.

## FARM LAND FOR SALE

**If You Want a Poultry Ranch,** also suitable for fruit, grapes, vegetables or grain, of from two to forty acres—at from $200 to $350 per acre, with water IN SOUTHERN CALIFORNIA that you can buy on exceptionally easy terms or pay for in poultry, vegetables or other products, and no middleman to divide profits with, and have a few hundred dollars to start, write for particulars. EDGEMONT RANCH COMPANY, PO Box 66 Pasadena, California.

**For Sale by Owner—Poultry Ranch,** about 5 acres, 1½ mile from town, on Palermo Road, one of the main paved highways between Oroville and the Western Pacific Shops. Good 4 room cottage, large basement, city water, electric lights and telephone. Two large brooder houses, chicken houses and garage, few fruit trees and berries of all kinds, about 500 chickens. Chas. Belden, Route B. Oroville, California.

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**Ventura County**—5½ acres citrus grove in Fortune Favored Fillmore, within the city limits. Cozy bungalow, shaded by giant sycamores. Highly developed mutual water. Lemons, oranges, avocadoes. Price $7500—terms. Farmers Realty and Investment Company, Fillmore, California.

**Paradise, The Orchard Home Place**—Water, electricity, telephone, good roads, healthful climate, reasonable prices. Box C. Publicity Committee, Paradise, California.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

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**For Two Hundred Dollars Per month** advertiser will work as foreman. Is thorough in all lines of stock raising, farming and fruit growing. Experienced in working all kinds of labor. Speaks Spanish. Address Box HPF, Cultivator, Los Angeles.

**Wanted: Men With Spare Time** to represent established California company selling standard material to ranchers in ten southern counties. Good pay. Address W. S. H., care California Cultivator, Los Angeles.

**Wanted Throughout California,** men with autos to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call. J. H. Yetter, 317 Central Ave. Los Angeles.

**We Are in the Market** for several thousand first class citrus trees on sour roots. Dortons Southwest Nurseries, Harlingen, Texas.

**I Want Farms** for cash buyers. Will deal with owners only. R. A. McNown, 370 Wilkinson Bldg., Omaha, Nebr.

## SHEEP

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**For Sale**—950 lambs and ewes. Will sell any amount including 200 Dorsets. Reasonable terms. Terry Sestino, 1014 H street, Modesto, California. Phone 820.

## DOGS

**For Sale**—Beautiful White Collie pups—pedigreed and eligible to registration. Box 724, Huntington Beach, California.

## CATTLE

**Jersey Show Bull Calf For Sale.** Born November 29, 1921. Sire traces 6 times to Financial Count in 5 generations. Dam Register of Merit cow with 489 pounds butter on two milkings a day. Strong in Noble of Oakland and Financial blood. A splendid individual and priced to sell. Grant A. Brown, El Monte, Calif.

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys — Grape Wild Farms — Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

SHORTHORNS STRALOCH FARM
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**Registered Holstein Bull** sired by King Pontiac Segis 3rd. Will sell cheap or trade for good cow. J. P. Kelly, San Bernardino.

**For Sale**—Six Reg. Guernseys, two cows, two heifers, two bulls, four high class grade two year olds fresh this fall. J. M. Daley, Springfield, Oregon, Route 1.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Herefords**—"Veramont Stock Farm," H. M. Barngrover, Prop., Stockton, California.

**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

**Registered Herefords**—Anxiety IV strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

## MISCELLANEOUS

**Natural Leaf Tobacco**—Chewing 5 pounds, $1.75; 10 pounds, $3.00. Smoking, 5 pounds $1.25; 10 pounds, $2.00. Send no money. Pay when received. Tobacco Growers Union, Paducah, Ky.

**Natural Leaf Tobacco** — Chewing, 5 pounds, $1.75; 15 pounds, $4.00. Smoking, 5 pounds $1.25; 15 pounds, $3.00. Send no money, pay when received. Farmers Tobacco Association, Paducah, Kentucky.

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Smoked Salmon**—5 pound box, $1.25; salt salmon bellies, 5 pounds $1.25, delivered by mail. Coffin Fish Co., Seattle, Washington.

**Kentucky Homespun Smoking Tobacco.** Ages in bulk. Mellow and sweet. 10 lbs., $1.50; 20 lbs., $2.75. Tobacco Growers Union, Lynnville, Kentucky.

## PATENT ATTORNEYS

WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

## MACHINERY

**For Sale Reservoirs, Grain Bins**—We have several big redwood tanks. Cheapest thing money will buy. Tanks, 2,000 bushel capacity, $68; 6,000 bushels, about 3,500 sacks, $125. Cement reservoirs crack. Quakes don't hurt wood tanks. 12,000 bushel capacity, $195 on cars. L. A. make, new galv. tanks, 10 sizes, 175 to 2,000 gals. at $45.25; 1,000, $35.25. Also rebuilt tanks. Pumps at lowest prewar prices. Windmills, tanks, pumps, cylinders, pump rod 3, 4, 6 in., irrigating pipe rebuilt, new, for less. Demmitt, 120 N Main St., L. A.

**For Sale**—1 Owen's Bean Thrasher, 26x44 with belts, side feed sacker, etc. $350 at Buena Park Blacksmith Shop, Buena Park, California.

**Allwork Tractor.** Brand new machinery, bought last spring and never used, a bargain. Phone 855-R Alhambra. Can be seen on Gardiner Ranch, corner of Mission and Del Mar Ave., San Gabriel.

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Two and one-half miles west of Davis, Calif. on Highway, C. Harold Hopkins, Woodland, California.

## TURKEYS

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

## FOR LEASE

**For Lease**—167 acres improved, one mile northwest of Westminster, eleven miles east of Long Beach, known as Creedmoor Gun Club Ranch—would be ideal for dairy. Plenty buildings, two artesian wells, one pumping plant. Can be leased for term of years at fair rental, part of which can be paid in labor. Possession of buildings and part of land any time. W. F. Marks, 1318 West 3rd street, Los Angeles. Phone 52471.

## DUROC-JERSEYS

**Mayflower Duroc Jersey Reds** are good ones—30 gilts, 20 boars, 8 bred sows. Priced to sell. Sired by four of the best boars in California. Their fair record stands behind them. Royal I Am, Craigs Pathfinder, Orion Cherry King J. K. and Defender W S K. Nothing but the very best sold and guaranteed to please. Kincaid & Muselman, E. Bakersfield, California.

**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

**Winsor Ranch Durocs**—The best of stock at reasonable prices. BONITA, CALIFORNIA.

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**For Sale**—25,000 Sour Orange Seed Bed Trees. 1,000 1 year old Valencia buds. Not touched by the freeze. In one of our nurseries near Garden Grove. Southland Nurseries, 1941 East Colorado Street, Pasadena, California. Phone Colorado 6352.

**For Sale**—225 Seedling Avocado Trees, 8 to 24 in. high, in 3 inch tar paper cartons. Come and get them at $15.00 per 100. A. B. Phelps, Horn Ave., Sherman.

**For Sale**—Grafted walnut trees, also citrus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**For Sale**—Grafted Walnut Trees for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**Beeman Tractor Cheap** — Young man learn trade. Cash Nursery, Sebastopol.

## SEEDS AND PLANTS

**D. Lotus Seed**—Manchurian stock for Japanese persimmons. Let me include your needs in my 1923 importation from Manchuria. Fred W. Kelsey, Nurseryman & Orchardist, El Monte, California.

**Seed Potatoes**—Certified White Rose No. 2 grade for $1.50 per cwt. Chester Barton, Temecula.

## HORTICULTURAL PRINTING

**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St., Los Angeles.

## CORN HARVESTER

**Corn Harvester** cuts and piles on harvester or winrows. Man and horse cuts and shocks equal Corn Binder. Sold in every state. Only $25 with fodder tieing attachment. Testimonials and catalog FREE showing picture of Harvester. Process Harvester Co., Salina, Kansas.

## CENTRAL CALIFORNIA CITRUS INSTITUTE

The Central California Citrus Institute will be held at Lindsay on Wednesday, September 6. Two subjects will be under discussion. For the morning session beginning at 10 o'clock the program will be:

**Morning Session**

The Need for Better Pest Control, R. S. Woglum, entomologist for Fruit Growers' Supply Company. Practical Results in Control of Scale in Central California, Frank Brann, horticultural commissioner. Control of Citrus Thrips, A. J. Flebut, entomologist, federal department of agriculture, Washington, D. C. Control of June Drop, P. A. Boncquet, plant pathologist.

**Afternoon Session**

Fertilization Problems of Citrus, Gordon Surr, field assistant in orchard management, citrus experiment station, Riverside. Irrigation Practices on Citrus Soils, R. S. Vaile, assistant professor orchard management, citrus experiment station. Fertilization and Cultural Practices on Venice Cove Ranch, Grant Phillips, manager. Cover Crops, W. R. Schoonover, extension specialist in citriculture, University of California.

**Evening Session**

At 6 p. m. will be held the banquet. There will be a talk by Dr. H. J. Webber on the work of the citrus experiment station with special reference to the influence of stock on growth of trees, also short talks by citrus growers on the farm bureau work.

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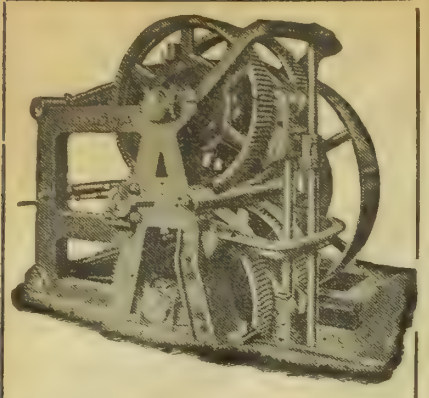
Be sure you know what it's goin' t' cost, then go ahead, is th' wise course these days, notes Abe Martin.



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$8.50
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For small Poultry Plants. Made of the best material and fully guaranteed. Cuts dry or green feed. Weight, 15 pounds, crated. Ask your dealer or write for circular. If your dealer can't supply you order direct.

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Baby Chicks

We incubate 250,000 eggs every three weeks; the largest and finest equipped electric hatchery in the Southwest. All popular breeds: Rhode Island Reds, Barred Rocks, Black Minorcas, Anconas, etc. Also our famous Oregon-Corvallis White Leghorns. Order now for immediate or future delivery of Baby Chicks, Pekin, Muscovy or Indian Runner Ducklings, Mammoth Bronze baby turkeys. All kinds of pullets supplied—anytime. Incubators and brooders. Careful attention to every order, large or small. Send today for prices.

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Bee Hives and Supplies

Headquarters for everything needed in the care of bees. Send for late price list and free booklet.

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FULL PARTICULARS IN OUR FREE BOOK
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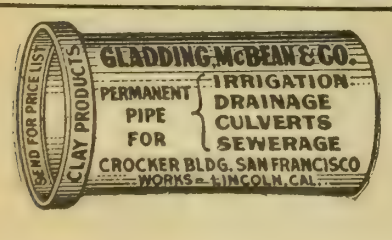




# Poultry Queries

Conducted by Jean A. Koethen

### Nux Vomica for Chickens

My reply to subscriber, St. Helena: —Nux vomica was an old time remedy with our grandmothers and great grandmothers, back east, for the extermination of hawks, but I never heard of it being used to free chickens of vermin. As our chickens had unlimited range we never knew what it was to have them bothered with vermin. Nux vomica was believed to be a good tonic for chickens. I do know it was a great appetite stimulator for them. The proportion is a heaping teaspoon of the powdered nux vomica mixed well into a half gallon dry mash and then moistened as usual, this to be repeated every second day as long as any hawks appear. No chickens are eaten by the family for ten days after the last dose of nux vomica is fed. It was the general belief that all fowls hatched with their eyes closed nux vomica would kill, but all hatched with their eyes open it would not harm. I do know we found hawks nests with the young dead.—Subscriber, San Bernardino.

### Droopy Tails

Two of my pullets walk with head erect and tail dragging, like penguins. One has been this way a month, the other I have just noticed.—Subscriber, Buena Park.

Dr. Salmon says: "When anything is the matter with a horse the maxim is, examine his feet; when anything is found wrong with poultry the maxim should be look for lice." It is possible there has been some injury, but much more likely that the birds are either covered with lice or preyed upon at night by myriads of mites. Midsummer is the time when mites do their most deadly work, and pullets that have their blood sucked night after night by these terrible pests lose their vitality if not their lives. Go over the houses thoroughly with an insecticide such as cresol, crude carbolic acid or carbolineum, and see that no crack or corner escapes.

### Poultry Books

Please give me a list of books on turkey and chicken raising.—Subscriber, Adelaide.

Harry R. Lewis' "Progressive Poultry Husbandry," published by Lippincott's Philadelphia, and Dryden's "Poultry Breeding and Management," published by Orange Judd & Co., New York, are two of the best texts on general poultry raising. A very good bulletin on turkey culture may be had free by writing the Department of Agriculture, Washington, D. C., and the extension department of the Rhode Island experiment station at Kingston, R. I., has published some excellent bulletins on prevention and treatment of blackhead in turkeys. There is no up to date book on turkey raising.

### Crazy Chickens

What ails chickens and turkeys when they seem to go blind and act as if they were crazy? After a little while they die.—Subscriber.

Unsteady walk, expansion of the pupils, slow and difficult breathing, trembling and convulsions are symptoms of arsenic poisoning, possibly from rat or gopher poison or some spraying mixture. There are also weeds which chickens on range sometimes find which produce similar symptoms. For arsenic poisoning white of egg, flaxseed mucilage, and large quantities of milk are the simplest remedies. Sulphate of iron and calcined magnesia are also used.

### Wheat for Pigeons

I have some pigeons six years old, and whenever the squabs are half grown they die. I feed them wheat all the time and the old pigeons get plenty of greens and have a good range to fly. This is the first summer I have lost any.—Subscriber, Manzanar.

Wheat as an exclusive diet is not good for either adult pigeons or squabs. They should have a variety of grains, with corn as the foundation. A mixture of ¼ wheat and ¾ corn, for the regular ration, with a good feeding three times a week of Canada peas, Kafir corn, hemp, millet, barley, or a mixture of two or three of these grains, will keep the birds in better condition than any one grain alone. See also that they have clean water, grit and rock salt. Too much wheat causes diarrhoea; absence of grit and salt produces the condition known as "going light."

### Swellhead in Turkeys

My turkeys have colds which seem to settle in their heads and form a swelling on each side of the nose, and cankers. I have been feeding bluestone and dipping their heads in it, but the disease is spreading, and many are dying.—Subscriber, Templeton.

If the disease is so general the first step toward a cure is to find the cause. Turkeys that roost out of doors are rarely troubled with roup or any sort of cold unless they have an inherited tendency to the disease. If yours are roosting indoors you will have trouble until you give them some sort of outdoor roosting place. The only roupy turkey I ever had I cured by dipping its head morning and night in a solution of potassium permanganate. Get ten cents worth of permanganate crystals from the drug store and drop into a quart measure or lard pail of slightly warm water just enough to make the water a deep pink. Before you dip the birds' heads you will have to open the swellings under the eyes and wash them first with a 20 per cent solution of baking soda, then with peroxide of hydrogen. After that you can dip the head twice a day, first massaging the nostril upward toward the eyes to loosen the mucus. Hold the head under while you count ten slowly. Another treatment which is recommended by Dr. Kaupp, after the swellings are opened and cleansed, is to inject with a small syringe or atomizer a mixture of 1 dram oil of thymol, 20 drops oil of eucalyptus and 2 ounces oil of petrol. This is done three times daily. If you use potassium permanganate prepare it fresh every time you use it.

### Picking the Layers

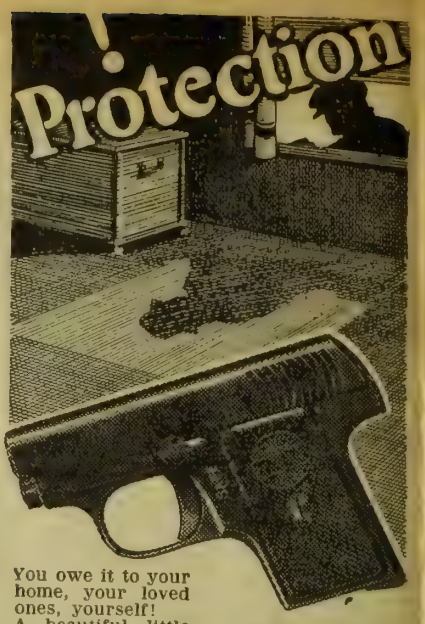
On June 26 I began to mark my sitting hens. Two hens released on that date began to sit on July 19. When killed both were fat, had a tinge of yellow on beak and shank, three finger abdominal capacity and pelvic bones a half inch thick. One had a large cluster of eggs, the other a very small one. Would the former have made a good layer, or is there any correlation between the number of undeveloped eggs and the future production of the hen?—Subscriber, Alhambra.

No Leghorn hen that goes broody twice in two months will ever be a good layer, no matter how many undeveloped eggs she contains. Those undeveloped eggs are the seeds, so to speak, which may grow into eggs, but no hen ever developes all of them. Those that are already developing when the hen is killed are all you know positively would ever have developed.

### Neighbor's Hens

My neighbor's chicken houses, which are built against the division fence, are unspeakably dirty and his chickens have developed roup. Can I compel him to cleau up? If I cannot, is there anything to prevent my hens from getting the disease? Is there any disinfectant to use in water or houses that will destroy the germ? The division fence is 8 feet high. Would it help if it were covered with burlap and the burlap sprayed with disinfectant?—Subscriber, Ontario.

If you are within the limits of an incorporated city you have to ask the health officer about making your neighbor clean up. Different towns have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$8.25 for 25 caliber 7 Shot Automatic
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Substantial .32 cal. military model 6⅛ in. long by 4¾ in. deep. Shoots ten shots—any standard automatic ammunition.
Both models are exceptionally fine guns that usually retail from $15 and $25 up. The very finest quality forged steel and expert workmanship throughout. ABSOLUTELY GUARANTEED against defective workmanship and materials! If you are not entirely satisfied, return within ten days and we will return your money at once.
SEND NO MONEY
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Experiments on live hogs prove that a 2 1/2 per cent dilution of Kreso Dip No. 1 will kill virulent hog-cholera virus in 5 minutes by contact.
FREE BOOKLETS.
We will send you a booklet on the treatment of mange, eczema or pitch mange, arthritis, sore mouth, etc.
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POWERFUL AND LASTING RESULTS
Harmless to Fowls but Death to Lice and Mites
A R M Liquid Lice Killer
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different regulations about such matters. As to your chickens catching roup from his, that is not at all likely if your yards are kept perfectly clean and sanitary and your houses well ventilated. Roup is not an infectious disease nor is it a summer disease. Hens that are affected with it in summer must be very badly treated indeed. If the division fence is a tight board fence (and I should make it so if it is not) painting it with a cresol preparation or with crude carbolic acid and kerosene, 1 part acid and 4 of kerosene, ought to keep out any kind of germ or insect, and I should be much more afraid of the latter. Mites, ticks and fleas are almost certain to find their way through if he has them unless you keep every crack soaked with insecticides.

## STORRS EGG LAYING CONTEST

Storrs, Connecticut, August 1, 1922. Report for week ending July 31.—The birds for the thirty-ninth week produced 3648 eggs, or a yield of a little better than 52 per cent. This was 122 eggs more than last week, 162 eggs more than last year for the same period and 97 eggs more than the seven year average.

The four prizes for the week were distributed among the Leghorns and the Barred Plymouth Rocks. A pen of White Leghorns owned by Hollywood Farm, Hollywood, Washington, was an easy first with a score of 60 eggs.

The four leading pens in each of the principal breeds are:

**Plymouth Rocks**

Harry G. Culver (Barred), 1647; W. H. B. Kent (Barred), 1584; Ontario Agricultural College (Barred), 1514; Purdue University (Barred), 1484.

**White Wyandottes**

Frank P. Matteson, 1720; Woodbridge Orchards, 1684; Walter Bradbury, 1569; Clemens J. Diemand, 1466.

**Rhode Island Reds**

The Orchards, 1531; John Z. Labelle, 1514; Charles D. Pierce, 1437; F. S. Chapin, 1397.

**White Leghorns**

Hollywood Farm, 1625; J. Frank Dubois, 1564; Goshen Poultry Club, 1546; Andrew L. Ohr, 1486.

## ELEVENTH NATIONAL EGG LAYING CONTEST

The 300 hens in the Eleventh National Egg Laying Contest at Mountain Grove, Missouri, laid 5,154 eggs during the month of July or an average of 17.18 eggs per hen. Pen No. 5, S. C. Anconas, owned by Frank Van Bree, Zeeland, Michigan,, won the cup for July by laying 126 eggs during the month.

Number of eggs laid by the different breeds for the month and to date are: Plymouth Rocks, 894, 8,241; Wyandottes, 868, 8,227; Leghorns, 905, 8,139; Miscellaneous varieties, 826, 7,945; Anconas, 971, 7,904; Rhode Island Reds, 690, 7,047.

Ten leading pens for July are: S. C. Anconas, Michigan, 126; S. C. White Leghorns, Washington, 125; S. C. White Leghorns, New Jersey, 118; S. C. Anconas, Missouri, 112; R. C. Rhode Island Whites, Missouri, 111; Barred Rocks, Nebraska, 111; R. C. Rhode Island Whites, Illinois, 110; S. C. White Leghorns, Missouri, 109; White Wyandottes, England, 108; Barred Rocks, Missouri, 106; White Wyandottes, England, 106.

Ten leading pens to date are: S. C. White Leghorns, Washington, 1,013; White Wyandottes, England, 993; White Wyandottes, England, 983; Barred Rocks, Missouri, 952; R. C. Rhode Island Whites, Missouri, 951; S. C. White Leghorns, England, 934; Barred Rocks, New Jersey, 923; R. C. Rhode Island Whites, Missouri, 909; Barred Rocks, Missouri, 900; S. C. White Leghorns, Missouri, 898.

## CALIFORNIA FARM BUREAU EGG LAYING CONTEST

The tenth month of the California Farm Bureau Egg Laying Contest at Santa Cruz closed with a monthly production of 58 per cent, or an average lay of 18 eggs per hen. The average production for the ten months was 52 per cent. every day since the first of last October. This production has been obtained with a simple, inexpensive ration and recognized standard methods of flock management, and 79 per cent of the July egg yield graded as extras. The hens consumed 3.36 pounds dry mash (no moist mash is fed at this season) and 3.19 pounds grain. The grain cost $.0606 at $1.90 per 100 pounds and the mash $.0766 at $2.28 per 100 pounds. The total feed cost per hen for the month was $1.37. Detailed information on the methods of feeding and flock management employed at this contest, together with the printed rules and regulations for the next contest, which begins October 1, 1922, will be gladly sent upon request to the County Agent, 4 Cooper Street, Santa Cruz, or the Poultry Division, University Farm, Davis.

**High Pens to Date**

Alex Stewart, Santa Cruz, 2225 1/3; J. A. Hanson, Corvallis, Oregon, 2098 1/3; J. J. Shore, Santa Cruz, 1997; C. H. Russell, 1897⅔; H. H. Corbett, Santa Cruz, 1895; L. A. Thornewill, Santa Cruz, 1892; D. B. Walls, Petaluma, 1887 1/3; Sunrise Poultry Farm, Santa Cruz, 1841; Hollywood Poultry Farm, Hollywood, Washington, 1828 1/3; Boehm & Noel, Hayward, 1815 1/3.

**High Pens for July**

Hanson, 251; Stewart, 250; L. A. Thornewill, Santa Cruz, 244 1/3; Pacific Trapnest Station, Windsor, 240; Geo. Gray, Santa Cruz, 237 1/3; Hollywood, 235; Boehm & Noel, 231; Kinmont Poultry Farm, 227⅔; Shore, 227 1/3; R. H. Young, Santa Cruz, 223 1/3.

**High Hens to Date**

Stewart, 272; Thornewill, 259; Stewart, 252; Walls, 241; Hanson, 235; Stewart, 232; Russell, 231; Hanson, 231; Stewart, Santa Cruz, 229; H. C. Kleinsmith, Hoff, Oregon, 227, Barred Rock.

### COMING EVENTS

(Corrections and Additions Requested.)

Yuba County Fair, Arboga, August 18-20.
Petaluma Egg Day Exposition, Petaluma, August 19.
Sonoma County Fair, Petaluma, August 19-26.
Downey Community Fair, 7th Annual, Downey, August 24-26.
San Joaquin Valley Fair, Stockton, August 24-30.
California's Pageant of Progress and Industrial Exposition, Los Angeles, August 26-September 9.
Walnut Growers Field Day, Santa Barbara, September 1-2.
Melon Carnival, Turlock, September 1-3.
State Fair, Sacramento, September 2-10.
Grape Day, Escondido, September 9.
Tehama County Fair, Red Bluff, September 11-17.
Kern County Fair, Bakersfield, September 12-19.
Tulare County Fair, Tulare, September 13-19.
Colusa County Fair, Colusa, September 13-17.
Glenn County Fair, Orland, September 18-23.
Kings County Fair, Hanford, September 19-23.
Fresno County Fair, Fresno, September 25-30.
Shasta County Fair, Anderson, September 28-30.
Ventura County Fair, Ventura, October 5-8.
Butte County Fair, Oroville, October 2-7.
Pork Day, Turlock, October 11.
Los Angeles County Fair, Pomona, October, 17-21.
Southern California Fair, Riverside, October 10-16.
San Francisco Livestock Show, October 18-22.
California Horsebreeders Association, Los Angeles, October 18-22.
International Festival of Dates, Indio, October 18-22.
Pork Day, Fresno, October 20.
Imperial Valley Fair, October 23-28.
California Industries Exposition, San Francisco, October 27-28.
Pacific Slope Dairy Products Show, Fresno, November 13-18.
Valley Citrus Fair, Visalia, November 26-December 2.
Orange and Olive Festival, Oroville, November 28-December 2.
First National Walnut Exposition, Santa Ana, December 4-9.

COAST AND GENERAL

Southwest Washington Fair, Chehalis-Centralia, August 28-September 2.
Interstate Fair, Spokane, Washington, September 4-9.
Washington State Fair, Yakima, September 18-23.
Oregon State Fair, Salem, September 25-30.
Arizona State Fair, Phoenix, October 30-November 4.
Pacific International Livestock Show, Portland, November 5-12.

## THE 1922 HONEY CROP

By Henry Perkins

The 1922 honey crop has been very satisfactory thus far both as to quantity and quality. The output of orange honey was considerably below normal in most vicinities while in others it was slightly above normal. The sage and buckwheat yield has been very fair indeed. A great deal of the crop of all grades is still in the hands of the grower. The above report refers particularly to southern counties, the central part of the state being considerably late and yet to be heard from.

The honey market shows a moderate demand for the higher grades. Sage and white orange honey is selling from 8 to 8½ cents. The market on the lower grades is not yet fully established. Such sales as have been made indicate the price of 5½ to 6 cents.

The California Honey Producers Cooperative Exchange is no longer a factor in the market. I understand that their affairs are being administered by the creditors. However, on this point I must admit that I am not fully informed. To all appearances the California Honey Producers Cooperative Exchange is a thing of the past. It is to be regreted that the beekeepers have failed to organize their industry as successfully as other agricultural producers have done. However it must be borne in mind that all great successes are built on failures. There is a right way to do it and sooner or later it must be found.

Then there is the man who seems destined to go through life hitting his thumb on the back while trying to hit the nail on the head.

Lots of men think they are standing up for their rights when they are merely lying down on the job.


# 1000 Eggs in Every Hen

New System of Poultry Keeping—Get Dollar A Dozen Eggs—Famous Poultryman

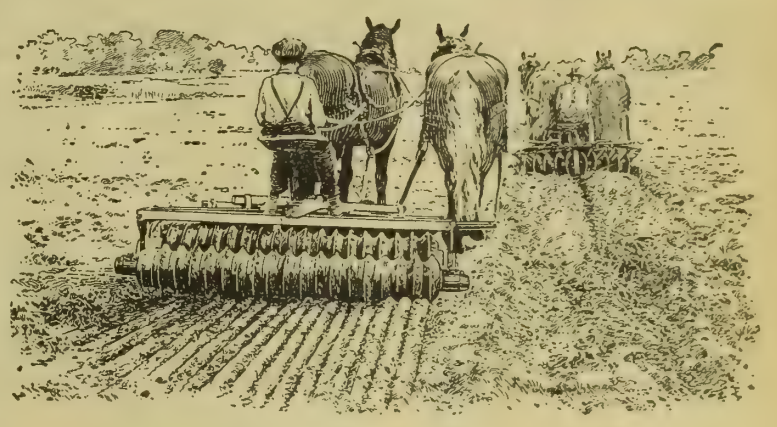
## TELLS HOW

"The great trouble with the poultry business has always been that the laying life of a hen was too short," says Henry Trafford, International Poultry Expert and Breeder, for nearly eighteen years Editor of Poultry Success.

The average pullet lays 150 eggs. If kept the second year, she may lay 100 more. Then, she goes to market. Yet, it has been scientifically established that every pullet is born or hatched with over one thousand minute egg germs in her system—and will lay them on a highly profitable basis over a period of four to six years' time if given proper care.

How to work to get 1,000 eggs from every hen; how to get pullets laying early; how to make the old hens lay like pullets; how to keep up heavy egg production all through cold winter months when eggs are highest; triple egg production; make slacker hens hustle; $5.00 profit from every hen in six winter months. These and many other money making poultry secrets are contained in Mr. Trafford's "1,000 EGG HEN" system of poultry raising, one copy of which will be sent absolutely free to any reader of this paper who keeps six hens or more. Eggs should go to a dollar or more a dozen this winter. This means big profit to the poultry keeper who gets the eggs. Mr. Trafford tells how, if you keep chickens and want them to make money for you, cut out this ad and send it with your name and address to Henry Trafford, Suite 243-N, Herald Bldg., Binghamton, N. Y., and a free copy of "THE 1,000 EGG HEN" will be sent by return mail.





# Break Up the Clods and Firm the Subsoil with a Dunham Culti-Packer

Your plowed or disked soil, such as in winter wheat fields that lie open for several months, needs working with the Dunham Culti-packer. With this efficient tool you can break up the clods, making a perfect seedbed. Besides firming the subsoil, the culti-packer prevents surface-blowing.

When used after the grain drill, the Dunham presses the soil around the seeds. This assures contact with moist ground and early sprouting of the germ. The slightly ridged surface produced by the culti-packer prevents baking of the soil, and at the same time it is sufficiently rough and firm to prevent blowing. The field worked with a Dunham is an ideal seedbed.

Thousands of farmers are already profiting by the use of Dunham culti-packers. Every day they are uncovering new uses for these tools, and finding new reasons why they can consider their purchases in the light of investments. Why not prepare for better soil-working on your farm this year? The nearest McCormick-Deering dealer will tell you about the Dunham.

INTERNATIONAL HARVESTER COMPANY
CHICAGO OF AMERICA (INCORPORATED) U S A

92 Branch Houses and 15,000 Dealers in the United States

# Los Angeles Markets

Los Angeles, August 16, 1922.

### BUTTER

...ry extras, Produce Ex-...

| | |
|---|---|
| August | 15 |
| 43 | 44½ |

### CHE...

Brokers' prices:
California flats, 20@22.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 30½; case count, 29; pullets, 23½.

Prices extras past week:

| August | 9 | 10 | 11 | 12 | 14 | 15 |
|---|---|---|---|---|---|---|
| | 29½ | 29½ | 30½ | .... | 30½ | 30½ |

### POULTRY

Price to producers L. A. produce exchange: Hens, 17; colored 30; broilers, 22@25; roosters, 35; old roosters, 14; fryers, 30; ducks, old 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 11@13; old, 8.

### LIVESTOCK

Los Angeles, Aug. 15.—Weighed and delivered off cars without food or water.

Hogs (hard grain fed) 125 to 150 pounds, 9.50; 175 to 225 pounds, 10.50.

Cattle (on foot, gross weight): Steers, good, 6.50@7.00; medium, 5.25@625; cows, good, 4.75@5.25; medium, 4.00@4.50; bulls and stags, 3.00@3.50; calves, 125 to 175 pounds, 8.00@9.00; 175 to 250 pounds, 7.00@8.00.

Sheep, ewes, 4.00@5.00; lambs, 9.00@11.00.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, August 15, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement slow, market dull. New Stock: best, locals, sacked 1.15@1.50, mostly 1.25. Sweets, local lb., 5@7.

Onions: Demand and movement slow, market dull. Stocktons: Reds, 1.40@1.50; Yellows, 1.50@1.65; Whites, $2.00@2.10. Locals: Whites, 65 per lug.

Garlic: Mex. best. 10@12.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, August 15, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: San Pedro: Kentucky Wonders, 3@4; Limas, 3@3½.

Bunched Vegetables: Per dozen bunches: Turnips, beets, carrots and parsnips, 30@35. Parsley and spinach, 20. Radishes, 15@20.

Cabbage: Market steady, quality generally good. Field cr., best mostly 2.00@2.25.

Cucumbers: Local, lug, 30.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, best 3.75@4.00; poorer, 3.00@3.50

Corn: Green, local, lug, 75@85..

Eggplant: Local, 5@6.

Lettuce: Market steady. Locals: Ordinary, leafy, 90@1.00 cr.; Northern, 3.50.

Okra: Lb., best, small, ,7@9.

Peas: Best, Northern, lb., mostly 8@10; mostly, 7.

Peppers: Locals: Bells mostly, 4@6 lb.; Chilis, 3@6 lb.

Squash: Market steady. Locals: Summer, lugs, 30@40; Italian, lugs, 60@65.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs best, pink, 75@80; ripe, 50@65.

### FRESH FRUIT

These are actual prices obtained August 15 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc, as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Gravensteins, loose 3@3½; packed, fancy, 1.90@2.00; B Grade, 1.50@1.75 per box.

Apricots: Locals: lugs mostly, 1.25@1.50; few best high as 1.25.

Cantaloupes: Market weak. Locals: Tip Tops, best 50@75; poorer low as 25 crate. Persians, 1@1½ per lb. Turlock: Standards, 85@1.00; flats, 35@40. Casabas: 1@1½ per lb.

Grapes: Demand slow, market steady. Northern: Thompson Seedless, per lb., Nectarines: Local, 4@5; Northern, 6@7. 3@3½; Malaga, 4@5; Muscat, 3@5.

Nectarines: Local, 4@5; Northern, 5@6.

Peaches: Market steady. Locals and Northern, freestone and cling, all varieties, 1@3 per lb.; mostly, 2@2½.

Pears: Demand moderate, market steady. Northern: Bartletts, few best, 5@6 lb.; mostly, 3@4.

Plums: Demand and movement slow, market dull. Per lb., all varieties, 1@3. 2; Satsumas, 2@4.

Watermelons: Imperials and local; Angeleno, 1@1½ lb.; Klondike, 2@2½.

### CITRUS FRUITS

These are actual prices obtained bebetween 7 and 8 o'clock, August 15, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms, cash on the walk. There may be slight fluctuations during the day's trading. Higher prices are frequently obtained where credit is given or goods are delivered.

Grapefruit: Market steady. Californias: Northern, packed box, fancy, 6.00@7.00; market pack, 3.75@4.50.

Lemons: Demand and movement light, market firm. Special brands, fancy, 6.75@7.00; choice, 6.00@6.25.

Oranges: Demand moderate, market steady. Valencias, special brands, 10.00@10.50.

### HONEY

Demand and movement moderate for carlots, market about steady. Extracted: Carloads f. o. b. usual terms—fancy water white orange and sage, 9¼@9½; white, 8½@9; several cars water white sage reported at 9; light amber sage, 6½@7; light amber alfalfa, 5½. Beeswax: Beekeepers reported receiving 22 per lb. Northern California new crop just starting to move. Market dull and demand light. Nothing being exported at present. Extracted: Hawaiian honey quoted lb. f. o. b. San Francisco, water white, 6½; light amber, 5½; dark amber, 5¼; honey dew honey, 3¾.

### BEANS

F. o. b. Cal.:

| | |
|---|---|
| Lima, Standard | 8.50@8.75 |
| Lima, Henderson Bush | 8.50@8.75 |

Cal. Lima Bean Growers Assoc. reports some sales made in June for Oct. delivery of 1922 Limas and Baby Limas at around $6.25@6.40 f. o. b. Coast. Demand for futures now quiet. Assoc. has been sold out of 1921 crop for some time.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 18.00@23.00 |
| Barley | 16.00@20.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@22.00 |
| No. 1 Alfalfa | 16.00@18.00 |
| Standard Alfalfa | 11.00@13.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@20.00 |
| No. 1 Dairy | 14.00@15.00 |
| No. 1 Alfalfa | 12.00 |
| Wheat Straw | 6.00@8.00 |
| Barley Straw | 4.00@6.00 |

### GRAIN

Prices L. A. Grain Exchange, August 15: Barley: 100 ton lots September Del., 1.26½. Milo: 100 ton lots, October Del., 1.40.

Grain Department California Farm Bureau Exchange:

The San Francisco markets seem to be easier than Los Angeles for prompt delivery stuff, but we feel that this would not be the case if it were not for the present unsettled conditions due to the railroad strike.

Barley. Spot barley would bring around $1.30 and August delivery barley sold at $1.27½. The seller, unless he has it in Los Angeles, is in a dangerous position as he isn't sure he can get it here in August. Barley for shipment with no guarantee of delivery could not be sold at more than $1.25 for the best grades at Los Angeles. The Farm Bureau Exchange has one or two outlets where prompt shipment stuff of an exceptionally good quality would bring more money than this.

Wheat. Spot wheat is the only wheat that is in demand. We can hardly get bids for shipment wheat as wheat from outside of the state is now being offered at constantly lower prices and unless California wheat comes down, we will see wheat from out of the state fill the terminal market requirements in the very near future.

# San Francisco Markets

San Francisco, August 16, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 44 |
| Prime Firsts | 41½ |

Prices Extras last week:

| August | 9 | 10 | 11 | 14 | 15 |
|---|---|---|---|---|---|
| | 39½ | 40½ | 42 | 42½ | 44 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 26½ |
| California Flats, fancy | 18½@22½ |
| Oregon Trips | 23½ |
| Oregon Young America | 26 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 29½ |
| Extra Firsts | 27½ |
| Extra Pullets | 24 |
| Undersized Pullets | 14½ |

Prices Extras last week:

| August | 9 | 10 | 11 | 14 | 15 |
|---|---|---|---|---|---|
| | 28 | 27½ | 28½ | 28 | 29½ |

### POULTRY

Broilers: 1 to 1¾ lbs., 28@30 per lb. Colored, 30 to 32 per lb.; 2 to 2¼ lbs., 28@30 per lb. Colored, 31 to 32 per lb.

Fryers: 2½ to 3 lbs., 32@33 per lb.; Colored, 33@35 per lb.

Young Roosters: Colored, 3¼ lbs. and up, 38@42 per lb. Staggy, showing spurs, 23@30 per lb.

Colored Old Roosters: 17@18 per lb. Leghorn Old Roosters: 14@15 per lb. Leghorn Hens: 2½ to 3 lbs., 14@18 per lb. 3 lbs. and over, 18@20 per lb. Large Colored Hens: 29@32 per lb. Off stock, 26@27 per lb.

Ducks: Young, 18@20 per lb.; off grades, 10@15 per lb.

Geese: Young, 20@22.

Live Turkeys: 32@35.

Dressed Turkeys: Young, 36@40. Off stock, 25@32.

Belgian Hare: Live, 13@15. Dressed 18@23.

Squabs: Live, fancy, 50@52 lb.; common, 3.00@3.50 doz.

Old Pigeons: 2.50@3.50 per doz.

Guineas: Young, 8.00@10.00 doz.

Jackrabbits: 2.00@2.50 doz.

### LIVESTOCK

The Western Meat Company quotes:

Steers: First quality, 6½@7 per lb.; second quality, 5¼@6 per lb.; cows and heifers No. 1 4¼@4¾; second quality, 4@4¼; bulls, 2@3 per lb.

Calves: Light weight, 8@9 per lb.; heavy, 5@7 per lb.

Sheep: Wethers, 6½@7 per lb.; ewes and stags 3@4 per lb.

Lambs: 10½@11½ per lb.

Hogs: hard, fat, grain-fed, weighing 125 to 200 lbs. 12½ per lb.; 200 to 250 lbs., 11½ per lb. 250 to 300 lbs., 10½ per lb.; light sows, 10½ per lb.; heavy, 9½ per lb.

California Farm Bureau Marketing Association reports:

| No Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Corcoran, August 7** | | | |
| 107 | 165 | .... | 11.25 |
| 77 | 195 | .... | 11.15 |
| 39 | 172 | .... | 11.00 |
| 5 | 234 | .... | 10.00 |
| 1 | 360 | .... | 9.50 |
| 12 | 439 | 170 | 8.00 |
| 241 hogs | | | |
| 3 cars, 19 consignors, $4,985.57. | | | |
| **Tulare, August 8** | | | |
| 89 | 185 | .... | 11.30 |
| 28 | 132 | .... | 11.30 |
| 55 | 178 | .... | 11.30 |
| 100 | 158 | .... | 11.25 |
| 32 | 218 | .... | 10.80 |
| 18 | 340 | 300 | 6.35 |
| 322 hogs | | | |
| 4 cars, 30 consignors, $6,290.81. | | | |
| **Visalia, August 9** | | | |
| 82 | 171 | .... | 11.25 |
| 54 | 170 | 100 | 11.00 |
| 13 | 217 | .... | 10.75 |
| 5 | 252 | 100 | 8.00 |
| 154 hogs | | | |
| 2 cars, 8 consignors, $2,980.87. | | | |
| **Hanford, August 10** | | | |
| 100 | 158½ | .... | 11.00 |
| 44 | 184 | .... | 10.90 |
| 49 | 145 | .... | 10.90 |
| 1 | 270 | .... | 9.40 |
| 49 | 111 | .... | 9.70 |
| 1 | 430 | .... | 8.15 |
| 12 | 360 | 151 | 5.00 |
| 1 | 190 | .... | 8.42 |
| 257 hogs | | | |
| 3 cars, 27 consignors, $4,214.96. | | | |

Totals: 974 hogs, 12 cars, 84 consignors, $18,473.05.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: New, 1½@2 per lb.

Sweets: Merced, new stock, 4@5 lb.

Onions: Gr. 1.25@1.50; Stockton Red, 1.25@1.40; Yellow, 1.40@1.65.

Garlic: Lb., 3@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock August 8, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Beans: Ky. Wonder, Blue Lake and Wax, 2@4 lb.; Italian, 6@7; Lima, 5@6.

Bunched Vegetables: Carrots, 50@60 per dozen: turnips, 45@50 per dozen; beets, 45@50 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Celery: Fy. cr., 3.00@4.00.

Corn: New, doz., 12@15.

Cucumbers: Lug, 65@85.

Eggplant: 3@4 per lb.

Lettuce: Local, best, 1.00@1.25 cr.

Parsnips: 3.00@3.25 per sack.

Peppers: Cal. Bells, 75@1.25 lug; Chilis, 4@6 lb.

Rhubarb: Box,, 1.00@1.25.

Sacked Vegetables: Carrots, 75@1.00; turnips, 75@1.00; beets, 1.00@1.25.

Spinach: Lb., 3@4.

Squash: Summer, 50@65; Italian, cr., 65@85.

Tomatoes: River, 75@1 lug; small lug, 50@75; Peninsula, 1@1.35 lug.

### FRESH FRUIT

Apples: New crop apples, green, 1@1.25 lug box; White Astrachans, 1@1.50; Gravensteins, fancy, 3½@4; tier, 2.00@2.25; Alexanders, 4½ tier, 1.50@1.75 box. Red June fancy, 2.50@3.00; Crabapples, 75@1.25 lug.

Avocados: 4.00@7.00 per doz.

Apricots, 6@7 lb. Poorer, 3@5 lb.; 1.75@2.00 lug.

Bananas: Hawaiian and eastern, 6½@7½ per lb.

Blackberries: Dr., 20@25.

Pony, 75@85; flats, 40@60; pink meats, 1.25 standard cr.; Honey Dew and Casaba flats, 1.00@1.25; Persian Melons, 1.75@2.00.

Figs: Double layer box, 1.25@1.50.

Grapes: Thompson seedless, 75@1.25 lug; Muscat, 1.50@1.75.

Loganberries: Dr., 40@50.

Nectarines: Cr., 1.25@1.75.

Pineapples: 5.50@6.00 per doz.

Peaches: 40@75 crate; basket, 50@1.00; lug, 1.00@1.25; large, 1.00@1.50.

Pears: Bartlett, 1.75@2.00; box, No. 2, 1.00@1.50.

Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.

Plums: Burbank and Wickson, 1@1.25 crate, other 75@1 crate, lugs, 1.00@1.50.

Raspberries: 60 dr.

Strawberries: Local, dr., 45@65.

Watermelons: So., 1 lb.

### CITRUS

Grapefruit: Southern Cal., fancy, spec. pack, 6.50@7.00; choice, 5.50@6.00.

Lemons: Spec. pack, 6.00@6.50; choice, 4.00@5.50; Lemonettes, 2.00@3.00.

Oranges: Valencias, fan boxes, 126-216s, 10.00@11.00; 250-288s, 9.00@9.50; smaller, 8.00@8.50; choice, 6@9.00.

### DRIED FRUITS

**Apples, 1922 Packers' Quotations f. o. b. Cal.:**

| | |
|---|---|
| Choice | 11 @11¼ |
| Extra choice | 11¼@11½ |
| Fancy | 12½@12¾ |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| | San Joaquins |
| Standard | @19½ |
| Slabs | @20 |
| Choice | @24 |
| Extra choice | @25½ |
| Fancy | @27½ |
| | Southern |
| Standard | @20 |
| Slabs | @20½ |
| Choice | @24½ |
| Extra choice | @26 |
| Fancy | @28 |

**Figs, 1922, Packers' prices f. o. b. Cal.:**

| White Adriatic— | |
|---|---|
| Standard (in 50s) | 6½ |
| Choice (in 50s) | 8 |
| Fancy (in 50s) | 11 |
| Extra fancy | 11¾ |
| Bricks, 12 No. 10s | 1.02½ |
| Bricks 24 No. 8s | 1.65 |
| Bricks, 50 No. 6s | 2.65 |
| Bricks, 70 No. 4s | 2.75 |
| Layers, 10-lb., 4-row | 1.45@1.60 |
| Layers, 10-lb. 5-row | 1.35 |
| Black Mission— | |
| Standard (in 25s) | 12¼@12½ |
| Choice (in 25s) | 13¼@13½ |
| Extra choice (in 25s) | 14¼@14½ |
| Fancy (in 25s) | 16 @16¼ |

**Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:**

Opening quotations for the 1922 crop of figs released July 24 by the San Francisco representative of the California Peach and Fig Growers' Association, show substantial advances, particularly in black Missions. This grade is quoted at 11¼ cents this year, as against an opening price of 5 cents a pound in 1921.

The complete price list for 1922 crop Blue Ribbon, dried figs follows:

Adriatic—Price 6¼; standard, 6¾; choice, 8¾; fancy, 11¾.

Calimyrna—Standard, 8¾; choice 11¾; fancy, 14¾.

Black Mission—Standard, 11¼; choice, 14¼, fancy, 17¼.

These prices are for figs packed in twenty-five pound boxes, ¼c per pound less for packing in fifty-pound boxes.

Adriatics, ungraded, in bags....7¼c per lb.
Adriatic fig paste, 75-lb. boxes 5½c per lb.
12-10 oz., bricks, Adriatics....$1.10 per box
24- 8 oz. bricks, Adriatics.... 1.75 per box
50- 6 oz. bricks, Adriatics ..... 2.80 per box
70-d oz. bricks Adriatics.... 2.95 per box
24- 8 oz. bricks, Calimyrnas.. 2.25 per box

For foil wrap or brick figs add 10c per box.

| Box | Row | | Inches Spread | |
|---|---|---|---|---|
| 10-lb. | 4 layer | Adriatic | 2½ | $1.60 |
| 10-lb | 5 layer | Adriatic | 2 | 1.40 |
| 10-lb. | 6 layer | Calimyrna | 2½ | 1.90 |

PULLED CALIMYRNAS

48-1-lb round box....$10.40 per case
6-5-lb. boxes ....6.60 per bundle

All prices f. o. b. California common shipping points.

For shipment September, October, November, seller's option.

Terms as per dried fruit contract adopted by the National Wholesale Grocers' Association and the Dried Fruit Association of California, April 23, 1919.

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼@11½ | 15 @15¼ |
| 40-50s | 9 @ 9¼ | 12¼@12½ |
| 50-60s | 8 @ 8¼ | 10¾@11 |
| 60-70s | 7½@ 7¾ | 9¾@10 |
| 70-80s | 7 @7¼ | 8¾@ 9 |
| 80-90s | 6¾@ 7 | 8 @ 8¼ |
| 90-100s | 6¾@ 7 | 7½@ 7¾ |
| 100-120s | in 50-lb. boxes, | 6¼ per lb. |
| 120-up | in 50-lb. boxes, | 5½ per lb. |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | 11¼@11½ | 11½@11⅝ |
| Slabs | @11½ | @11¾ |
| Choice | @12 | @12¼ |
| Extra choice | @12¾ | @13 |
| Fancy | @13¾ | @14¼ |

**Peaches, 1922, California Peach and Fig Growers' Assoc. prices, September-October shipment:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @ | @11¼ |
| Choice | @ | @12 |
| Extra choice | @13¼ | @ |
| Practically Peeled— | | |
| Standard | @ | @12¼ |
| Choice | @ | @13 |
| Extra choice | @14¼ | @ |
| 11-oz. Cartons, 60 per case | 7.00 case | |
| 2-lb. Cartons, 24 per case | 8.25 case | |
| 5-lb. Cartons, 10 per case | 8.50 case | |

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | 12½@12¾ |
| Choice | 14½@15 |
| Extra choice | 16½@17 |
| Fancy | 18½@19 |

**Raisins, Sun-Maid Raisin Growers' Prices:**

Under the schedule of prices for the 1922 crop of raisins announced by the Board of Directors of the Sun Maid Raisin Growers to the trade August 9, the growers will receive 5¾ cents for Muscats, 6 cents for Sultanas, and 6½ cents for Thompson's sweat box basis. Northern bleached Thompsons, (Sun Maid quality) oil dipped, soda dipped or choice sulphur bleached Thompsons will bring the grower 6¼ cents. Fancy Northern sulphur bleached (Sun Maid quality) will bring $40 more per ton, extra fancy Northern sulphur bleached (Sun Maid quality) $60 more per ton. Southern bleached (Sun Maid quality) oil dipped, soda dipped and choice sulphur bleached will net the grower 6¾ cents. Fancy Southern sulphur bleached (Sun Maid quality) will bring 9cents. Extra fancy Southern sulphur bleached (Sun Maid quality) will bring 9 cents. Extra fancy

Northern or Southern bleached packed by growers, (California brand) soda dipped, oil dipped and choice sulphur bleached are named at 5¾ cents. The price for fancy sulphur bleached (California brand) 9¼ cents. Muscat layers 3 and 4 crown, all packs will bring 7 4-10 cents. Six crowns will net 8 4-10 cents. A $15 bonus will be paid for making layers in addition to half-cent quality bonus for extra standard grade. Layers will be settled for on packout basis as provided for in the crop contract. "These prices," said F. A. Seymour, general manager, "will be returned to the grower on a sweat box basis. Their realization, however, depends upon the disposal of the entire crop at the new prices named by the board."

The revised prices on the 1921 crop named August 1 are:

| | Revised Price |
|---|---|
| Bulk Thompsons | 9½ |
| Carton Thompsons | 10 |
| Blk. Seeded Muscats | 9 |
| Fancy seeded pkgs | 10¾ |
| 1 cr. loose Muscats | 8½ |
| 2 cr. loose | 9 |
| 3 cr. loose | 9½ |
| Bakers. Thompsons | 7½ |
| Sultanas | 8½ |
| Seeded Malagas | 8½ |

### BEANS

California Bean Growers f. o. b. Cal. c. r. c.

| | |
|---|---|
| Large Whites | 6.00 |
| Small Whites | 6.25 |
| Pinks | 5.10 |
| Mexican Reds | 4.15 |
| Red Kidney | 7.75 |
| Cranberries | 7.50 |
| Bayos | 5.00 |
| Blackeyes | 4.00 |
| Henderson Bush Limas | 8.50 |

### HAY AND FEEDSTUFF

A. W. Scott Co. says under date of August 12:

Receipts past week 2282 tons as compared with 2473 previous week. Shipping and coastwise trade have maintained fairly well. Interior trading has not been quite as active as in the previous week although a few sales of larger crops have been reported and a little easier prices. Movement is beginning towards the warehouses but not as yet in any considerable volume. The effect of the railroad situation has not been particularly noticeable through the country district, the general impression being that matters should be adjusted before a serious result on our local California lines. Alfalfa has been steady and at unchanged prices, shipments not quite up to those of the previous week. Movement is general.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions).

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@17.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 14.00@16.00 |
| Wild Oat Hay | 10.00@12.00 |
| Alfalfa Hay, 1st and 2nd Cutting | 13.00@15.00 |
| Stock Hay | 9.00@11.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 28.00@29.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 30.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 55.00@60.00 |
| Coconut Meal | 31.00@33.00 |
| Alfalfa Meal | 20.00@22.00 |
| Cottonseed Meal | 50.00@55.00 |
| Sugar Beet Pulp | 32.00@34.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices S. F. Grain Exchange, July 31, f. o. b. S. F. warehouse and storage charges paid.

Barley Feed. 1.15@1.20; shipping, 1.25@1.35.

Wheat Mill, 1.80@1.85; Feed, 1.80@1.85.

Oats: 1.60@1.75.

Corn: White Egyptian, nominal; colored milo, 1.80@1.95; No. 2 bulk, 1.80@1.90; No. 2 Eastern yellow, 1.51@1.57.

### CALIFORNIA CATTLEMEN'S REPORT

San Francisco, August 14.—The Chicago market remains strong. Receipts during the past week have shown a considerable increase over the previous week and the price has improved again approximately 15 cents a hundred. The price of cattle has also improved at Denver, fed steers selling for 8¼ cents on that market. Practically no cattle are being shipped into California from eastern points at the present time.

The San Francisco market is showing good activity, with a strong demand for choice quality cattle. Steers weighing 1200 to 1250 pounds are bringing a premium. Good choice fat steers of that weight will bring 7 cents f. o. b. ranch within reasonable freight distances. Sales are reported this last week at 7 cents ranch for approximately 1500 head from Kern County, while poorer quality, light weight and unfinished steers have been bringing 6½ cents f. o. b. ranch. Cows have been selling for 5½ cents in good flesh and 5 to 5¼ cents for cows only half fat. Light calves are brining 8 to 8½ cents f. o. b. ranch.

The Los Angeles market remains strong with a good demand for calves. Sales are reported at 7 cents f. o. b. ranch in Kern County to Los Angeles buyers for grass fat steers and sales are reported at 5½ cents for cows and 6½ cents for steers f. o. b. ranch for delivery during August and September. Calves are bringing 9 cents f. o. b. ranch in Santa Barbara County to Los Angeles buyers.

The railroad situation looks rather serious, but it is impossible to get definite information from railroad officials or any other source. A careful survey of available cattle on hand at market points is being made today, but it is our opinion that there is a comparatively small amount of cattle on hand.

It is reported that cattlemen are attempting at this time to sell feeder and beef cattle together. We believe this is an exceedingly poor practice at any time, but particularly under present conditions when there is a good demand for both grades but not from the same buyer. Forcing half fat cattle with fat cattle will lower the price and hurt the market. Cut out and sell your fat cattle for beef and use your association to place your feeder cattle, if they must be disposed of.—R. M. Hagen, Secretary.

### CALIFORNIA CATTLEMEN'S REPORT

San Francisco, August 7.—The Chicago market showed a decrease in receipts during the past week and about 25 cents per hundred increase in price. Fed steers sold from 8.25 to as high as 10.40 during the week. The Denver market paid as high as 8.25 for grass fat steers during the past week.

The San Francisco market appears to be somewhat strengthened and improved. While packers have been quoting 7 cents weighed off the cars in San Francisco, as high as 7.50 was paid f. o. b. San Francisco during the past week. Sales are reported at 6.25 f. o. b. ranch in north coast counties and in Sacramento Valley counties. Sales are reported from Tulare County to San Francisco buyers at 6.75 and 6.80 f. o. b. ranch for 1100 pound grass fat steers.

The Los Angeles market also appears to be somewhat improved, sales being reported at 7.50 delivered in Los Angeles for steers and 6.25 delivered in Los Angeles for cows. Sales to Los Angeles buyers are reported at from 5.25 to 5.50 f. o. b. ranch for cows, and 6.25 to 6.50 f. o. b. ranch for steers. Los Angeles buyers have made purchases in Tulare County at 5 cents for cows and 6.50 for steers f. o. b. ranch.

There is a continued and increasing demand for feeder cattle and a disposition on the part of buyers to pay at least 5½ cents for such cattle as are suited to put on feed and be ready for market by February and March of next year.

Sell only fat cattle. Sell only f. o. b. ranch or cars. Report sales to your secretary.—R. M. Hagen, Secretary.

### WEATHER REPORT

| Stations | Rainfall—Week | Season | Norm. | Temp.—Max. | Min. |
|---|---|---|---|---|---|
| Eureka | .03 | .03 | .12 | 70 | 46 |
| Red Bluff | 0 | 0 | 0 | 104 | 62 |
| Sacramento | 0 | T | 0 | 102 | 56 |
| San Francisco | 0 | T | .01 | 73 | 51 |
| San Jose | 0 | T | .01 | 92 | 48 |
| Fresno | 0 | T | 0 | 102 | 50 |
| San Luis Obispo | 0 | T | .03 | 94 | 50 |
| Los Angeles | 0 | T | 0 | 90 | 63 |
| San Diego | 0 | .01 | 0 | 82 | 62 |

### SHE SELLS SEA SHELLS

(Continued from Page 171.)

previously impossible could be grown at a profit after the soil was limed.

Schultz, of Lupitz, one of the most practical agriculturalists of northern Germany, demonstrated the immense value of marl in developing the productiveness of the light soil of that section of Germany. By its use, in connection with abundant potash and phosphoric acid, he met success in growing leguminous plants which gather from the air large stores of nitrogen, thus making it possible by this addition of plant food and humus to cultivate the light soil at a profit.

"Haxton, in a prize essay 'On light land farming,' mentions a number of siliceous sandy soils in various parts of England which are greatly benefited by liming, and in speaking of the granite formation in Scotland asserts that 'the whole of the granite soils are deficient in lime and the first step toward their improvement, after being drained, is to apply this substance.'"

Californians who use lime in agricultural practice will hail with delight the marine shell deposits, for Farmer's Bulletin No. 921 "The Principles of Liming the Soil" states: "Oyster shells and clam shells when cleaned of dirt and organic material contain 90 to 95 per cent carbonate of lime." Bulletin 230 of the Wisconsin experiment station says: "When dry, shell dust contains approximately 95 per cent lime carbonate." The New York state college of agriculture at Cornell, in Bulletin 148 says: "Oyster or mussel shells are very pure and when pulverized to the same degree as an equally pure limestone they have the same value." In Bulletin 66 of the Maryland agricultural experiment station, "Lime, Sources and Relation to Agriculture," after describing the plots and the various crops used in their trials says, on page 130: "It will be noticed that the best yields were obtained with the lime in the form of a carbonate. The finely ground oyster shells, plot 9, standing first, and the shell marl, plot 8, standing second."

**"California's Need"**

Prof. J. W. Nelson of the University of California and for many years with the United States bureau of soils, says in Circular 111, "The Use of Lime and Gypsum on California Soils:"

"Generally speaking, it is likely that those areas in California receiving more than 20 inches of rainfall, such as the northern coast counties, much of the Sacramento Valley and the Sierra Nevada and Coast Range mountains, have lost their lime from the upper few feet of soil. Other old upland soil deposits, such as the red hardpan lands of the Sacramento and San Joaquin valleys and the old marine terraces and valley slopes in Santa Cruz and Monterey Counties and southward along the coast to Mexico, are usually either in an acid or neutral condition. Lands subject to overflow, those occupying stream bottoms or recently formed valley slopes with less than twenty inches of rainfall, usually have lime well distributed through the soil mass and are less likely to need this constituent. All soils, however, receiving large applications of organic matter should be examined periodically for their lime requirements."

In the above excerpt "valley slopes in Santa Cruz and Monterey Counties and southward along the coast to Mexico" would seem to include particularly all of the citrus growing sections of Southern California.

**The Need Supplied**

The orange orchards herein listed were visited by the writer, examined for results from the application of decomposed shell lime, and in most cases the owner was found at home and the matter discussed with him.

The writer recently spent a very interesting day looking for orchard owners who have used this form of lime during the past year, and herein will set down the testimony adduced. The source of supply was not asked, but it was learned that not all of it came from the same field or "mine," so that no one has a monopoly of these natural deposits, and investigation discloses the fact that such deposits are quite numerous throughout the state. The first of these belonged to Dr. W. G. Terry, of Los Angeles, and located near Claremont. Dr. Terry told the writer: "I applied five tons to the acre of this shell lime to my grove in September and the trees responded wonderfully. They are in better condition and of better color than at any time since I set them out eight and ten years ago. Around the reservoir are a number of trees that could not be cultivated or as well cared for as the others and these look very poorly. I gave these an extra dose of shell lime and now they look as well as the others. The results are so satisfactory that I expect to make another application of the same material next year."

C. L. Cahoon, just north of Pomona, said: "I put 7½ tons per acre of decomposed marine shall on my grove the first part of August, 1921. In conjunction with the barnyard manure, I have the best results that I have ever obtained from the use of any fertilizer, commercial or otherwise.

"I had considerable mottle leaf in my grove, but this condition is almost entirely eliminated. I have about one acre of very hard soil, and it is somewhat lower than the surrounding ground.

"After using marine shell this piece of ground is just as friable and in as good mechanical condition as the rest of the grove. Notwithstanding abnormal conditions existing last winter in the way of cold weather, I have above the average setting of fruit for this season, and it looks fine at the present time. I am entirely satisfied with the results."

W. W. Evans of Santa Monica has an orchard of Navels not far from the Cahoon grove. In July, 1921, he applied five tons to the acre on part of his grove and 2½ tons in November, when the remainder of the orchard received 9 tons to the acre. The whole has shown wonderful improvement, but that portion to which the lime was first applied, though lesser in amount, shows far greater improvement than that portion not treated until the following November. Evidently the trees improve with time, showing that the effects of liming are lasting. Mr. Evans grows both summer and winter cover crops which, in combination with the lime, have worked wonders in his orchard.

J. L. Lewis, in the same neighborhood as the two last mentioned, said: "I applied five tons to the acre in September and am certain my trees are in better condition than they have been for many years, perhaps since they were planted out. I am well satisfied with the results of applying shell lime."

J. P. Jackson, but a mile away, applied five tons to the acre in September and gave a number of sickly, mottle-leaved trees 50 pounds each as an extra "feed." Now all the trees are alike and the former sickly trees cannot be distinguished from the others. Wm. Frieze on a neighboring ranch had a similar experience, and of those visited not one expressed anything but the utmost satisfaction with results obtained from the use of decomposed marine shells.

### WESTERN STOCK SURVEY

During the past month Prof. Geo. I. Christie, director of the Indiana agricultural experiment station, and national authority on meat animal production, has been making a careful survey of livestock production in the Southwestern states.

After an inspection trip covering Arizona, California, Nevada, Utah and New Mexico Prof. Christie held several meetings with the livestock breeders of California and a final meeting under the auspices of the Los Angeles chamber of commerce, Friday, August 11, 1922, which was attended by a large number of business men and livestock breeders of Southern California.

At these meetings Prof. Christie gave the breeders of livestock and business men some interesting facts. He pointed out the condition of the ranges as they are at present operated, with a California crop of from 29 to 72 per cent in the different western states, showing the impossibility of successfully growing range cattle when only about 34 cows out of 100 on the range produced a calf each year. Prof. Christie gave the results of the government work in one district where better methods were introduced with the result that when the calf crop had been running around 30 calves to each 100 cows, they were now getting 74 calves to 100 on the range.

The matter of range area was discussed and Prof. Christie said that the statement that the western ranges were a thing of the past was erroneous as a large part of the western states was still available for the production of range cattle. He stated that 90 per cent of California was available for some form of livestock production.

One of the most interesting developments in Prof. Christie's survey was the facts he brought to the Southern California farmers whose major crop is alfalfa and barley. Prof. Christie says the great productive alfalfa and barley areas of Southern California will be able to feed out their cattle from this great southwestern range at a less cost than those fed in the corn belt.

Prof. Christie strongly recommended the establishment of the union stockyards in Los Angeles and predicted that in a few years these yards would be taking care of the cattle from the Southwestern states now being shipped at a great freight cost to the Denver, Kansas City and Chicago stockyards.

### PUREBRED SALE

The Southern California Livestock Association will hold an auction sale of purebred stock at Hynes on Monday, August 21, beginning at 1 o'clock. There will be 20 young heifers, Holsteins, Jerseys and Guernseys, and 30 bred gilts, Durocs, Berkshires, Hampshires and Poland Chinas, and also six or eight head of sheep.

This stock is donated by the large breeders of Southern California, members of the Purebred Association, to provide a fund for maintaining that organization and assist in the work now in progress of promoting the purebred livestock industry. Each animal consigned will be representative of the herd from which it comes and will be either registered or eligible for registration. They will be all choice animals and the sale offers an opportunity to secure some choice stock from the very best herds of the state.

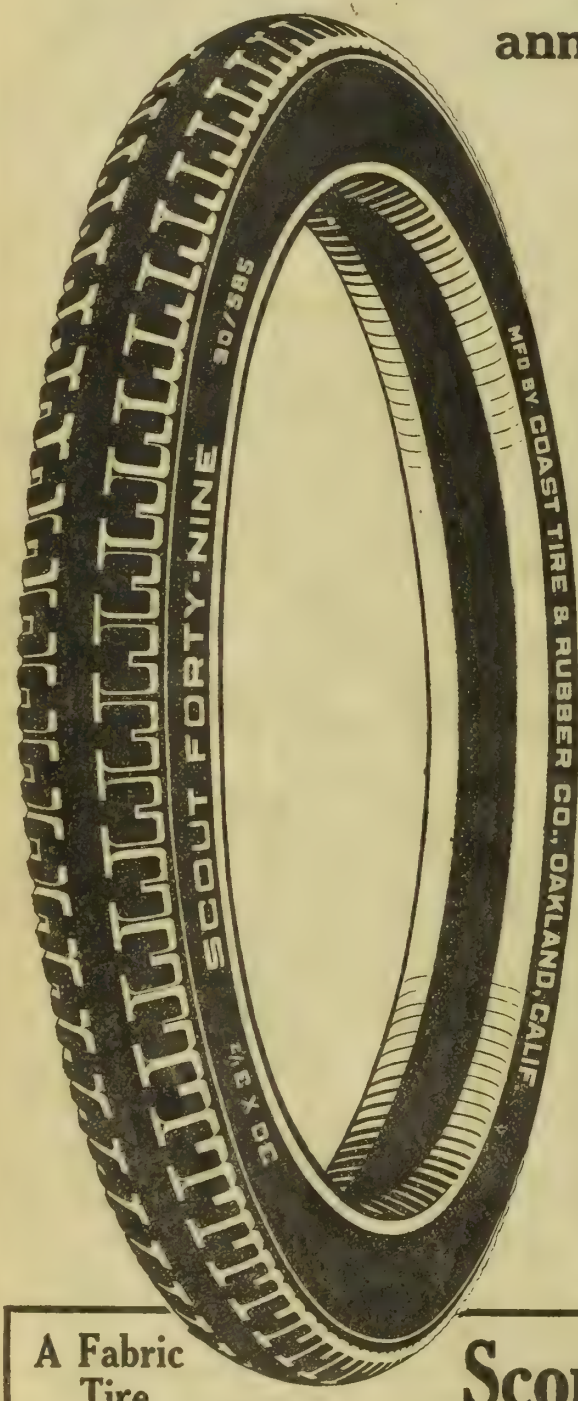
The terms of the sale are cash. Rhoades & Rhoades have donated the use of their pavilion and also their services in handling the sale.

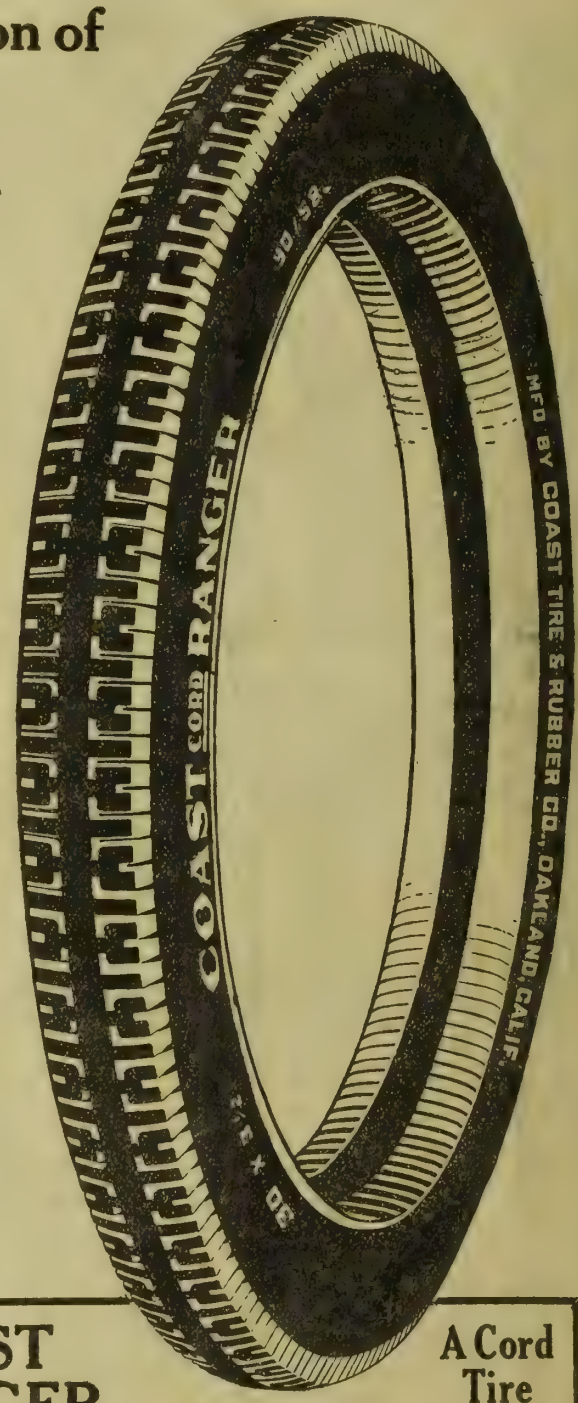
# Here's Some Good News

## The COAST TIRE AND RUBBER COMPANY

**announces the addition of**

# Two New Tires




**Priced to meet the new demand**

**The Scout "49", a new design, standard size, non-skid tread, clincher type, fabric tire. The Coast Ranger, a specially designed cord tire, in both clincher and straight-side types, made in substantial oversize, with broad, heavy non-skid tread. These two new type tires were designed by the same engineers, constructed in the same factory, under the same exacting supervision as the immensely successful, super-quality Coast Tires. Every detail of design, material, and construction combine to make these tires worthy of your entire confidence.**

| A Fabric Tire | Scout "49" |
|---|---|
| 30 x 3 Clincher type | $9.49 |
| 30 x 3½ Clincher type | $10.49 |

| COAST RANGER | A Cord Tire | | |
|---|---|---|---|
| 30 x 3½ Clincher Type.... | $14.95 | 30 x 3½ Straight Side..... | $16.25 |
| 31 x 4 Clincher Type.... | $22.15 | 31 x 4 Straight Side..... | $24.00 |

## COAST TIRE AND RUBBER COMPANY

Factory and Main Office
OAKLAND · CALIF.

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — August 26, 1922 — No. 9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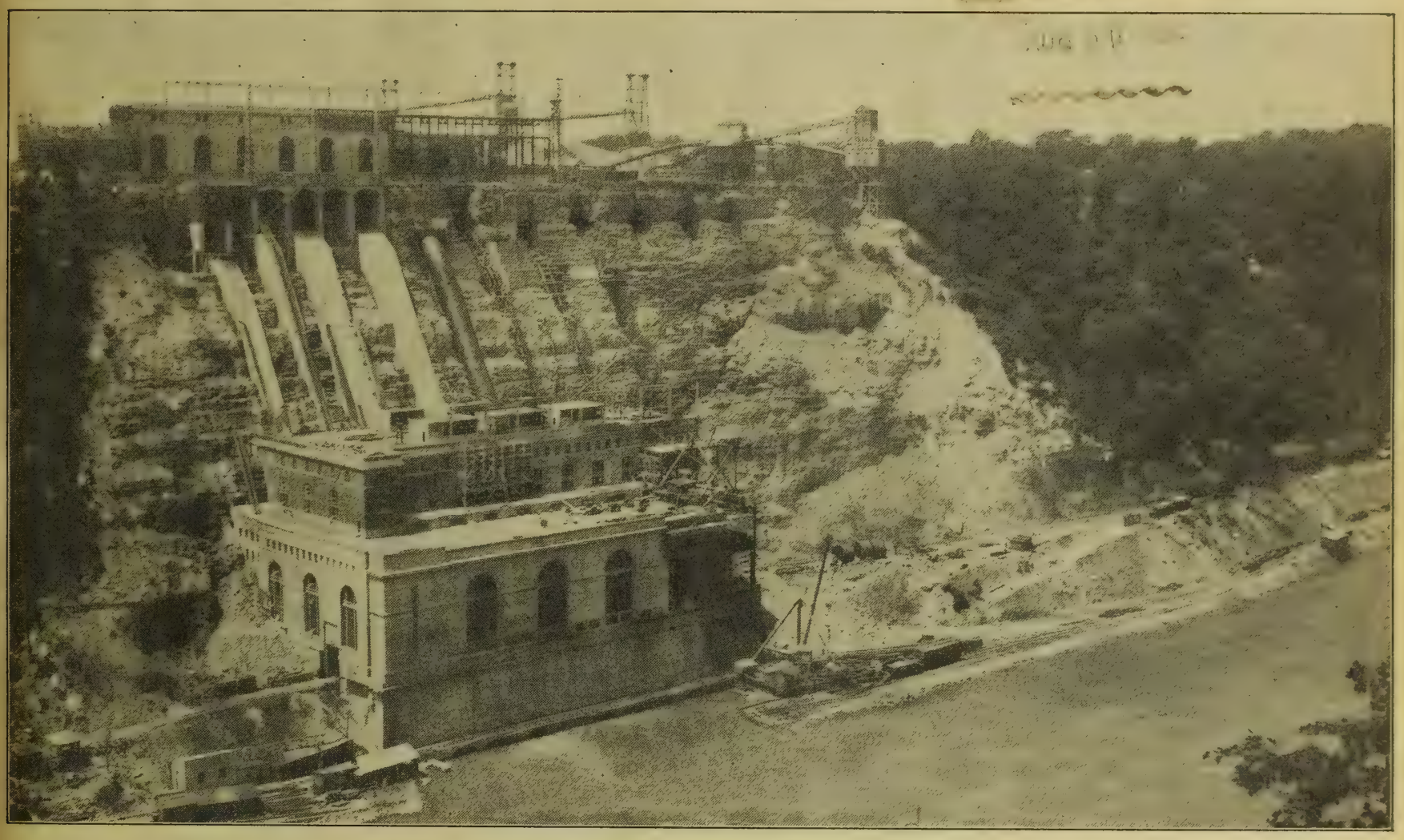

## Photographed a Mile Away---It Looms Big

This photograph shows a portion of Canada taken from the U. S. A. The Cultivator camera was on the bank of the Niagara River a few miles above Lewiston, New York, and was leveled, or depressed rather, so as to take the above view of the Queenston Hydro-Electric plant. Bear in mind, the camera is nearly a mile from the great structure down in the gorge, and to form a correct idea of proportions note the standard gauge railway on the structure just above the water in the center foreground. Freight cars standing in right center and blacksmith shops and other buildings in lower left aid in comparison. The superstructure, or small building on top of the greater one, is a three-story building. The big steel penstocks, one of which is not yet covered with concrete, have a diameter of 16 feet at the upper end, 14 feet at the lower, each carrying water under a 305 foot head and each generating 55,000 horsepower. The turbines are vertical, single runner type, connected with a three phase 25 cycle generator delivering power at 12,000 volts. The current is immediately "stepped up" to 110,000 volts for transmission to far away districts. When this picture was taken only three of the 55,000 horsepower generators were installed and in operation. Two others are building, one now near completion. It may be seen from the photograph that the building is being extended along the bank down stream. The other four turbines and generators will be installed later.

The water is taken out of the river above the falls, the Welland River being used as a part of the canal; in that the water is forced to run up stream. The canal supplying the water is twelve and three-quarters miles long. Other information regarding this great plant will be found in an article on third page of this issue.

All told when finished this plant will create power the equivalent of half a million horses.

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877, Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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Saturday, August 26, 1922

OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## STATE FAIR

A letter from Secretary Paine indicates preparations for the 68th Annual California State Fair are practically completed. County exhibits are already under way. These usually fill the horticultural hall. However, there will be numerous plate and other exhibits of fruits and nuts. Tractor and implement exhibits are promised which will be educational.

Livestock entries are now closed and stockmen generally are pleased with the outlook. There are nine exhibitors of drafters, a score of beef cattle exhibitors, but the strongest list of all is of dairy cattle, and these entrants are coming from almost every section of the state. There does not seem to be a single entrant of Angoras, but the milk goat classes will be well filled. Sheep will also make one of the finest showings in years. In the swine classes Poland Chinas show the greatest number of exhibitors with Duroc-Jerseys second and Berkshires third.

## HELP FROM WASHINGTON

Last week we remarked on transportation conditions and the fact that millions were being lost by California producers because of strike conditions which have been permitted to continue beyond all reason, then we asked, "Have the people no friend in Washington?" About that moment Secretary of Agriculture Wallace in making an address on present day conditions referred to the long continuation of the strike, the interruptions of transportation, and refusal of dealers to buy because railroads would not haul—all of which resulted in serious hammering down of prices to the increased loss to farmers. Mr. Wallace makes appeal to the quarreling factions to cease that the farmer may be encouraged, or at least enabled, to continue food production that the striker and rail owner may eat. If the farmer doesn't continue production someone is going hungry—presumably it will not be the farmer!

Strength to the arm of Mr. Wallace and others connected with the administration. But, honest to goodness folks, the time has come when strong words avail little; we need vigorous action.

Dispatches announce at the last moment "Millions of dollars of loss will be saved to fruit growers of California if"—wine grape growers will consent to ship their fruit in ventilated cars—if the shippers of perishable food will be content with the allocation of 8,000 out of 90,000 refrigerator cars—and if a number of other ifs are all observed. The dispatch announces that 100,000 additional refrigerator cars are needed in this country, strike or no strike. So it appears that under all circumstances the fruit grower is up against it for the next few months.

## HARRIS WEINSTOCK

While riding with a granddaughter at Los Altos on Sunday afternoon, Colonel Harris Weinstock was thrown by his frightened horse and so seriously injured that he died on Tuesday.

Colonel Weinstock was born in London, September 18, 1854, and was educated in New York. He engaged in the dry goods business in San Francisco in 1872 with David Lubin and later the firm extended its activities to Sacramento. The San Francisco business was disposed of and the Sacramento business was built into one of the outstanding dry goods establishments of the state. Later he retired from the active management of the business but continued an even more active life in connection with the Federal Industrial Relations Commission and as market director of California. In the latter capacity he worked in connection with many of the cooperative marketing organizations of this state and brought together poultrymen, fishing interests and workers in other productive industries in new marketing organizations.

He has been a great factor in the upbuilding of the state and his pleasing personality has endeared him to Californians.

## WILLIAM R. NUTTING

Another California pioneer is gone. William R. Nutting, aged 71, died while visiting his daughter at General Grant Park, on August 8. Mr. Nutting was one of the San Joaquin Valley's oldest pioneers. He planted one of the first raisin grape vineyards in the valley; he was first to lead in organization of the raisin growers into a cooperative marketing association. While to him belongs the credit for the perfecting of this great organization it required a fight of many years to bring it to successful operation. Since its organization he has devoted himself to development of his own properties. However, during the past two years he has made experimental plantings of dates amongst which he hoped to find some which would prove successful under San Joaquin Valley conditions.

Some of the particulars of Mr. Nutting's life as given by the Fruit News are:

"Mr. Nutting was born September 1, 1850, in Ohio and is a descendant of English stock coming to this continent in the early part of the seventeenth century. After a business activity in Boston, in the early days of electrical development, in which line also a number of Mr. Nutting's visions have since been of great value, he came to San Francisco and later went to the San Joaquin Valley where he organized and conducted for some years the American Seedless Raisin Company, later known as the American Vineyard Company. This business helped develop the Thompson Seedless as a raisin grape and shipped this variety in package form under the Not-a-Seed brand and was largely instrumental in developing both the Thompson Seedless and the carton for raisin purposes. Subsequently Mr. Nutting organized the California Raisin Exchange, which developed into the California Associated Raisin Co., of which his idea was the inspiration, and while many others assisted in the latter, W. R. Nutting has to his credit the inception of the present raisin association, of which he has been a trustee since.

"He is survived by three sons, one of whom has been the head of the American Vineyard Co. for several years, and two daughters, of Fresno and Los Angeles. The Fresno Republican, in editorializing on Mr. Nutting, says that his mind was too full of concern for public benefit to be occupied with his own affairs, but he differed from most visionaries in that he left a monument of accomplishment and 'W. R. Nutting is truly one of the builders of the San Joaquin Valley.'"

## DUE FOR A SHOCK

We fear there are two sets of fruit growers in this U. S. A. who are due to receive a distinct shock, or at least will be due to receive it within a few years. One is made up of the many producers of citrus in California, the other of the citrus producers in Florida. As a matter of fact the shock has already been felt by the California grower. When the Florida growers were here a few weeks ago, the leader of the party, Edgar A. Wright, made statements in effect that Florida plantings of new orchards were in excess of those in California. To this certain Californians have taken exception.

We are not informed as to the acreage of young nonbearing orchards in both Florida and California but, having spent a few days in Florida orchards and on lands which may make Florida orchards, we believe that Californians may well open their eyes to the fact that Florida has wonderful possibilities in the growth of the citrus industry. In a sense Florida is a much newer state than California. This, notwithstanding the fact that one of its little cities, St. Augustine, claims to be the oldest in this United States. Another fact to be borne in mind is that a few years ago when the northwestern blizzards swept through the groves of the northern end of the state and wiped almost every orchard out of existence the industry picked itself up, marched a few counties to the southward and will next year produce almost as many oranges as California. We think we are fairly safe in adding that should that blizzard be repeated and wipe out the northernmost orchards as they exist today there would still be possibilities of a southward march. We once considered The Everglades and Lake Okechobee as covering much of the state of Florida. Like the great American desert The Everglades have been shrinking, and the orange tree is adapting itself to many a situation formerly deemed impossible, and those orange trees have a rich dark green color that indicates the real producers. Florida has many lessons to learn in the growing of oranges, but she is coming to California and she is looking everywhere to learn those lessons. One which she is just beginning to learn is that the more than a score of varieties she is now marketing must be reduced to a few standards. She appreciates California's superiority in this one respect, that in reducing her oranges to the two favorites she has secured the lead. In oranges Florida is now shipping Lue Gim Gong, Parson Brown, Pineapple, Ruby, Surprise Navel, Valencia (the latter sometimes shipped as Tardiff, Hart's Tardiff, Hart's Late, etc.) and Temple. None of these seems able to forge ahead and make a place for itself as has the Navel.

But where the Floridans are due for a shock is in the production of grapefruit. Many of the growers are entirely ignorant of the fact that California is going to be one great big factor in grapefruit production. In speaking of grapefruit the Florida grower refers to the fact that the industry was created in that state and the only commercial shipments are the ones that have been made from Florida. He does not deny to California the right to make any claims it chooses to make, but notwithstanding all claims the Californian is simply not in the grapefruit game. We remarked to one or two of the grapefruit producers that in dining cars on a trip covering some 7,000 or 8,000 miles, also dining rooms of a score or two of hotels in the months of June and July we had been unable to get a single Florida grapefruit, and in a hotel in the heart of the great fruit producing section of Florida around the first of August not a grapefruit was to be had. Until we reached the Florida line, however, California grapefruit had been available at all hotels and in practically every dining car. Florida grapefruit does not cover the long season which is given to the California product. It has two faults, that of dropping from the tree and of growing or sprouting of the seed in the fruit. Because of these faults there are some three or four months of the year when Florida grapefruit is not able to dominate the market. In the meantime California has found varieties which are adapted to the state and produces some of the finest seedless fruit on earth. Florida growers do not know this and probably will not know it for several years. But the shock is coming, and perhaps about the time that California orange growers get their shock.

# California Cultivator

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# Hydro-Electric Power on the Canadian Farm

By C. B. Messenger.

CONTINUING the item as to "Hydro As Is In Ontario, Canada" I am compelled first to confess entire inability to find words to explain in even small degree the thrill which really did come from viewing the waters of Niagara. The great rotar of the generator with its half million pounds of weight is so perfectly balanced that its 187½ revolutions per minute gave not the slightest jar or apparent vibration, yet there was an all pervading impression of intensity as one looked at the great machine and realized what it was accomplishing.

I recall well the time when California combined harvester and threshers were propelled by horsepower. It was my privilege to crawl out on the "ladder" and look down on the backs of 30 horses under control of a driver with one jerk line and a box of stones in lieu of a whip to stir the lazy ones to action. One look on that sea of backs was sufficient, and I wanted to and did climb off the driver's seat promptly. Since that time the meaning of "horse power" in the large has come to me from recollection of my experience in seeing 30 horses in one team. But as all things agricultural have advanced so has the operation of power, and today we are utilizing what years ago we considered only as a wonderful display of natural power. Instead of pouring over the brink of Niagara in a spectacular waste of energy, a portion—an infinitely small portion—of the waters is taken out, carried a dozen miles and poured over the edge of Niagara gorge with a sheer drop of over 300 feet, and the power which is generated is carried hundreds of miles to light homes, cook the food, cut the silage, grind the feed for the dairies, churn the butter and put all kinds of comforts in thousands of homes.

Thrilling? Indeed it was, but as I said, the dictionary has not yet given me the words to express it.

This is not the only place in which hydro-electric power has been used to add to human comfort. For many years California has been aware of her possibilities and large corporations have been saving the power of falling waters and California farmers have been enabled to redeem desert lands because of the power generated by water used to lift other water and place in irrigation ditches. Nor have these corporations been alone in this great work, though due credit should be given for their far sightedness. There have been municipalities and communities which have also used this God given power. People are today asking for greater development and use of power. There can be only benefit from looking to others who have appreciated and profited by the use of that which in all former time has been wasted. It must be had at the lowest cost consistent with good service.

So as I suggested in my former letter written from Hamilton, Ontario, I wish to refer this week to some impressions received in a long day's ride from that city and into the country, nearly half way between the head waters of Lake Ontario and Lake Huron, in other words, half way across the southern peninsula of the province of Ontario.

At Toronto I had asked where I could find some of the real kickers, or objectors, those who were opposed to hydro-electric development by the state. I was there told, and found it to be generally true, that there were practically no objectors to hydro-electric development, but that the objections were raised on the point that the hydro-electric commission was created to conserve, manufacture and distribute hydro-electric energy, but that after this was accomplished the

(Continued on Page 198.)

# The Farmer and Strikers

IN THE course of a talk before the Farm Bureau at Leesburg, Virginia, Monday afternoon, Secretary of Agriculture Wallace said:

It is worth while to compare wages in the organized industries with the wages received by the farmer, as represented in the price he gets for the things he grows. The value of income, whether it be in the form of wages or of money received for sales of products is represented not in dollars and cents, but in what that income will buy.

Take the average wage received by the coal miner for mining a ton of coal. In 1913 this wage per ton would buy 1.1 bushels of corn in Iowa; in 1921 it would buy 2.5 bushels of corn in Iowa. In 1913 the ton wage would buy .7 of a bushel of wheat in North Dakota; in 1921 .9 of a bushel. In 1913 it would buy 4.7 pounds of cotton in Texas; in 1921 8.5 pounds. In 1913 7 pounds of hog in Nebraska; in 1921 14 pounds. In 1913 .8 of a bushel of potatoes in New York; in 1921, 1.2 bushel. In 1913, 11 pounds of sheep in Wyoming; in 1921, 18 pounds. In 1913, 1.6 bushels of oats in Illinois; in 1921, 3.1 bushels. In 1913, 2.4 pounds of butter in Missouri; in 1921, 3.2 pounds.

Taking the average yearly earnings of railroad employes, we find that in 1913 the yearly wage would buy 1492 bushels of corn in Iowa, and in 1921, 4112 bushels. It would buy 1028 bushels of wheat in North Dakota in 1913; in 1921, 1466 bushels. In 1913 it would buy 6449 pounds of cotton in Texas; and in 1921, 13,934 pounds. It would buy in 1913 102 hundredweight of hogs in Nebraska; and in 1921, 237 hundredweight. It would buy 148 hundredweight of sheep in Wyoming in 1913; and in 1921, 296 hundredweight. In 1913 it would buy 1087 bushels of potatoes in New York; in 1921, 1916 bushels. In 1913, 2174 bushels of oats in Illinois; in 1921, 5109 bushels. In 1913, 3309 pounds of butter in Missouri; in 1921, 5285 pounds.

In 1913 the freight revenue per ton mile received by the railroads would buy 1.4 bushels of corn in Iowa; in 1921 this revenue per ton mile would buy 3.1 bushels of corn in Iowa. In 1913, 1 bushel of wheat in North Dakota; in 1921, 1.1 bushel. In 1913, 6.1 pounds of cotton in Texas; in 1921, 10.5 pounds. In 1913, 10 pounds of hogs in Nebraska; in 1921, 18 pounds. In 1913, 1 bushel of potatoes in New York; in 1921, 1.5 bushel. In 1913, 14 pounds of sheep in Wyoming; in 1921, 22 pounds. In 1913, 2.1 bushels of oats in Illinois; in 1921, 22 pounds. In 1913 2.1 bushels of oats in Illinois; in 1921 3.9 bushels. In 1913 3.1 pounds of butter in Missouri; in 1921 4 pounds.

In 1913 the price of a ton of coal f.o.b. the mine would buy 2.4 bushels of corn in Iowa; in 1921, 6.2 bushels; in July, 1922, 9.3 bushels. It would buy in 1913, 1.7 bushels of wheat in North Dakota; in 1921, 2.2 bushels; in July, 1922, 4.4 bushels. In 1913 it would buy 10.4 pounds of cotton in Texas; in 1921, 21.1 pounds; in July, 1922, 22.9 pounds. In 1913, 16 pounds of hogs in Nebraska; in 1921, 36 pounds; in July, 1922, 53 pounds. In 1913, 1.8 bushel of potatoes in New York; in 1921, 2.9 bushels; in July, 1922, 4.7 bushels. In 1913, 24 pounds of sheep in Wyoming; in 1921, 45 pounds; in July, 1922, 70 pounds. In 1913, 3.5 bushels of oats in Illinois; in 1921, 7.7 bushels; in July, 1922, 14.2 bushels. In 1913, 5.4 pounds of butter in Missouri; in 1921, 8 pounds; in July, 1922, 16.1 pounds.

In fairness it should be noted that before the corn, wheat, hogs, sheep, cotton, butter, or other farm products get to the consumer's table, a good deal has been added to the price the farmer receives. This margin between the farmer and the consumer has considerably increased during the past eight years, but it is also fair to note that a good deal of this increase has been due to the increase in the wages paid the people who handle these products. What these figures show is that the wages of the farmer, as represented by the prices paid for his crops, are lower than his wages were before the war, measured in purchasing power, while the wages of the workman, and especially in organized industries, are considerably higher than they were before the war, whether measured in dollars and cents or in purchasing power. The purchasing power of the wages of the railway employe in 1921 was 51 per cent greater than in 1913. The purchasing power of the wages of the coal miner in 1921 was 30 per cent greater than in 1913. The purchasing power of the farm hand who works for wages in 1921 was 4 per cent less than 1913, while the purchasing power of the farmer himself was, on an average, from 25 to 45 per cent less than in 1913.

In short, the farmers of the country, numbering almost one-third of our entire population, have borne altogether the heaviest burden of deflation. They have endeavored to get relief by all lawful means. They have appealed to the administration, to congress, and to every other agency which they thought might be able to help them, but while making these efforts to avoid their heavy losses they have not struck. They have not created disorders. They have kept on producing, and in the face of extraordinarily low prices have this year grown one of the largest crops in our entire history. The farmer believes in law and order. He believes in government. He believes in fairness between man and man. He believes in working hard and producing efficiently.

If other groups would do as the farmer has done, our economic troubles would soon be over. Prices would soon be adjusted to their normal relationships. There would be work for everybody, and at just wages.

But there are too many people who seem to be thinking only of themselves, and how they can profit at the expense of the community at large, and especially at the expense of the farmer. The farmer is sick and tired of this sort of business. He is disgusted with these recurring disputes between capital and labor, especially as connected with the essential industries. He sees no reason why such disputes cannot and should not be settled in an orderly and lawful way and without the interruptions of service which cost him so dearly.

The farmer recognizes his obligation to produce food, for people must eat to live. He demands that both the owners of the coal mines and the coal miners recognize their equal obligation to produce coal, and he demands that the management of the railroads and the railroad workmen recognize also their equal obligation to keep trains moving for unless the food he produces is moved promptly to market the people will starve.

If the various groups in this country are determined to prey upon one another and abandon law and order for strong arm methods, the farmer can take care of himself. He can reduce his production to his own needs. He can follow the example of some others that refuse to sell what he produces. But he does not believe in that sort of thing. He knows that such a policy would bring about in this great republic exactly the same sort of conditions that exist in Russia.

The farmer calls upon capital and labor to cease their petty bickerings and resume production, trusting to America institutions and the American sense of fair play to see that justice is done to both of them.

# Agricultural News Notes of the Pacific Coast

## Northern California

Yuba County fair was held at Arboga, August 13-20.

A home demonstrator has been appointed for Glenn County.

Esparto, Capay and Arbuckle report having started the almond harvest.

California's almond crop this year is estimated at 9,000 tons.

The Tehama County farm bureau will hold its annual meeting on September 4 at Courtland Park.

Three of the large prune orchards of the state have installed dehydrators with daily capacity of 40 tons.

F. N. Bigelow has been named chief of the state bureau of markets to fill vacancy caused by resignation of H. S. Maddox.

Arbuckle will make a special exhibit of almonds at the Colusa County fair at Colusa, September 13-17. September 14 is Arbuckle Day.

More than 1500 birds were entered in the poultry utility show which was a feature of the Sonoma-Marin Counties fair at Petaluma this week.

The new Sequoia Union High School situated in a 40 acre botanical park at Redwood City, will be ready for occupancy soon after January 1.

W. B. Smith, federal expert on rice grading will come to Colusa and Glenn Counties next month to aid growers in rice grading.

Petaluma was host last week to 27 members of the American Society of Instructors of Poultry Husbandry and other visitors from the state university.

Members of the Glenn County Holstein-Friesian Association have paid visits to the Holstein calf club members in the districts around Willows and Orland.

Several farmers of the Gridley and Biggs sections have made experimental plantings of an Hawaiian rice said to mature one month earlier than rice now being planted.

A new packing house is being built by the Miller-Cummings Company at Livermore to handle grapes. This county expects to begin shipping by the middle of September and to handle 200 carloads.

This year's asparagus crop in the Sacramento River delta section totaled 1,500,000 cases, worth $10,500,000, the largest crop on record. Ninety-eight per cent of the nation's canned asparagus is put up in Sacramento County.

The new cow testing association in Glenn County has been organized and six directors elected; Peter Kasak, B. J. Bills, Kirby Clark, M. J. Haigh, F. L. Dado and J. L. Fulton. A seventh director will be elected from the Willows district.

From San Francisco Quarantine Officer Fleury reports 13 seizures of mangos, oranges, grapes, avocados, and cucumbers from Mexican and Hawaiian ports, containing live larvae of the Mexican fruit fly and the Hawaiian melon fly.

Gravenstein apples are now coming in in the apple growers contest which was started in Sonoma County at the beginning of the season. Apples from the contest plots are being weighed and graded in the packing houses, and winners will soon be announced.

## Central California

The Delhi community fair is to be held on September 16.

The Central California Citrus Institute will be held at Lindsay, September 6.

The first carload of Pajaro Valley apples was shipped August 3. They were Gravensteins.

Farm bureau center meetings in Kern County at Shafter, August 28; Arvin, September 1.

Owners of 400 pure bred Holstein cows of Stanislaus County have formed plan for purchasing community sires.

A Fresno office of the California Canning Peach Growers has been opened in the Mattei Building. J. E. Smurr is in charge.

Lodi peach growers are drying much of their fruit because of transportation situation. Canneries are paying $60 for Tuscan clings.

It is estimated that from 75 to 100 cars of fresh figs will be sent to eastern markets. Fresh Calimyrnas will start in a week or two.

The packers and shippers committee of the Watsonville chamber of commerce is financing a campaign to advertise Bellefleur apples.

Directors of the Madera County farm bureau deny report that the farm bureau has started recall petitions for the Madera irrigation board.

San Benito County peach growers have pooled orders for paradichlorobenzine amounting to three tons. This is used in controling peach borer.

Prices on dried Adriatics have been increased one-fourth cent by the California Peach and Fig Growers. The new price is 7 cents, September or October shipment.

The Oakdale branch of the California Almond Growers Association has reorganized with election of J. B. Stearns as president, Wright Boddy, secretary and treasurer.

The Visalia chamber of commerce has taken the initiative in a movement to plant shade trees along one hundred miles of state highway between Kingsburg and Delano, and between Goshen and Lemoore via Hanford.

The California Prune and Apricot Growers did not name prices on 1922 prunes on August 9 as was expected. The management announces that because of the strike situation prices will not be named for some time.

President Niswander of the California Peach and Fig Growers says that association fig sales are good, and if they continue for a few days longer at the same rate the association will be sold out on Black Missions and Calimyrnas.

The Tulare Lake section had an exceptionally fine wheat crop, and the San Joaquin and Sacramento Valley crops were considerably above the average. The total production of wheat for the state is estimated to be 14,900,000 bushels compared with 8,355,000 last year.

The Tulare County farm bureau exchange has elected as its new board of directors: Allan Thompson, Tulare; Earl Houghton, Strathmore; E. B. Armstrong, Earlimart; K. R. Clifford, Strathmore; E. W. Hastings, Terra Bella; F. M. Carlisle, Ducor; and H. E. Martin, Tulare.

## Southern California

The apricot crop of the Redlands district will amount to about 2,000 dried tons, the largest handled in that section.

A new cannery has been established at Redlands which will can baked apples and feature Yucaipa Valley on the label.

Work is being rushed on construction of buildings on grounds of Los Angeles County fair at Pomona October 17-21.

A new storage ice plant will be constructed at El Monte because of the great increase in the production of potatoes in that section.

Walnut growers of San Gabriel Valley meet at Puente packing house this evening, August 26, at 7:30, to fix uniform picking price for the season.

R. B. Peters is acting as temporary manager of the Southern California Deciduous Fruit Distributors until a permanent manager can be secured.

Directors of the Blythe levee district are considering submitting bonds for $250,000 to rebuild levees destroyed by the flood waters of the Colorado.

Work has begun on a $600,000 dam in Littlerock Canyon that will treble the water supply of the Palmdale and Littlerock districts of Antelope Valley.

A mass meeting was called at Yucaipa Monday evening, August 21, to form a permanent organization to handle the matter of the annual apple show.

Acreage of bearing date palms in the Coachella Valley is estimated at 250. Producers of more than half the crop will send dates to the El Monte packing house.

The Riverside County cow testing association has been formally organized with election of officers. Howard Warren of San Jacinto was made director.

A basket of sapotes from Nicaragua was taken from steamer at San Pedro by Quarantine Officer Messenger who found in one of the fruits seven larvae of Mexican fruit fly.

The management of the Southern California fair to be held at Riverside, October 10-16, is giving 25,000 square feet to the poultry department and expects to stage the biggest show in the state.

Director Hart of the Corona Citrus By-Products plant says that the citric acid output of the Exchange Lemon Products Company last year amounted to 20 per cent of the domestic consumption. Italy has heretofore supplied this.

An innovation in the comfort and care of the public will be introduced at the Los Angeles County fair at Pomona thhrough the installation of numerous rest arbors, 100 by 200 feet. These rest arbors will be under cover and will be provided with tables and chairs.

A model demonstration farm is to be operated by boys from various high schools throughout Southern California as a feature of the Southern California Fair at Riverside, October 10-15. Work has already commenced on this model farm, to insure growing crops on a miniature scale which will mature during the fair.

## The Coast and General

Arizona's wheat crop is estimated at 1,234,000 bushels.

Canada's apple crop this year is estimated at 3,573,820 barrels.

The wheat crop in Great Britain is estimated at 93 per cent of average.

England has been importing larger quantities of raisins from Spain and Smyrna than heretofore.

The Isle of Pines exported 45,000 crates of peppers in 1922, much of it going to the United States.

Experimental plantings of cantaloupes have been made by growers in the Walla Walla district of Oregon.

The Pioneer Cow Testing Association of Twin Falls County, Idaho, has started on its eighth consecutive year.

China produced last year 324,881 tons of peanuts of which one-fourth was exported. Japan was the largest importer.

The meeting of the Colorado River Commission which was scheduled at Santa Fe, August 28, is to be delayed, probably till October 2.

Algerian sheep are being shipped into France in great numbers as a result of the continued drouth throughout northern Algeria.

A monument commemorating discovery of the Delicious apple was dedicated at Winterset, Iowa, August 15. The apple was discovered in 1872.

A team of Maryland boys sent to England by the Southeastern Fair Association of Atlanta, Georgia, won the Northcliffe cup for livestock judging.

More than 70,000,000 feet of lumber were shipped from the Columbia River in June and a greater amount is expected to go out this month says an Astoria report.

Sales Manager Herbert of the Yakima Fruit Growers Association says his association will have a big supply of Jonathans and Rome Beauty's to ship this fall.

A citrus school was recently held in Cameron County, Texas, by the extension service of the state college. Over 600 enrolled. This was the first citrus school held.

The Colorado potato bug has made its appearance in the district about Bordeaux, France, and is being energetically fought by state authorities. This beetle appeared near Cologne in 1877 but was eradicated.

Professor P. M. Brandt, head of the dairy department of the Oregon agricultural college, has been selected to judge all breeds of dairy cattle at the California state fair at Sacramento the first week in September.

Twenty thousand freight cars will be needed to move the Idaho crop of potatoes this season, according to official estimates made by commercial organizations and from a survey made by railroads operating in the state. This is an increase of 5772 cars over the number used in 1921.

A ten gallon can of fresh milk treated by the Jonas Meilsen system of pasteurization has just arrived in London from South Africa. Tests proved that the fat rose as cream in normal manner and the keeping qualities of both cream and milk were not affected up to 72 hours' exposure to the heat and atmosphere of a London office.

# Olives at a Profit

UNLESS an industry is maintained at a profit it ceases to be. Unless olives are grown and marketed at a price which allows the grower enough to cover costs of production plus a reasonable profit California will lose one of its valued industries. This industry is one of the oldest and should be one of the most profitable, for production of food of such great value as the olive is of benefit to the state and to the entire country. Marketing conditions during the past two or three years have been such that olive growers not only received no profit but the cost of the maintenance of the orchard property they have had to secure from some source other than olive trees. Of course eternal hope in its being better farther on has saved the most of our fruit. This cannot last much longer and unless something is done, and quickly, the olive tree will soon give way and others which will give the grower a living chance will be planted.

We believe one of the most patriotic efforts along this line has been made in the organization of the California Olive Growers. A. M. Drew, president of that association, gave some very consistent and proper reasons for the organization of the olive in the issue of the California Cultivator of July 8. In a word, the object of the association is to secure successful marketing through standardization, advertising or any other step which would save the industry. In that letter Mr. Drew said:

"Hitherto the grower has been led to believe that only the packer could cure and pack olives and that his business was simply to keep at work growing olives and turning them in to the packer, taking what he, the packer, might see fit to give him."

Mr. Drew also referred to prices which have been paid for the fruit and prices which have been paid by the consumer for the fruit after processing. This brought from E. Ludwig, a subscriber at Oroville, the suggestion that olives could not be sold at 25 cents per quart without net loss to the packer even if the fruit were delivered to him without cost. To this Mr. Drew replied by giving details of costs showing that olives could be sold at 25 cents and leave to the grower $100 per ton. These figures of Mr. Drew's were given on page 147 of the issue of August 12. This statement brings reply from Mr. Ludwig as follows:

I have read with interest the article of Mr. Drew, setting forth how he is able to make a quart can of medium olives a 25 cent seller and at the same time pay his grower members a net return of $100 per ton for this size olive. This looks very good indeed, but what I would ask Mr. Drew is: "How much did your growers get last season for the medium olives?" for I am still positive that they didn't get much, if anything, for their medium olives, if they were sold on a similar basis as stated above. A financial success does not consist of selling olives before they are packed, but it is based on the net return to the grower; for any packer can sell his goods below market prices if he wants to before the fruit is harvested, but he can't afford to do it because he has got to pay for his fruit, while the grower packer if he sells below market price, gets his packing cost back quickly, but the grower gets nothing for his fruit.

I am of the opinion, that Mr. Drew meant all right by giving these figures but I am afraid these are only arbitrary figures and would not agree with the books of his informant at the close of the pack. Since Mr. Drew invites criticism of his figures of olive packing cost in your issue of August 12, I feel that I should express my views in this matter. Not knowing the general routine of Mr. Drew's handling of the olives and keeping of his accounts it is difficult to state exactly what charge is included and what is not included. I therefore will take Mr. Drew's cost figures and add to same the items which he apparently left out:

Olive packing cost according to Mr. Drew, per ton, $125.

Plus the following items: Processing and curing (including processors salary) $5 ($3 is far too low to turn out quality fruit.)

Salt and caustic (it appears that $1.33 is about the cost of water) $5.

Factory expense (including wages of warehouseman) $5.

Cases (quart cases could not be obtained last season for 11 cents made up) $2.

Samples, insurance, advertising (not included in Mr. Drew's figures) $14.

Depreciation on plant and equipment, $16.

General factory overhead (including office and managers salaries) $20.

Interest on investment 6 per cent, $13.

Making a total cost of quart cans per ton of $205.

(Please note, that I have not challenged all the figures which seemed to be out of line and which would further increase the cost).

Proceeds:

Selling quart cans at 25 cents retail or per case of 2 dozen, $6.

Grocer wants a gross profit of 30 per cent on above, $1.80.

Selling price to retailer, $4.20.

Jobber wants to make a gross profit of 15 per cent on $4.20, 63 cents.

Selling price to jobber, $3.57.

Broker wants to make at least 5 per cent, 18 cents. Total $3.39.

Freight charges, 50 cents.

Net price to packer, $2.89.

Seventy cases per ton, $2.89. Total $202.30.

The result would be a loss of $2.70 per ton and the grower gets what?

To turn out a first grade ripe olive the processing cannot be rushed, and great care has to be exercised and cannot be done cheaply. Of course one can pickle ripe olives at a fraction of my figures, but the result will be that the olives are hardly fit for human consumption or are in such condition, that dealers will buy them merely because they are cheap and they know they can sell them cheap to the undiscriminating public, all of which would be detrimental to the olive industry.

You may use this letter as you see fit, my only interest being that the growers, having been misled long enough, should get the absolute facts so that they can see their way clear in the future.—E. Ludwig, Butte County Olive Grower, Oroville, August 14.

Mr. Ludwig is certainly taking care of the interests of the man who is going to pack his olives for him. He has allowed him on the four items of interest, overhead, depreciation, advertising, etc. $63 per ton, and for processing and curing (including processor's salary) Mr. Ludwig adds $5 more.

We are reminded of the ship building situation during the war. Without any limitation the builders were told to build ships and add ten per cent as their profit. We surely built ships, but the awfulness of the cost created a world wide scandal. For many years growers have felt that the cost of processing, canning or packing of fruit was of little concern to the packer. Too often he has been able to control the producers price so that no matter what the costs might be the packer still "gets by." We think practically every successful cooperative marketing association in California has made greatest effort to reduce this packing cost. In 1893-94 when the orange growers first organized, the managers of the packing houses were almost invariably from the orchards, with practically no knowledge of the packing or marketing end of the industry. Yet through integrity of purpose and enlightened selfishness efforts were continued until packinghouse costs were cut nearly in half. The same spirit still prevails among many of our larger fruit handlers.

The transportation companies take the same attitude that, regardless of the costs of railway maintenance, the capital invested is sacred and must be protected, and, pile up as the cost will, there still must be a reasonable profit for the railway owners. This attitude is supported by the state railway commission so it is excusable for the Butte County grower to accept such decision as final. But we honestly cannot see where a grower is justified in figuring such profits to the retailer as has Mr. Ludwig. He begins at the consumers end and figures from the consumer's price, a profit of 30 per cent or $1.80 on each case. This would be a profit of 43 per cent on the price of a case of olives to the retailer. We fear if many California olive growers are willing to concede such profits and such salaries and overhead as Mr. Ludwig considers necessary there will soon be an end to the olive industry in this state. We trust, however, that public spirited growers will do a bit of pencil work and determine to support cooperation.

# Making Good With Poultry and Fruit

By M. E. Bemis

YESTERDAY I talked with two men, both farmers, both following in a way the same line of farming, that is fruit and poultry, or, to be more exact, it is fruit and poultry with one and poultry and fruit with the other. The first has a considerable acreage, capital to hire hep, and the vision to see ahead what can be done. Some time, possibly not for two years yet, his will be a model farm and an ideal country home. To make of it the place that he sees in his vision, and the place which he in his enthusiasm makes the visitor see that it will be, will require more money and more time. His is not a poor man's proposition. The second place is an example of what a poor man can do, with little to do with "except the will which says to them 'Hold on.'" It is the story of the latter place that I would tell you at this time. It is the story of struggle against debt, of adverse conditions overcome, of a man none too strong, of denial, and discouragement, with naught to keep up his spirits but an abiding faith and a courageous wife.

### A Start on $50—Borrowed at That

Albert Liggett is not a new comer to the Salt River Valley. I think I met him first some ten years ago, a clerk in a Phoenix store. Not particularly strong, he followed the calling of a clerk and bookkeeper till about five years ago. Probably it was about that time that he married and decided that a home would be a desirable thing to have. The beginning was made with a rented farm of two and a half acres a few miles from Phoenix. The break was made from clerkship to proprietor of a business by borrowing $50 at a high rate of interest. With this he bought live poultry, took it home and dressed it, then sold to private customers. There was no fortune in this, but it meant a little more than a living, and the business gradually grew and more stock was added. After about a year and a half, the rented place was purchased on contract, the first payment of $200 was partly of profits that had not gone back into the business and partly from borrowed money.

It was nearing spring, and always there is demand for day old chicks. To help to supply this and at the same time to help out his income he wanted to try out the hatching business. No money, no incubator cellar, no incubators, and but few eggs, but plenty of nerve. He went to one of the dealers in incubators who was also retailing day old chicks and said to him: "You sell me some incubators, and I will pay you for them in day old chicks." "But where is your cellar?" he asked. "Never mind that, I'll furnish the chicks if you let me have the incubators." The argument ended by selling Liggett the incubators, and that part of the story of high financing ends with the simple statement that he paid for them as agreed, and bought more and paid for those, and made some money, more than living expenses, and broadened his business.

He had no incubator cellar, but a hole was dug in the ground, covered with poles and brush, and then with dirt, and fairly good hatches were made in this makeshift cellar. No doubt this cellar was a source of no little grief in one way and another, and here he began the study of ventilation for incubator houses which will be mentioned more in detail later.

### Bought Ten Acres

About two years ago he realized that to expand his business as he wanted he must have more land. In the meantime he had made substantial payments on his place and was able to sell at some profit. With this start

(Continued on Page 213)

## HYDRO-ELECTRIC POWER ON THE CANADIAN FARM

(Continued from Page 195.)

commission, by direction of the provincial parliament, had proceeded to erect and operate radial or suburban railways. It is true that these railways are being constructed by the commission; they are also being operated, and so successfully that outlying communities are growing and adding to the wealth and to the comfort of the province. However, I gathered no information as to these radials, my only effort being to learn as to uses being made of hydro-electric energy and as to whether its distribution was made at a price which would allow of its use in rural communities.

When I asked as to the objectors and where I could find the greatest number of them, I was referred to the district immediately west of Hamilton in the counties of Wentworth, Wellington and Waterloo. I did not cover these counties by any means but did touch at Dundas, Galt, Breslau, Preston, Kitchener, Waterloo, Guelph, Alberfoyle.

First I am going to report a bit of conversation with Gordon Waldron, attorney for the United Farmers of Ontario. The U. F. O., as the organization is usually referred to, is a dominating factor in Ontario politics at this moment. They cannot win by a clear majority, but owing to a three cornered political situation the U. F. O. minority is practically in control or is the "government." As a matter of fact it is a four cornered situation, for, in addition to the U. F. O., there is a liberal, a conservative and a labor party. In other words, it controls by a plurality rather than a majority. But this control is sufficient that if the U. F. O. were fully united it might soon reverse the action of the former parliament. But there again the necessities of the people of the province step in and prevent any serious attack on the hydro commission which has served well. Some, of course, still maintain it has served too well in that it has been ambitious to meet the needs of the province and in the few years it has been in existence it has created a property approximately valued at $200,000,000. The point was often raised that the ambition of the commission—or rather, of, as Mr. Waldron termed Sir Adam Beck, the head of the commission, "this chap"—had led into the error of building too big at Queenston. The Queenston plant, photograph of which appears on the cover, had its inception as a war measure. Manufacturing had increased in the province so that there was insufficient hydro to meet the needs. Purchases were made outside and the Queenston plant started. It was thought it might cost under a score of millions, but war prices, great increase in its power possibilities and the excavation of solid rock from the canal to the extent of four million cubic yards have increased the cost of the plant until it will mount to a figure possibly several times the first estimate. I heard no complaint that any portion of this increase of cost was due to jobbery or dishonesty on the part of the commission. The necessities of the province for fullest development of its hydro-electric power may be appreciated when it is understood that every ounce of coal used in the province has to be sent from the Pacific Coast or from extreme Eastern Canada, or, as is usually the case, imported across the border of the states. Its cost now is around $15 per ton.

But to return to Dundas, Preston, and other beautiful little communities and the valleys west of Hamilton and approximately a hundred miles from Niagara where the power is generated. The first little town a dozen miles out of Hamilton is Dundas. The current is received here for many of the smaller communities to the Westward. Transformers "step down" the voltage and it is distributed to the other districts. One of the first farmers interviewed was J. R. Wood of Preston, Waterloo County. He is using a five horsepower motor, has installed 45 lights in barn and house; his wife has the use of electric irons, washing machine, toaster and water under pressure. Mr. and Mrs. Wood expressed entire satisfaction with the service and would not have it discontinued. It is costing $7 per month. I may say here that rural service was entirely unknown in the province of Ontario until the installations made by the hydro commission. Therefore a new life, almost a new world, has been brought into the rural home. Mr. Wood's service includes the five horsepower motor which handles a "chopper," as the Canadians usually term the grain grinder, and other appliances in the barns. Ephram Kinsie was not at home but pump house and farm creamery were inspected. His electric power is costing him slightly more than the oil engine formerly cost, but rendering vastly more efficient service. Lewis Hagey of Preston: "Wonderful convenience, saves in cash formerly paid to help, minimum cost $5.56." Mr. Hagey said first connection made with his power was on the grindstone. Has installed range, washing machine, separator, chopper, etc. Power is not sufficient for silage cutter. Simon Kinsie at Breslau has the greatest comfort in the use of the power to pump his water. His well was deep, the lift was great and the pumping was a back breaking proposition for the women of the house. With his grain grinder he "chops" 2,000 bushels per year. Minimum cost $7.40 each month.

Minimum cost at first was much less than this and Mr. Kinsie, and in fact all the men formerly interviewed, referred to the abnormal increase in the rates in this one district. For explanation they gave the following facts. The district covering portions of some three or four townships was not as thickly settled as some of the districts organized. The rule of the commission is that there must be at least three installations for every mile of line constructed. The commission has been empowered to join in the cost of line installation in order to induce greater rural use of hydro. This was done in the case of these townships, the money being secured from hydro rentals. It has been a principle of the commission that every district shall carry its own "cost." Hence the city or district 100 or 200 miles from point of generation must bear higher "cost" hence higher rates. In signing up contracts for the district near Preston, Breslau and other nearby towns two factories being installed were included in the district in order to make up the required three installations per mile. After comparatively short life these factories both ceased operations and their contracts were voided, thus throwing the entire "cost" and minimum charge made by the commission to the district on the few small farms. It appealed to me that wise action would have dictated a profit and loss fund account from which emergencies of this kind could have been met.

However, the commission is assuring consumers that relief is in sight and that lower rates will soon be given producers in this district.

The twin cities of Kitchener and Waterloo, amongst the best lighted of all in the province, were passed and we inspected on the farm of James Snyder, root pulper, chopper, pump and other installations including silage cutter. Mr. Snyder is a member of a "syndicate" which enables the members to contract for a 20 horsepower installation. Syndicating is necessary for the reason that if five individual farmers contract for 25 horsepower each installation their demands may be for the current at the same moment. This would call for a greater k. w. h. than could be delivered without proper assignment of time. One of the greatest problems for the engineers has been the providing for usage which will not bunch too great a load at one time with greatly reduced demand an hour later. So the five member syndicate enables the farmers to install 20 horsepower motor and in this way they are permitted to install threshing machines, silage cutters and other machines requiring greater power.

One of the housewives whom I met during a day's drive expressed greatest appreciation of the comforts it has brought to her home. I asked if on account of the higher price, she would think it best to discontinue the service, and she replied very quickly, "Indeed, sir, I hope not, for this service has shown us how unfortunately we were situated before." Asking similarly of a farmer he was quick to come back with: "No indeed. My grandfather settled on these lands, lifted the stumps and made fences of them, my father came and built a bigger and better barn and I have inherited many comforts because of their pioneering work. I feel now that organized as the hydro commission is it is enabling me to join my neighbors in creating a great heritage which shall add to the comforts of our children. Without this opportunity I would simply be passing to my children what my father left to me. The heritage is great and must be preserved to our children."

The people of Ontario, almost to a man so far as I could learn in several days of intercourse with them, take great pride and have a thoroughly patriotic spirit in the matter of hydro development. The spirit is spreading to the other provinces of Canada, and ownership by the people is increasing as never before. This has resulted in Canada developing more per capita, or rather, more per thousand of the population of H. P. installations. In 1920 Canada had installed 280 H. P. for each 1,000 population; the United States, 93 per thousand. Bear in mind this was in 1920 and presumably the installation in the United States has vastly increased in the last year and a half. As California is the leader in the United States, presumably this one state can make a far greater showing today than does Canada. In securing these great properties aggregating approximately $200,000,000 there has been no condemning or expropriating. The acquiring of already installed properties has been done by purchase of stock or through agreement with stockholders.

---

Queer how a man's better half is always looking for his worst side.

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### THE BENEFICIAL TOAD

A. H. Kirkland of the United States department of agriculture states that 149 stomachs of toads examined during the months of April, May, June, July, August and September showed 19 per cent of ants, 16 per cent of cutworms, 10 per cent of thousand legged worms, nine per cent of tent caterpillars, eight per cent of ground beetles and other close allies, six per cent of May beetles and allies, five per cent of wire worm beetles and allies, five per cent of destructive weevils, three per cent of miscellaneous caterpillars, three per cent of grasshoppers and crickets, two per cent of spiders, two per cent of sow bugs, one per cent of potato beetles, one per cent of carrion or burying beetles, one per cent of miscellaneous beetles, one per cent of snails, one per cent of angle worms, one per cent of vegetable matter and gravel probably taken in with the insects, and five per cent of unidentified animal matter.

In considering the value of the toad as shown by this work, we must remember that ants, while not directly injurious to the agriculturist, are a pest to the housekeeper, sometimes injure lawns, and always encourage by their assiduous devotion and attention destructive plant lice. The toad makes a fine showing in the above percentages on cutworms. The thousand legged worms eat into fruit when off the tree; the injurious qualities of the tent caterpillar we are well aware of, and we also know that but one or two birds will touch them on account of their disagreeable covering of hairs. Ground beetles are, for the most part, beneficial, but May beetles or June bugs, as they are sometimes called, of which the above toads ate six per cent as compared with the rest of their food, we all know are most destructive upon lawns, strawberry patches and elsewhere. The wire worm beetles are the source of one of our most destructive pests both in the garden and on the farm. All weevils are exceedingly injurious, and the rest of the list needs no comment.

### COTTON GREATLY IMPROVED BY POTASH

The cotton planters of the South are fast recognizing that the use of potash in feeding the soil in which they grow their cotton insures them a bumper crop of high quality. Potash, they find, puts body into the product. This is in line, also, with the experience of farmers engaged in growing vegetables and fruits. They find that the use of potash means an increase in quantity and quality of their crops. Dr. N. J. Harper, director of the farm service bureau of the South, in speaking of potash as a soil food, says: "If it were not for the potash the shirts that we wear would be of inferior quality. The influence of potash on cotton is to make the fibre strong. It strengthens the soil as well and makes the cotton tissues stronger and tougher. As director of the experiment station, I have conducted investigations along this line in order to find out what the value was to cotton. Where potash was used the cotton fibre was much stronger than where it was not used. I saw thousands of crops of cotton last year that showed the need of potash. The bottom bolls fill out and make good ones, while the top blooms do not, making small bolls and inferior cotton." It has been found that the use of potash makes the potatoes, tomatoes, cabbages, onions, etc., of the truck farmer of better quality, that it puts body and strength into the product. It is important that the American farmer have an adequate supply of good potash available in this country, and this can only be brought about by the development of the American potash industry. Potash deposits exist in this country in many states, and that of California alone, at Searles Lake, is sufficient to meet all demands for several hundred years.

### DUMP DIRT SPREADS BEET NEMATODE

Dirt from beet dumps apparently is the most common means of spreading the sugar beet nematode and should be the first to receive attention in planning control measures. Since the removal of dirt from the dumps seems to be the only practical method of disposing of the thousands of tons of soil annually screened from the beets, precautions must be taken to prevent scattering it. Wagon boxes should be tight enough to prevent soil jarring out along the roads and in the fields. Dump dirt should be disposed of in holes, swamps or waste corners where there is the least danger of its being scattered.

The practice of growing beets year after year on the same field gives the nematodes an excellent opportunity of becoming established if they are once introduced. A definite system of crop rotation is said to be advisable with not more than two years of beets in succession. The fertility of the soil will thus be maintained, and much of the danger from insect pests and plant diseases will be avoided at the same time.

When nematodes are found in a locality action should immediately be taken to prevent their spread. This should be made a community affair, and the following measures are being adopted by some of the farm bureaus:

The sugar company operating in the district is requested to refuse contracts for beets grown on soil that is known to be infested with the sugar beet nematodes.

When infested soil happens to be planted the owner and the sugar company are to make arrangements for handling the beets from the infested areas separately and not allow the infested beets to go through the dumps while other beets are being handled.

The practice of throwing dump dirt along public highways should be prohibited by law if necessary.

### WATERPROOFING CEMENT SILOS

Answering inquiry as to waterproofing cement silos, C. M. Evans of the extension service of A. & M. College of Texas, writes:

"The best material that we have found for this purpose is either coal tar or paraffine. These articles are both water and acid proof and prevent deterioration of cement walls, if it is applied every two or three years. Where coal tar is used it is usually warmed up and applied with a paint brush or it may be sprayed on the walls. Paraffine is handled in the same manner."

Uncontrolled fires in the forests, hay, grain and pasture areas of California did damage last summer estimated at approximately one million dollars to say nothing of the killing of thousands of baby trees the value of which fifty years hence cannot be estimated.

# Steadfast as the Oak Tree—Time's Judgment on the Colt "Gas Well"

THE oak tree is a living symbol of solidity, sturdiness and durability.

Only after an amazingly long and sturdy existence does it bow to the will of Time.

Having read about the marvelous COLT Lighting and Cooking Plant, you doubtless have wondered how *permanent* it is. How long it will continue to shed its incomparably beautiful white light. How long your wife will have that delightful city convenience of cooking, ironing and heating water by Carbide Gas. How simple will be its operation. How economical. How much attention will be required. How often you will have to call for service, replace parts and units, mend and repair. *In a word, how will the COLT weather the Test of Time.*

Let COLT users speak. They know. They speak from experience—*long* experience. And there are legions of them. Altogether close to a half million farmers and others in rural communities light and cook with this wonderful, non-poisonous Carbide Gas. Here are three letters out of scores that testify to the oak-like durability and sustained perfection of the COLT.

### Twenty-four years' Service, practically no repairs

April 28, 1919.

J. B. Colt Co., New York City.

Gentlemen: — Answering your letter of recent date, will say: We have used your Colt Generator for about twenty-four years. It is a 200-light machine and we have 200 lights hanging on it. The Generator has given us the best of service in all this time. The machine has been doing its work at practically no cost to us for repairs of any kind. Very truly yours,

(Signed) P. R. JOHNSON.

*There is the test of time.*

Another letter from Bradford Norman, 5 West Marlborough Street, Newport, R. I., reads:

"J. B. Colt Co., New York, N. Y.
"Dear Sirs:

"Will you please send me one felt filter for my machine? This machine was installed over twenty years ago and has given perfect satisfaction during that time and the above order is the first expense outside operating (an occasional drum of carbide) that I have had to make."

*The test of economy—less than one dollar in twenty years for part replacement!*

### After Ten Years, Works Like New

### Cheapest and Best Farm Light

Shiloh, Ohio, May 22, 1920.

To whom it may concern:—

Ten years ago I had a J. B. Colt lighting system installed in my former home at Lexington, O., for which we used continuously during that time for both lights and cooking, and never cost one penny for repairs, to-day my younger brother lives there and it works as well as the day it was installed.

One year ago I purchased the farm where I now live, and one of the first things I did was to buy another J. B. Colt light plant and have it installed. I have my house and barns both lighted with it and wouldn't do without it for several times the cost, after ten years use I figure it the cheapest and best light for the farmer.

Very Respectfully Yours,
C. K. INK, Shiloh, Ohio

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### Simplicity and Economy

Feed the generator Carbide once in a while and run water into the water chamber—that's all you need do. The machine makes the gas automatically. *No continual replacement of parts and power units. No service necessary. Your Colt is a lifetime investment in reliability, simplicity and economy.*

The COLT comes from factory to farm—sold direct to you by COLT solicitors—no distributors or dealers to take a profit. This applies everywhere. A substantial saving here.

### Don't Invest in Any System Until You Have Heard the Full Story of COLT

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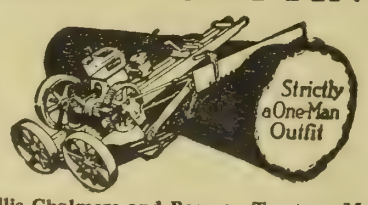


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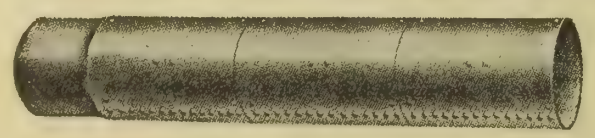

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# Peach Drying

By L. C. Barnard, Division of Pomology, U. C.

IT is possible to dry almost all varieties of peaches. Naturally some are better suited for drying purposes than others. The Muir and Lovell are considered the best and the Elberta ranks third. However, the following varieties are also dried on a commercial scale in California: Foster, Salway, Early Crawford, Late Crawford, Susquehanna and Wheatland.

The qualifications of a good drying peach are that it shall have a yellow flesh, firm and dry, be a freestone, of good size, and have good quality.

### Harvesting

When a peach is slightly soft to the touch over the whole surface it is ready for drying.

Peaches are harvested similarly to apricots, i. e., either picked from the tree or shaken or knocked from the tree onto the ground or onto a canvas sheet spread under the tree. Picking the fruit direct from the tree gives the best quality of dried product. Data have been collected showing that 61 pounds of slabs per dry ton is the result for peaches shaken to the ground as compared to five pounds of slabs per dry ton for peaches which were picked direct from the tree. The trees are usually gone over two or three times.

### Cutting Process

Peaches are cut completely around the suture, the pit removed and the halves laid, cup side up, on the drying trays. Care should be exercised in making the cut clean and not ragged, also in laying the cut fruit as close together on the trays as possible.

### Sulphuring

Most fruits, except prunes and some grapes, are sulphured before drying in the sun. Object: All fruits contain oxidase enzymes. When the fruit is cut for drying purposes and exposed to the air these enzymes avidize the natural coloring matter of the fruit, causing the fruit to turn dark or brownish, unless their action is prevented. The sulphuring process inactivates these enzymes and prevents darkening.

When the sulphur burns in the sulphur house sulphur dioxide gas is formed. This gas, being soluble in water, combines with the water and juices of the fruit, thereby forming sulphurous acid. The sulphurous acid inactivates the oxidase enzymes and also acts as a bleaching agent. Some of the cells of the fruit are ruptured by the sulphurous acid, causing the cooked appearance found in sulphured fruit when broken and examined after sulphuring. The ruptured cells allow the juices to escape into the cup of the fruit. The sulphurous acid kills any insects or eggs which are present and prevents the action of molds or bacteria, thereby acting as a disinfectant and a preservative.

The breaking down of some of the cells by the sulphurous acid also increases the speed of drying. The small amount of sulphurous acid retained in the dried fruit prevents deterioration during storage and is not injurious to the health in any way. The sulphuring process kills all forms of insect life, acts as a preservative and disinfectant, bleaches the fruit, prevents darkening by inactivating the enzymes, draws the juices from the cells into the cups, hastens the drying process by breaking down many of the cells. tends to preserve natural color of light colored fruits.

For peaches an average of eight pounds sulphur per green ton is used and they are left in the sulphur house from three to five hours to over night. When left in over night it is usually because the peaches had been put in the sulphur house at about quitting time.

### Indications that Sulphuring is Complete

Cups half full of juice.

Skin slips freely.

Eighty per cent penetration of sulphurous acid.

Fruit does not turn dark during drying process.

If dried peeled peaches are desired, the skin can easily be removed by dipping the peaches in a boiling lye solution (1 pound of lye to 10 gallons of water), after drying and then dipping in cold water. The skin will then drop off or is easily rubbed off by some form of agitation.

### Indications of Curing Being Complete

Curing is said to be complete when the fruit is pliable or has a leathery feeling, but is not wet or mushy. Most growers state that the fruit is ready for the sweat boxes or the packing house when the skin will not slip or rub off. Others grab up a double handful and squeeze them together tightly and then release their grip. If the fruit falls apart readily it is ready to take in.

### Sweating Process

When the fruit is removed from the dry yard, it is usually dumped into dried fruit bins in the dried fruit house, or into sweat boxes for a week or two weeks, depending on how soon the fruit is to be delivered to the packing house. The fruit which is over dried and over moist tends to become equalized during the sweating process until a uniform moisture content has been reached throughout.

### Drying Ratios or Shrinkage

Elberta, 7 to 1. Lowell and Muir, 4 to 5 to 1.

### Yields

Muirs average 1 1/5 dry tons per acre. Lovells average ⅞ dry tons per acre. Elbertas average 1 dry ton per acre. No figures on other varieties.

### Costs

1921 figures—$10 to $16 per green ton. Includes harvesting and treatment throughout until ready for delivery.

# Avocado Bud Selection

The August meeting of the directors of the California Avocado Association was quite a divergence from the usual routine business meeting. A special subject, "Bud Selection" was discussed and a few horticulturists were invited to attend and give their opinions as to best methods to pursue.

Incidentally it was discovered that Professor L. C. Corbett of Washington, D. C., was in California and it was decided to give a luncheon in his honor at this meeting. Prof. Corbett is the horticulturist in charge of horticultural and pomological investigations for the United States department of agriculture. Some of his lieutenants in California are Shamel, Scott and Kinman. It still is "Professor" Corbett by reason of former positions at Cornell, South Dakota, West Virginia, etc. He has now been with Uncle Sam 21 years.

The list of speakers, of whom Prof. Corbett was last, but chief, will disclose the identity of those present, though two directors were excused from speech making at their own request, W. H. Spinks and R. M. Teague, though the former did tell of his recent visit to the orient and his search for good varieties of the lichee nut to plant in California. President Popenoe presided and called upon those present, in the following order, to give their opinion on proper procedure in a bud selection program: R. W. Hodgson, farm advisor; Dr. W. L. Hardin, past president of the association; Ernest Braunton of the Cultivator staff; William Hertrich, director, and superintendent of the H. E. Huntington estate; T. J. Walker, director, nurseryman, etc.; K. A. Ryerson, farm advisor's staff; Charles D. Adams, vice president avocado association; Secretary Karl M. Wagner, L. B. Scott and A. D. Shamel of the United State department of agriculture; and lastly, the chief of the division, Mr. Corbett.

The latter outlined the proper procedure to place the problem of gaining federal aid before the right officials; also field work in bud selection, and stated that no really conclusive results could be reached under the ten years constant work. He said that for that length of time the problem of determining when a musk-

melon should be picked had been studied and still was not solved. Not only must selection of buds etc., be carried on, but the question arises of best root stock for the various classes and varieties, for light and heavy soils, and many other questions that arise that constitute a "complex" in any new fruit industry. The varietal committee will also have to study the suitability of varieties to variances of soil and climate. On the J. M. Elliott place two standard varieties, Fuerte and Puebla, scarcely fruit at all and topworking to others is seriously considered.

### CARE OF RASPBERRIES

The New York experiment station has sent out a circular on care of raspberries that will interest Californians, for many of our successful growers pursue similar methods.

With the close of the fruiting season horticulturists at the experiment station at Geneva are recommending the removal and destruction of the fruiting canes in all raspberry plantings. These old canes are no longer needed by the bush and they may harbor disease organisms or insect pests which might infest the new growth. The removal of the old canes will also give more room for new growth the next season.

In the spring the canes of red raspberries should be cut back to a desired fruiting height, usually three or four feet from the ground, depending on the vigor of the bush. Black raspberries require more severe pruning than the red varieties as the old fruiting canes should be removed and the new growth checked in the summer by pinching off the succulent tips of the new canes at about two feet from the ground. Since the new canes do not all grow at the same time it is necessary to go over the bushes several times during the summer. In the spring the side branches which have developed as a result of this summer pruning should be cut back from one-third to one-half their length. Purple raspberries are usually pruned in about the same manner as the blacks, leaving them slightly higher.

Raspberry growers are urged to be on the lookout for plants affected with mosaic or yellows and to remove and destroy all such plants, including the roots and suckers, as that is the only way in which the disease can be stamped out. The mosaic is characterized by the mottled appearance of the leaves and the dwarfing of the canes. In setting out new plants care should be exercised that only disease free stock is used as any part of a diseased plant will bring the disease into the patch where it will gradually spread to healthy plants.

### 1921 WALNUTS

In distributing among walnut growers recently a little less than $500,000, which was the final payment on 1921 crop pools, the California Walnut Growers Association made known the surprising fact that less than half of the walnut growers in this state made expenses last year.

This is all the more surprising because, according to W. T. Webber, sales manager of the organization, the business was never before handled at such a low operating cost. The walnut grower got 96 cents out of every $1 taken in by the sales department.

"It is food for sober thought that half the growers fail to make expenses on a crop which brings in a grand total of $8,000,000. This condition was in a large measure due to short crop and poor quality, a result of unfavorable growing conditions but it goes to show that the walnut industry has grown to such gigantic proportions that anything which affects the crop adversely juggles with the prosperity of thousands of families.

"Had the walnut industry last year had the benefit of a protective tariff importations might not have been so heavy and marketing conditions might have been more favorable, despite the poor quality of the California crop."

Association officials point out that while the last payment went out rather late, the growers received a good share of their 1921 harvest money very early in the season, several payments being made before the midwinter holidays, and a $2,000,000 payment being made the week before Christmas.

**The Boggs Potato Grader**

In the McClain potato fields at Inglewood. Note that two small boys operate the grader.

### POTATO GRADERS NECESSARY

"When a crop is nearly all large tubers the grading of potatoes is easily solved. But when they are of mixed sizes a potato grader is necessary, and the best paying equipment I ever invested in."

This is the opinion expressed by F. H. McClain, a prominent potato grower living a little more than a mile southwest of Inglewood. The grader was mounted on a sled or "stone boat" and pulled by two horses. One horse would be ample power but two "straddle" the rows better. The pickers work on each side and empty their buckets into the grader instead of into sacks.

The machine, if so simple a contrivance can be called a machine, divides the potatoes into three grades. Two sacks on the holders at the rear receive the two commercial grades and from a spout on the side issue the really small potatoes, chunks of soil, etc. The grader is "manned" and worked by two boys of ten years, for the real work amounts to little. One turns the crank which works or vibrates the sieves and the other watches for sunburned or injured spuds. There is no "machinery" about this simple equipment, but as Mr. McClain says, "It delivers the goods."

An early quitter is a foolish critter.


# How did your neighbor's last bargain tire turn out

PROBABLY you know at least one car-owner who is always on the look-out for the cheapest tires he can find. He likes to get them by mail or at a sale or at some place where they have big red bargain signs over the door.

It would be fine if he could get "the edge" in every tire trade.

But the dealer can't afford to let him have it.

* * *

Even if a man saw any slight percentage in tire shopping at all—it disappeared when the "Usco" brought the price down.

A *standard* product—and the dealer sells it with pride.

A *good* tire. The dealer has no desire to trade you into a larger profit for himself.

An out-in-the-open tire. The dealer sells you confidence, not price. He wants you satisfied with performance and value. The only way he knows to get your business is to deserve it.

This is the "Usco" idea.

* * *

Compared with the ten-minute thrill of the bargain appeal, the "Usco" is just plain common-sense.

*No tax charged on this*

**30×3½ "USCO"**

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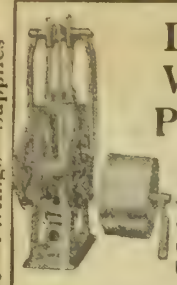

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Will lift 18 to 250 gallons of water per minute, according to elevation

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Will not only lift the water from your well for IRRIGATION but will force it to an elevated tank or reservoir to any ordinary height above the Pump

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# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Grapes on Heavy Red Land

Will grapes do well on heavy red land? What kind would do best?—Subscriber, Corona.

Emperor grapes do well in such land provided they are properly cared for. There is danger of damage from phylloxera, a small root louse which attacks the grape, when vines are growing on heavy land, therefore care should be exercised in the purchase of rooted stock to insure its freedom from the pest.—F. K. H.

### Incomplete Spraying

I am enclosing leaf from squash vine; they are all turning yellow. What can I do for them? Have sprayed with strong mixture of black leaf 40, soapsuds and arsenate of lead, but it does no good. Under the glass I see two different insects.—Subscriber, Placerville.

For best spray see "Thrips and Spider on Beans," page 131, Cultivator of August 5. You are doubtless using a straight nozzle instead of angle nozzle and spray does not touch under sides of leaves where majority of insects always are. Perhaps also, you did not begin in time. It is doubtless too late to spray now.

### Alfalfa for High Level

What variety of alfalfa would you recommend to plant at 1,000 feet elevation in San Diego County, for dry farming? Would it be better to plant in drills? If so, could it be cultivated; if so, what distance shall I plant? Would it live down the weeds and survive if broadcasted?—Subscriber, Jamacha.

The Turkestan alfalfa is best for dry farming, but it is as yet little known and seed is scarce. There is little choice among the other varieties. It is best drilled in, rows two feet apart, ten pounds of seed to acre. Have seen 80 acres so planted in San Fernando, of the very best condition now. It will live and keep down weeds if sown broadcast.

### Fruit Limit of Peaches

Will you kindly tell me whether or not there is an age bearing limit to peach trees. Our trees have been fertilized heavily and this year have made a most beautiful foliage, but very little fruit.—Subscriber, Anaheim.

No limit to peach trees bearing; trees 50 years old in several parts of the state still bearing well. Would suggest that cause of your light crop was frost.

### Top-Working Peaches

Kindly tell me when to bud my cling peach trees to Early Crawfords and how long does it set them back?—Subscriber, Fresno.

The time to bud is now, if you can get mature buds of this season's growth. This may be difficult for growth is still soft and sappy. If so, you will have to wait until about May. If these trees belonged to the writer he would prefer to top-work by cleft-grafting in January. You will get some fruit from top worked trees in third year; should get a good crop fourth year.

### Too Much Water?

Have lost about one acre of five and six year old prune trees from unknown cause. Some of the trees die outright while others will lose a branch about once a week until the trees are dead. I have noticed a gumming on trunk and limbs. The surface roots are in good condition, while the tap roots are dead. Is it a disease that could be cured by spray?—Subscriber, Gridley.

Symptoms point to soil trouble alone. Trees nearly always gum in trouble from any source. Death due to too little water or to rise of water table in soil. As surface roots are alive and tap roots are dead, we would conclude death is due entirely to rise of soil water, which killed lower roots. Of course, under such conditions trees will die. We presume the dead trees were growing on low ground. We do not think any disease is present, or at least it is not the cause of death of trees.

### Melon Wilt

A San Gabriel grower says he had badly affected vines and poured a cup of Bordeaux mixture about the main stem of plants and they recovered when apparently dying of wilt. Toward close of season trouble appeared again so that it is necessary to repeat dosage. Two reports of the effectiveness of this treatment have come to Cultivator office.

### Propagating Blackberries

Please tell me if I can transplant raspberries in August; also how to grow blackberries and loganberries from cuttings? I have had no luck with them in past years.—Subscriber, Vallejo.

Raspberries will safely transplant in August, thought it is not such a good time for it as during winter dormancy. If you attempt propagation of berry plants by cuttings, as you do other plants you will always fail. In all vining berries, throw down the canes and cover with soil; they are very prolific through "tip cuttings." With bush blackberries, dewberries, etc., cut down through crowns with a spade, to divide them in several pieces. Suckers will then shoot up thickly and root independently of the parent plant.

### Tamarisk Windbreaks

Please tell us something of the evergreen tamarisk as a windbreak?—Subscriber, Paradise.

The evergreen tamarisk, Tamarix articulata, was introduced to the Coachella Valley several years ago by the United States department of agriculture as an effective windbreak that would withstand the most adverse conditions. It has been all that was expected of it, has a handsome cypress like foliage of dark green, grows dense, close to the ground, is not affected by heat or winds and appears perfectly at home in the Coachella Valley where it is readily propagated from cuttings. In the Antelope and San Fernando Valleys and in various parts of the state it has grown equally well.

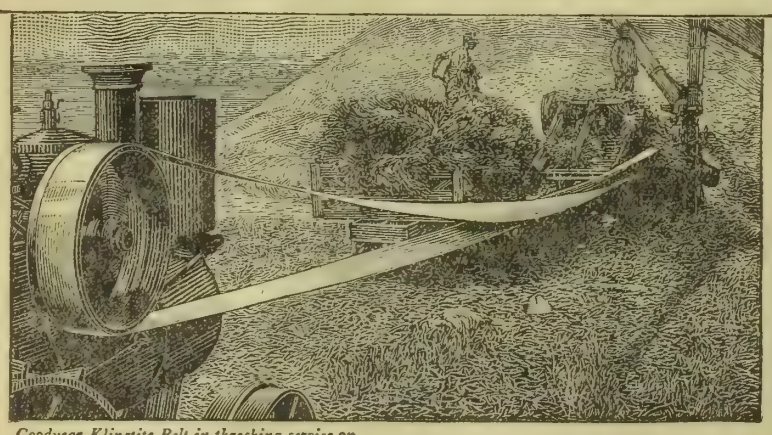
### Making Adobe Bricks

Will you kindly tell me the proper method for making adobes?—Subscriber, San Bernardino.

Adobe bricks are usually made here (Arizona) by Mexican contractors. The cost laid in a wall is about $70 a thousand. The most common size of bricks is 4 inches thick, 12 inches wide, and 18 inches long. In laying them in a wall, three adobes are estimated to make a cubic foot. A clay or loam soil is necessary for making adobe brick. Straw is mixed with the earth, about two bales being required for a thousand bricks. The earth is wet so as to work and pack into molds of the right size. The time required for drying is from one to four or five weeks according to season. When partly dried they are turned and for the final drying are stood on edge. Care, of course, should be taken that the bricks are protected from rain while drying. An adobe wall shuts out the heat better than any other building material that we have. In laying up the walls, mud or mortar is used for putting the adobe together. Door frames, window frames and plates for roof are usually fastened with wooden pegs put in as the walls are laid.—M. E. B.

The following valuable suggestions for painting adobe were given by A. L. Paschall, farm adviser for Cochise County, Arizona, in the Cultivator of April 26, 1919: "Due to the absorption of moisture by cement plaster and the unequal expansion of cement and adobe and the accumulation of air between cement plastered coats and abode, cement plastered on adobe walls does not hold. It is readily noticeable that where an adobe house has been plastered with cement plaster and exposed to the weather for a year, and sometimes less, the plastered coat has begun to fall off. Instead of plastering the outside with cement a much better and cheaper method is to plaster the wall smooth with adobe mud and when dry put on a good coat of crude oil. After the oil has well soaked into the wall and somewhat dried on surface, which will take from one to three months, give the wall a coat of oil and lead paint of whatever color is desired; the nonfading colors, such as black, gray and white are generally to be preferred. Crude oil such as used in railway engines and which costs from four to

YOUR THRESHING—AND GOODYEAR BELTS



*Goodyear Klingtite Belt in threshing service on the farm of Jalmer Herre, Halstad, Minnesota*

*At the height of his threshing*, Jalmer Herre, of Halstad, Minnesota, took time last season to tell many of his neighbors how much better his new Goodyear Klingtite Belt was performing than any belt he had ever had in twenty years of farming.

"*There isn't a sign of slippage*," he said. "No matter how heavy the straw, the belt delivers the full engine power, and there is no jamming of the feeder. Where I used to have daily troubles with ordinary belts—slippage, jamming, re-setting and overheating—the job is pushed through now at top speed."

*Goodyear Klingtite Belts* are the pulleys in a slipless grip. They work the same in all weather, do not shrink, are subject to a minimum of stretch, require no belt dressing, need no breaking in, and wear with the lasting strength of their special ply construction.

*Goodyear Dealers everywhere*, and many progressive hardware merchants besides, sell Goodyear Klingtite Belts, in endless type and in suitable lengths. For further information, write to Goodyear, Akron, Ohio, or Los Angeles, California.

GOODYEAR

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five cents per gallon, is the kind to use for the first oil coating on the adobe wall. This can be either sprayed on or put on with a large roof paint brush. One gallon will cover from 80 to 100 square feet. Several farmers in Cochise County have used this finish for adobe house and find that it is excellent. A correspondent reports that he has used it for inside finish on adobe wall and finds that it is better and cheaper than cement plaster. The oil and paint will not slough off, the wall will last longer and look even better than when plastered."

# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Cow Pox

What can I do for a cow with sore teats? About two weeks ago small watery blisters formed on them and they seemed to be infectious and spread. I have tried carbolized vaseline and zinc ointment but it does not seem to help. Scabs form and continually crack. A friend told me it was cow pox. What is the cause? Is there danger of it infecting the other cows? What is treatment?—Subscriber, Lodi.

These are the symptoms of cow pox. It is due to a contagious germ and is likely to spread through the dairy; the germ being carried on the hands from one cow to another. It may also affect a person but that will do no harm as it is equal to vaccination for small pox. It is the same germ that is used for vaccinating. You may be able to check or prevent the spread of the trouble through the dairy by milking the affected cow last or by washing the hands before milking another cow. Little can be done in the way of a cure except by careful handling of the teats when milking and avoiding as much as possible breaking the scabs and blisters. Keep the teats soft with a little butter rubbed in after milking. Also bathe the teats and udder once a day with a solution of permanganate of potash, using half a teaspoon of the permanganate to a quart of warm water.

### Blood in Milk

I have a young heifer that lost her first calf about four months after breeding. Bred her again about four months later and she came fresh July 16. She did not clean and after four days we pulled the afterbirth away. She is apparently well and has been all along. Her udder seems all right and she does not give clotted milk but after setting over night a little sediment that looks like blood appears in the bottom of the pan. What is the cause and what shall I do to cure it?—Subscriber, Inglewood.

Probably a little of the afterbirth still remains and is causing some irritation which causes the blood in the milk. It would be hard to remove it now. It will probably pass in time. Mix three pounds epsom salts with two pounds common salt and give a handful in the feed once a day. Also get these powders from your druggist: Three ounces powdered gentian, one ounce powdered nux vomica, two ounces sulphate of iron. Mix and divide into 12 powders. Give one powder in the feed once a day.

### Mange on Mule

Please publish in the Cultivator a remedy for mange. We have a mule that has mange in and around his ears and on his tail. Have been using lard and kerosene, one part kerosene to three parts lard, but it does not seem to help very much.—Subscriber, Downey.

Scrub the grease off with soap and warm water and when dry apply a light engine oil same as you use on your auto. If it is due to lice it will spread over the body. Then you must clip him and bathe him with a solution of some kind of sheep dip using a teacup of it to a bucket of water.

### Sidebone

We have a 13 year old gelding that has sidebones on one front foot and is quite lame when worked on hard ground, but when pulling a load the driver does not notice any lameness. He has not been shod since last winter. Is always fat and free to work; has been blistered once with "fly blister." What treatment would you recommend?—Subscriber, Butte County.

Side bones can not be fully cured but can be relieved by soaking the feet in cold water for half an hour once a day. Also when the skin is dry apply an ointment once a day made of two ounces tincture of iodine, one dram iodine crystals and enough lard oil to make four ounces.

### Warts

We have a Holstein heifer coming fresh in December. She has warts over her body, mostly on her neck and under her jaws, rough warts from the size of peas to the size of walnuts. She is apparently well and has good appetite. What is the cause and the cure for the warts?—Subscriber.

You ask the cause of warts: That is something that has not been found out yet. Sometimes you can drive warts away by applying castor oil two or three times a week all over the surface and around the base of the warts. Since there are so many on the heifer we would advise trying the castor oil. If some of them resist the oil treat with nitric acid. Apply the acid with a small swab only to the top of the wart. Apply it once a day for two or three days, then wait until the scab comes off. Repeat this until the wart is cured. Be careful in handling the acid as it is very caustic and will burn your skin or clothing. Keep the acid out of the reach of children.

### Dairy Cows Fail to Breed

I have 30 head of dairy cows and am having trouble in getting some of them with calf. I have six cows that have full time, healthy calves. They come in heat every three weeks but fail to get with calf. I thought it was due to the bull and have changed but the results are the same. Do you know of any remedy?—Subscriber, Long Beach.

Cows that are fat and get very little exercise are apt to fail in breeding. Change the feed and cut out most of the grain for a short time. If possible give green corn fodder or fresh cut alfalfa. Be sure that they get plenty of good water and give them salt regularly. On the day before you expect a cow to come in heat, give her a long drive of five or ten miles and warm her up well. Even after she has come in heat, exercise enough to warm her up will probably bring the results you wish. Use a very young bull.

## SUN-MAIDS IN EUROPE

The Sun-Maid Raisin Growers has sent Marius de Bruyn to London where he will confer with representatives of the association prior to going to Copenhagen to supervise the establishment of an office for the Scandinavian countries. He will then go to Amsterdam where he will maintain headquarters for Holland, France, Belgium and later Germany.

## HAY AND PASTURE CONDITIONS IN CALIFORNIA

As reported August 1 by Statistician E. E. Kaufman of California Co-operative Crop Reporting Service.

The preliminary estimate of the area harvested of all varieties of tame hay is 2,086,000 acres as compared with 2,129,000 acres in 1921, or the area cut over was two per cent less than last year. The decrease in area harvested is due entirely to decrease in acreage of grains cut green for hay. The area of wild hay harvested is four per cent less than last year or about 160,000 acres. As the grain hay has all been harvested the condition of the all hay crop is governed largely by the condition of the alfalfa crop, which is placed at 92 per cent normal as compared with 90 last year and a ten year average of 91. The condition of 91 for all hay indicates a total production of about 4,353,000 tons.

## DAHLIA EXHIBITION

The Dahlia Society of Southern California will hold its third annual exhibition, at the Ambassador Hotel, Los Angeles, September 14-16, from 10 a.m. to 10 p.m. Many new and wonderful varieties have been introduced recently and the society intends to eclipse all its former displays. It now has over 70 members, a few from out of the state.

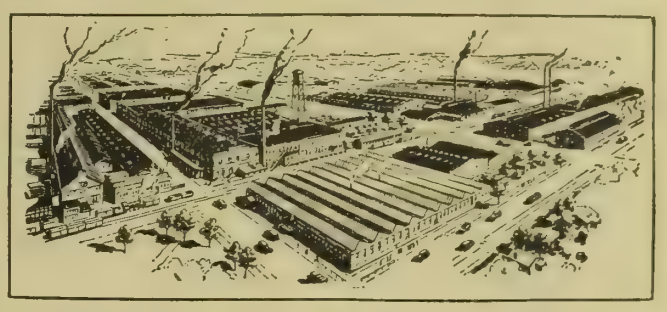
From the way some men avoid it, you would think working for a living was patented.


## New Lamp Burns 94% Air

### Beats Electric or Gas

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal-oil).

The inventor, W. V. Johnson, 31 N. Fifth St., Portland, Ore., is offering to send a a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help him introduce it. Write him today for full particulars. Also ask him to explain how you can get the agency, and without experience or money make $250 to $500 per month.



## Forty Acres of Faith and Works

If I could have my wish, every man and woman who is thinking of buying a motor car for use on a farm would spend a day in Jackson seeing how the Earl is *manufactured* in our three great plants.

You would not have to know all about high-grade materials and production methods to see where the Earl gets the endurance, economy, beauty and flexible power which make it the most comfortable, dependable and economical motor car sold at the moderate price of $1095.

From the huge hammers forging crank shafts and forty other units out of five kinds of white-hot steel—through acres of automatic machines—to the paint shop with its sixteen finishing operations—your factory tour would impress Earl quality and craftsmanship on you at every step.

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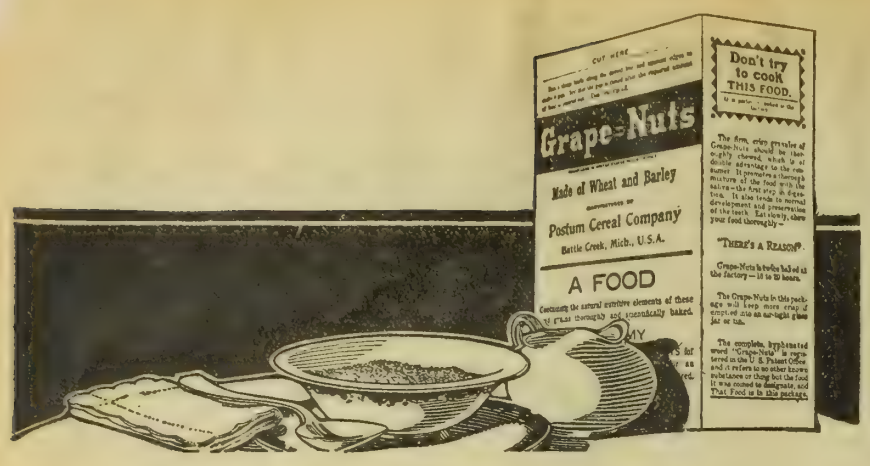


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# Household Department

### I WILL REMEMBER NO UNLOVELY THING

I will remember no unlovely thing;
The trusts betrayed, the day when faith seemed vain,
The friend who proffered me a cup of pain,
All these shall be forgotten, I will sing;
My thoughts shall soar like meadow larks in spring.
Up and away, no more shall grief remain,
But like the joy of sunlight after rain
My recollections shall sweet solace bring.
The little beauties of the common day—
These are enough, these make my faint heart glad;
The moonbeams glancing on the garden walls,
The silver symphony of waterfalls,
And lilacs' scent borne on the winds of May;
Thinking upon these things who could be sad?

—Elizabeth Scollard.

### HOW TO MAKE ORANGE AND APPLE PECTIN FOR YOUR JELLIES

By Fontana Subscriber

I see where so many readers of your paper have trouble with their jellies. So here are some recipes to make jellies "jell:"

**Orange Pectin**

One cup white portion of orange peel (measure after it has been put through food chopper), 3 tablespoons lemon juice, 6 cups cold water. Cut or scrape the white portion from the peel of the orange and put it through the food chopper. Measure, and for each cup add three cups of cold water and then lemon juice. Mix thoroughly and allow it to stand four or five hours in an acid proof saucepan, then boil for ten minutes and cool. Add the remaining three cups of water, bring to boiling point, cool, and let stand over night. Next day boil ten minutes and strain through a cloth. Add 1 cup to a cup of juice. Any kind you wish to make jelly from.

**Orange Jelly**

Two cups orange pectin, two cups orange juice, two cups sugar. Obtain the orange juice by slicing the pulp of the oranges thinly; add enough water to keep the pulp from sticking, and heat until juice is extracted; then strain the hot juice. Combine the orange juice and orange pectin and bring to boiling point. Skim, add the sugar gradually and boil rapidly till jellying point is reached. Pour into hot, sterilized jelly glasses.

**Strawberry Jelly**

Two cups orange pectin or apple pectin, two cups strawberry juice. Add strawberry juice to the pectin and bring to boiling point. Skim, add sugar gradually and cook rapidly till the jellying stage is reached. Pour into hot sterilized jelly glasses.

**Apple Pectin**

One and one-half pounds apple pulp, four pounds lemon juice, 8 cups water. Wash apples thoroughly, remove stem and blossom ends; and cut the apples into cubes without paring or removing the cores. Add the lemon juice and water and simmer until the apples are soft (about 30 minutes). Pour into a cloth jelly bag and let drip, squeezing the bag to obtain all the juice. Then pour juice into flannel jelly bag and allow it to drip without pressure.

Just a few recipes to tell you how to make most any kind of jellies.

### HOUSEHOLD QUERIES

**Watermelon and Quince Preserves**

Can someone tell me the different ways of doing down watermelons? How can quince be used?—Subscriber, Paso Robles.

Watermelon Preserves—The white portion of the melon between the colored flesh and rind is best for melon preserves. Trim off the rind and colored flesh and cut into cubes of desired size. Weigh carefully, drop in boiling water and boil 5 to 10 minutes. Remove and drain. Add 1 pound sugar, ½ pint water and the juice of ½ lemon to each pound of melon.. Boil down to a heavy preserve.

Watermelon Sweet Pickles—Four cups vinegar, 4 tablespoons cinnamon sticks, 8 pounds sugar, 4 tablespoons cloves (whole), watermelon. Cut skin from watermelon; cut rind into small pieces about two inches square; cover with water and cook until tender. Boil sugar and vinegar ten minutes; add spices tied in a bag, simmer until syrupy, about two hours; add melon and simmer one hour. Fill jars and seal.

Canned Quinces — Four pounds quinces, 2 pounds sugar, 1 pint water. Cook sugar and water until syrupy. Pare and quarter quinces; let stand in cold water. Cook in boiling water until tender, then cook in sugar and water syrup five minutes. Arrange quinces in jars, fill with syrup and seal.

Canned Quinces and Apples—Four pounds quinces, 2 pounds apples, 2 pounds sugar, 1 quart water. Pare and quarter quinces and apples. Follow directions for canned quinces excepting that the quinces and apples are allowed to simmer in sugar and water syrup ten minutes instead of five. Fill jars and seal as above.

Quince Jelly—Wipe and cut quinces in thin slices, put in preserving kettle, nearly cover with cold water; cook very slowly until tender. Pour into jelly bag and drain thoroughly, but do not squeeze. Measure juice, allow one pound sugar to one pint juice. Boil juice 20 minutes; add sugar which has been heated on a platter in the oven; stir until sugar is dissolved; boil five minutes or until it jellies. A delicious jelly is made by using one-half quinces and one-half apples.

Old Fashioned Quince Marmalade—Pare quinces and boil until tender in a small quantity of water. Take one bowl of sugar, one bowl of cooked quinces and cook four or five hours or until deep red in color. The next day put in earthen jar (no cover) and cook four or five hours more in oven.

Quince Preserves, Southern Style—Eight pounds quince, eight pounds white sugar. Pare quinces, slice from core and simmer in clear water until tender. Remove to dishes, laying each piece by itself. Put cores and skins in water and boil for 20 minutes. Strain water through jelly bag, and into two quarts of it put 1 pound white sugar for each pound quinces; simmer gently, and when the syrup is half done, begin to cook the quinces in it, putting in only part at a time, simmering for 15 minutes and removing to dishes while the rest cooks. Proceed thus until all of the fruit is perfectly transparent, then seal up in glass jars. One-half quinces and one-half apples may be used in this way.

Quince Dessert—Cut slice from blossom and stem end of six quinces, put them into a dish with enough water to cover up to half the depth of the quinces. Cover with another dish and bake in a moderate oven until the fruit is quite soft, then lift out and place in glass dish. Put half a heaping tablespoon Jell-O into saucepan, add two and a half cups boiling water, liquor from dish in which quinces were baked, half cup sugar and one teaspoon coriander seeds. Stir over fire till they boil, strain and cool, then pour over quinces. When ready to serve put a teaspoon tart jelly on top of each quince. Decorate with whipped and sweetened cream, flavored with half teaspoon almond extract.

**Dyeing in Gasoline**

Will you kindly advise me if there is a dye or coloring that will work in gasoline. I have a wool sport coat that has faded badly, and as it is a little small, will not stand dyeing in the general way without shrinking. I consulted the dye works regarding it and they advised me not to have it dyed as it would then be too small. I have heard about there being a dye or coloring that works in gasoline satisfactorily but do not know what to use. Some say water coloring will work in gasoline but haven't tried it. You will possibly be able to advise me what best to use and the amount of coloring or dye to purchase. The color of the sport coat is a greenish blue and was very pretty when new but was not fast colors.—Subscriber, Murrietta.

We do not know of a dye that can be used in gasoline. A tube of good oil paint may be dissolved in gasoline and used for coloring ribbons, flowers, etc., but our impression is that if coloring matter were dissolved in gasoline and coat dipped in it that

after the gasoline evaporated the coloring matter would separate from the goods in a short time. However, we put this up to our housekeeper readers. Has anyone tried dyeing in gasoline? This department is open to suggestions from anyone who has help to give. We all wish this to be an exchange of practical housekeeping information and invite your cooperation. In regard to this question our only suggestion would be to have the coat dyed a good fast color then, if it shrinks, combine it with other material.

### Getting Rid of Weevils

We have weevils in our food and in our rooms and we can't get rid of them. We have thought of fumigating but we think if this is done in the rooms only that they would still come from underneath the house. Could you suggest anything to kill them?—Subscriber, Los Olivos.

Would it not be possible to close up the space under the house so that it may also be fumigated? If this is done and thorough fumigation given with hydrocyanic acid gas there will be no return of the pests. If possible have fumigation done by a professional for the gas has sometimes proved deadly to the human if breathed in any quantity. If the gas is made in the room use 1 ounce sodium cyanide, 1½ fluid ounces sulphuric acid, 2 ounces water for every 100 cubic feet of space in the house or room to be treated. We should think, however, that a thorough clean-up under the house and fumigation with carbon bisulphide of the foods infested would be sufficient. The fumigation with carbon bisulphide is very simple. In fumigating a barrel of flour, for instance, place one-half to a full teacup of carbon bisulphide in shallow dish on top of the flour and cover tightly. No light should be brought near during the process of fumigation as the gas given off by this liquid is very inflammable. The gas is heavy and will penetrate down through the contents of the barrel. In very severe infestations a second treatment may be necessary. This treatment is also effective for weevils in peas or beans. Sift foods carefully to remove dead insects and eggs. This fumigation does not in any way harm or affect the food value of the materials treated. Keep food after treatment in tightly closed or screened receptacles so that it is not reinfested..

### Tomato Paste

Please tell me how to make tomato paste, the kind you dry.—Subscriber, Los Angeles.

Select ripe red fruit, cut into pieces and boil slowly until soft. Run through a sieve to separate the seed and skins. Then place pulp in porcelain lined kettle and cook slowly until it becomes thick. Spread on clean boards in the sun (or slow oven) until dry enough to cut into cubes. Cut and wrap in oiled paper. When you wish to use dissolve cubes by boiling in water for a few minutes. Fine for soup, sauces, stews, etc.

### Pickling Ripe Olives

Please tell me how to put up ripe olives.—Subscriber, Claremont.

Full directions will be given within a few weeks, in plenty of time for the olive pickling season.

### Pickling Ripe Cucumbers

I have some lemon cucumbers that are too large to sweet pickle whole. Has anyone a recipe for cutting them smaller? I don't know if they will make nice pickles if they were, say, quartered.—Subscriber, Elk Creek.

Ripe Cucumber Sweet Pickle—Peel cucumbers, cut in quarters lengthwise and remove seeds. Cover with alum water, allowing 2 teaspoons alum to 1 quart water. Heat to boiling point and let stand in warm place 3 hours. Remove from alum water and let stand 1 hour in ice or cold water. Weigh cucumbers and make syrup in proportion—1 part cucumber, ½ part sugar, ⅛ part vinegar and ½ as much water as vinegar.

Oil Pickle—This is a very delicious way of using the ripe lemon cucumbers: Slice 2 quarts cucumbers very thin (remove skins if hard and spiny), cover with boiling water. When cold, drain and cover with weak brine and


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let stand 24 hours, then drain. Mix together ¼ teaspoon each cloves, allspice and celery seed, 1 teaspoon cinnamon, ¼ cup sugar, ¼ cup mustard seed, ¼ cup olive oil, 2 cups very thinly sliced onion, and add to the cucumber. Mix well and add enough cold vinegar to cover well. Store in jars.

### Sweet Pickles—Swiss Cookies

Please print directions for making little sweet cucumber pickles, the kind you buy in the stores and a recipe for making Swiss cookies, the kind you buy in stores and a rescriber, Santa Rosa.

If Subscriber, Santa Rosa, will send us her name we will be glad to mail copy of Cultivator of July 15 containing recipe for sweet cucumber pickles. Sorry we have not found a recipe for Swiss cookies.

## HINTS FROM HOUSEKEEPERS

### Just One Year Ago

A subscriber at Fullerton has sent in copy of poem requested under above title by subscriber in this department, issue of August 12. The same song was later received from several other subscribers. The Cultivator appreciates, as we know our readers do, these helpful contributions from readers.

### WIDOW IN THE COTTAGE BY THE SEA

Just one year ago tonight, Love,
I became your happy bride,
Changed a mansion for a cottage
To dwell by the riverside.
You told me I'd be happy,
But no happiness I see
For tonight I am a widow
In the cottage by the sea.

CHORUS

Alone, all alone by the seaside he left me,
And no other's bride I'll be,
For in bridal flowers he decked me
In the cottage by the sea..

From the cottage by the seaside
I can see my mansion home.
I can see those hills and valleys
Where in pleasure I have roamed. .
The last time that I met him
Oh, how happy then were we,
But tonight I am a widow
In the cottage by the sea.

But my poor and aged father
How in sorrow he would wail;
And my poor and aged mother
How in tears her eyes would swell;
And my poor and only brother
Oh how he would weep for me
If he knew his sister
Was a widow by the sea.

### The Red River Valley

In the issue of August 12 of the Cultivator a subscriber from Elverta asks for a song or poem beginning,
"From this valley they say you are going,
I will miss your bright eye and sweet smile."

You were unable to send her the song on account of not knowing the title. It is "The Red River Valley." The chorus is:
"Then consider a while ere you leave me,
Do not hasten to bid me adieu;
But remember the Red River Valley
And the maiden whose heart beats for you."

It was composed during the Louis Reid rebellion in Canada and was a half-breed Indian girl's song to a Halifax soldier boy when his regiment was leaving the Red River country for home.—Pearl Corinne, Gardena.

In addition W. A. Van Loon of Ramona sends words as he recalls them:

From this valley they say you are going,
I will miss your blue eyes and bright smile,
For you take with you all of the sunshine
That has brightened our pathway awhile.

Oh consider a while e'er you leave me,
Do not hasten to bid me adieu,
And remember the bright little valley
And the one that has loved you so true.

Do you think of the valley you're leaving,
Oh how lonely and dreary 'twill be;
Do you think of the fond heart you're breaking,
And the darkness that o'ershadows me?

When you're far from the scenes of this valley,
And they tell you your journey is through,
Then remember the bright little valley
And the one that has loved you so true.

### Home Hints

To crisp lettuce and celery, wash and put in cheesecloth bag, wet occasionally and hang in a cool place. Will keep several days.

To make cookies soft and prevent sticking, cover molding board with linen cloth, flour as you would the board.

To improve the flavor of canned fruit and vegetables, open an hour or two before using.

To keep olives after bottle is opened, pour one half inch of olive oil on top of brine and cork well.

Soak new brooms in boiling water or soap suds. Dip in water occasionally.

Clean aluminum with sour milk.

Use a cork to apply scouring stuffs to knives, etc.

A piece of flannel is much better than a brush for removing dust from silk.—Porterville Subscriber.

### Prune Butter

Five pounds prune pulp, 3 pounds sugar, 2 sliced lemons, 2 small cups walnuts, chopped fine. Cook prune pulp and sugar together ten minutes, then add lemon and cook 20 minutes, then add nuts and cook 15 minutes.—Subscriber, Santa Rosa.

### Creamy Boiled Frosting

Here is an accidental discovery that turned out to be a very happy one. I was making boiled frosting for a chocolate cake and instead of adding water to the sugar when I put it on the stove I absentmindedly picked up can of condensed milk and softened the sugar with that. Cooked it just as usual to a thread and beat it into the beaten egg white. As you can imagine it was rich, soft, creamy and delicious—Reader, Los Angeles.

### Quick Pickles—English Salad Dressing

The helpful suggestions and excellent recipes found in your department are of much value to me in my household work. I find the recipes so very reliable and satisfactory I wish to contribute two of my favorites.

Excellent Cucumber Pickle, Quick Method.—Pack small or medium sized cucumbers in quart jars, cover with vinegar, add to each quart one tablespoon each salt, sugar and white mustard seed, seal and set away. Have made them many times. They keep well and are crisp, delicious and a great saver of time, and may be used in one or two weeks or kept a year.

English Salad Dressing.—One tablespoon flour, ⅓ teaspoon salt, 1 tablespoon sugar, 1 teaspoon mustard. Sift into an egg, beat well, add ½ cup vinegar, ½ cup water, 1 tablespoon butter. Cook in double boiler, beating until creamy and a bit stiff. Pour over two stiffly beaten egg whites (may use yolks if you choose instead of 1 egg in mixture. Beat well. This makes a soft, fluffy salad dressing, lovely for the most dainty salads. When cold if you wish extra richness beat in thick cream or whipped cream.—Strathmore Subscriber.

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### WALNUTS NEED ROOM

C. C. Teague of Santa Paula, writing to the California Walnut Growers, says:

"A walnut tree, unlike some other trees, will not stand crowding. It must have plenty of circulation of air and sunshine around the tree.

"We were so strongly impressed with this that in the fall of 1917 and the spring of 1918 we removed one-half of the trees on our Olivelands property. As originally planted the Olivelands trees were 40 feet apart on an equilateral triangle or 31.5 trees per acre. After removinig 2016 trees, or just one-half, the trees now stand 40 feet apart in the row and 60 feet apart between the rows thus leaving 15.75 trees to the acre.

"The following comparative table shows the production of the Olivelands grove for the three years prior to thinning and for four years subsequent to thinning:

| Before Thinning | | After Thinning | |
|---|---|---|---|
| 1915 | 200,818 lbs. | 1918 | 162,161 lbs. |
| 1916 | 193,825 lbs. | 1919 | 181,051 lbs. |
| 1917 | 156,153 lbs. | 1920 | 209,091 lbs. |
| | | 1921 | 257,830 lbs. |

"A careful study of these figures will show that since the removal of the trees the orchard has been getting progressively better and there is now set upon the grove for 1922 a crop fully equal to that of 1921 if not better. On the other hand you will note that prior to the removal of the trees the orchard was steadily deteriorating.

"These figures and the condition of the grove has so greatly impressed us that this last winter we removed one-half of the trees on our Limoneira orchard which is a much younger orchard.

"My observations lead me to believe that perhaps there is no one factor that is contributing so much to the poor quality of the walnuts from certain orchards and in certain districts, and the poor tonnage production from these districts, as the fact that they are planted too close.

"I would earnestly commend to the walnut growers of California a careful study of their groves and do not hesitate to recommend the removal of a portion of the trees where they are crowding. This will take some courage but the loss, even the first year, will not be nearly so great as one would expect and beginning with the third year, if the orchard had suffered because of too close planting, it will probably yield more nuts than it did formerly and the orchard will get progressively better each year.

"A further analysis made by comparing production figures of the Olivelands grove since thinning with the state's production for these years make the figures even more impressive. For instance, 1917, the last year before the grove was thinned, was one of normal production as was also 1918, the first year after the grove was thinned, thus showing that the very first year, after being thinned, the grove actually produced, under normal conditions, 6,000 pounds more walnuts with 2,016 trees than it had the year before with 4,032 trees.

"Again 1919 gave us a record breakiing crop by far the largest the state ever produced before or has produced since. Both 1920 and 1921 were years of subnormal production, both years falling in production over 8.000 tons short of 1919 yet the thinned Olivelands grove in 1920 show a gain over 1919 of 28,000 pounds and in 1921 a gain of over 76,000 pounds."

### CRACKING OF PRUNES

Cracking of prunes is apparently due to application of water after the growth of the trees has been checked by a period of light irrigation or drouth, according to Dr. W. L. Howard of the University of California. Objections have been raised to summer application of irrigation water at blooming time and at the time of maturing of the fruit. Observations of soil moisture at blooming time have, however, shown that a full supply of moisture exists in the soil maturally at that time and no detrimental effect upon the fruit has been found. With ripening fruit there has been no appreciable difference of quality between irrigated and non-irrigated peaches and prunes; nor has any effect upon the amount of cracking of fruit been observed as due to irrigation at this time.

Fresh water weighs 62.3 pounds per cubic foot.


# PRIMARY ELECTION---AUGUST 29

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TERMS OF SALE: California Breeders Sales and Pedigree Co. will extend the usual terms of one-third cash, balance in three, six, and nine months, to responsible parties who arrange for credit before sale.

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# The Economic Orbit

By A. L. Spellmeyer

THE earth revolves, and we have day and night, and those times when nature is most lavish with her magic charm, the dusk and dawn. As the earth follows its orbit, we have the seasons, and in their turn portions of the earth know summer and winter, spring and fall.

And in the economic world it seems as if bright prosperity and dark loss reach at different times the various activities of mankind, and those occupations which taste the bitter dregs of hardship and loss at one time are later showered with good fortune. Let those who are in the depths now take heed, for their day is ahead.

What puzzles any thinking man is the country loss condition (outside of the great organized fruit industry sections), but the reason is so healthy that we can all find comfort in it, for prosperity is visiting the ordinary middle class and working citizen of the cities and nearby districts.

During the war and the world demand for both food and manufactured articles, the factories were flooded with orders and profits. The factory workers were paid unheard of wages. A man over age and able to work with his hands made $20 to $30 a day in some trades. Ordinary white collar office and professional men had a hard time as their wages did not increase with expenses and advanced costs of living. Teachers had a hard time. Education was a handicap. The wheat farmer and corn farmer and bean grower wallowed in profits so that land jumped to fictional values. Sheep men sold ewes for $20 up and wool for 70 cents. Lemons went to ten dollars in the flu times. The only man who did not reap profits was the cattleman in the West, for he faced a series of hard years, together with the most merciless price manipulation of packers ever known in the control of an article of food.

The factories and their workers had in their orbit their day of prosperity, and lately they have had their night. The men who went to war had their glory in departure and later a reluctant appreciation, and the wounded felt a positive national ingratitude. Their day is due later, and they will be paid ten fold. The sheep men had their day, and night fell on them but has opened once more to a dawn of profit and bright times to come. It has been night a long time for the cowmen, but there is a brightening of the eastern sky that always comes before daylight.

The point of all this is that our white collar men, professional men, teachers and ordinary citizenship that comprises more than a third of the population are prospering. They had a hard time of it but the cost of living has finally lessened so they have money to spend, and that is being invested.

Another fact is evident that many tradesmen are making money and buying their homes. Another fact is apparent that the factory workers did not spend all that they earned recklessly as we have been repeatedly told, but a good portion of them saved the money and are also buying homes.

They tell me the banks are full of money and don't know what to do with it. The country which has been heretofore regarded as the safest place to use the surplus has suffered such loss bankers are afraid of it and the money continues to pile up in cities. The banks hunt five per cent commercial paper and 90 day loans and their reports show enormous profits. Undoubtedly many millions have been used in the building of the tens of thousands of little homes that have sprung up on the city outskirts, and these millions matched the other millions saved by workers, both rough and white collar.

The building boom has also struck the city home owners, and many thousands of them have sold their places at a price double their cost and purchased smaller places in other districts.

Some are making money, and these days that seem so very hard to the country producer are bright days for many of the city folks. Almost any teacher, on present expense and wage, now owns her motor car. It's these ordinary folks who are buying the shiny new cars we see on the road.

We have an unquestioned prosperity among raisin and grape growers, dairymen, walnut men, teachers, city employes, retailers of food of all kinds, bakers, building trades, truck men, bootleggers, gamblers and oil crooks.

We have a comparative prosperity in many other lines and occupations. Even with 27 cent eggs the competent man has been able to show $1 profit on each hen for the year.

Some truck raising districts which have cheap water are doing well. I even know olive groves with free mountain water and cheap land that made money on last year's low prices.

The three things that have alarmed many men, have been the high taxation, national, state and city, the fact that the banks were bulging with money and none to loan to the country now, and the third fact that the owned homes and farms of this nation are mortgaged for more than a third of their value while that banking condition exists. Superficially it would appear as if our financial system had nibbled so deep it had nothing but a shell left to draw sustenance from, but the enormous suburban city growth explains a part of the taxes, (for this condition is national,) and it shows there is still money left, and that the producers have city customers who can pay when the tide turns and when the economic orbit reaches that time which means the dawn of prosperity.

A significant fact is that most of these new city and suburban homes are built on small lots. These people won't raise anything but a few onions. They won't even keep a cow. They must eat meat and bread. The automobile bus lines and high rents have squashed the city out, but these people are not producers of anything but city labor. Babson, the great financial authority states: "fundamental change in real estate values is taking place. * * * If you own city dwelling house property that cannot be converted to business use, the quicker you get rid of it the better." Babson hints at a coming country movement and country manufacturing.

The people of this great husky nation of ours are farther from being bankrupt than some figured. In the country on a steady loss diet we have become moldy and moody, and couldn't afford the gas to get around and so have missed the certain evidence of a prosperity among some people. If they have it we will get it later, as surely as those folks eat. Even though half of the new house prices are fiction there will be enough left. Most of the business that is being done is on a basis of time payments, cars on time, lots on time and houses on time, but it will make certain the habit of saving for many people.

Those due to benefit as the economic orbit develops are 25 per cent of the total 29 per cent of the national population that is engaged in agricultural and livestock pursuits and 15 per cent of the 30 per cent that are engaged in trade and factory pursuits. More than two city people live from the food one countryman raises. One of those two city people can still pay well and the other breaks even.

Strictly speaking, in the most approved method of prophecy we could state the next logical move is a rush to the country when the time arrives that country production is again profitable. When that time arrives we can also prophecy an inevitable desire of all bankers to force loans upon us. Since the days of Solomon it has been riches to him that hath, and the laurel and acclaim to the winner. Every magazine is full of the hind sight prophets who tell us how we lost our money, but I am varying this by telling you how you are going to make yours, if you stick to country production—unless someone invents a substitute for food.

## LIVESTOCK ENTRIES AT STATE FAIR

Early entries at the state fair list the names of a number of the leading

livestock producers of the West who will make their first appearances here this year. Among these is the California Polytechnic School of San Luis Obispo. This institution is entering in seven livestock departments and will have one of the largest individual showings at the fair. It has entered more than a score of Holsteins and Jerseys and also is well represented among the Duroc-Jerseys, Poland Chinas, Berkshires, Percherons and Clydesdales.

J. W. Wherrell of Riverside, one of the largest Jersey breeders in the state, will be present for the first time with a full herd. Other full Jersey herds already entered include those of the Polytechnic school and F. R. Bain of Los Angeles.. J. E. Thorp of Lockeford probably will be present.

Holstein herds entered so far include those of the Millbrae dairy, the California Junior Republic of Chino and the California Polytechnic. Fred Hartsook of Lankershim, one of the best known Holstein breeders of the state, is preparing to take the circuit with two full show herds and will start at the state fair. The Berylwood stock farm at Hueneme, it is reported, will be at the state fair. Azevedo Brothers of Ripon, consistent winners in past years, probably will be contenders.

A. B. Humphrey of Escalon and the Italian Vineyard of Guasti will be back with full herds of Guernseys, and the H. G. Ranch of Buellton will be here with a large herd of Ayrshires.

The beef cattle also are well represented in the early entries, 58 head of Shorthorns and 56 head of Herefords already having been entered. Congdon and Battles of Yakima have entered their Angus herd.

Big entries are being made in the swine department, to date there being 81 head of Duroc-Jerseys, 113 head of Poland Chinas and 79 head of Berkshires. At this rate of entry, the hog show will be larger than ever.

Throughout the sheep department are shown unusually large entries and varieties, while the large premiums in the milk goat department are beginning to attract the breeders of some of the finest of these animals.

## PRIZES AT THE STATE FAIR

Of special interest to community builders is the rearrangement of premiums for county exhibits, designed so as to give smaller counties or counties specializing in the production of one particular article, opportunities to share in the awards. Cash prizes will be awarded as usual to the best county exhibits, and in addition special sweepstakes have been established for county exhibits of apples, pears, peaches, plums and prunes, grapes and citrus fruits, while the sweepstakes for dried fruits has been increased.

Two other new premiums are for the county making the best horticultural display and the county installing the best agricultural exhibit. Special county and association prizes aggregate $1625.

A new cup to be known as the governor's cup will make its appearance this year. It will be awarded to the county making the largest, best and most complete display of its products. Two other cups will go to the county making the best specialty feature exhibit and to the county making the best display of minerals and mining products.

The first cash prize to the county presenting the best specialty feature exhibit will be $250, second $150, third $100, fourth $75. The county mining premiums will be: First $225, second $175, third $125, fourth $75. Premiums for cooperative associations showing the products of two or more counties will be: First $200, second $150, third $100.

The county having the best general horticultural exhibit will receive $200, second $150, third $100, fourth $50. For the best general displays of agricultural products by counties, first premium will be $150, second $100, third $75, fourth $50.

Then will come the special county sweepstakes for specialty products. These are new premiums which are expected by the fair management to encourage more counties than ever to enter the lists, as well as to encourage regular exhibitors to greater care in preparation of different fruits with the object of competing for the new sweepstakes. The new prizes are expected to draw to the state fair, districts which do not hope to compete for the larger county premiums, but which have one product of which they are especially proud and with which they may carry off a portion of the premium awards.

The sweepstakes for apples, pears, peaches, plums and prunes, and grapes are, in each class: First $100, second $75, third $50; for citrus fruits and dried fruits, each $75, $50 and $25. Smaller sweepstakes are provided for the agricultural department.

Throughout the premium lists of both horticultural and agricultural departments, general increases over last year's prizes have been made in order to encourage display of products which are considered of special value to the state. As an example: the total premiums for plums and prunes will be $1150, as compared to $910 last year. The horticultural premiums total $6600 and agricultural $1375.50, exclusive of county and association prizes.

Another department in which the farmer will be interested, bees and honey, will show an increase in total premiums from $144 to $209.

The poultry and rabbit department is expected to be larger than that of last year because of the decided increase in the number of rabbit entries. The fair paid out $2500 in premiums in this department in 1921, and judging from the interest shown to date in the 1922 fair, the premiums paid out will run well over $3500.

Entries closed in the livestock department August 2, poultry August 22, dairy products August 27, and other departments August 23.

The railroads of California will carry all fair exhibits to Sacramento free of charge. The freight charge for the trip to Sacramento will be collected and then refunded by the railroads after the fair, on presentation of proper affidavits from the fair secretary.

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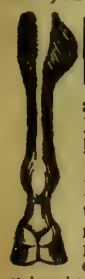

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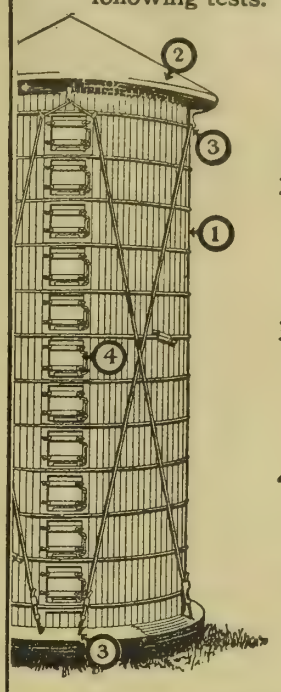

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Holsteins

September 21, Dispersal, E. Maracini, Dos Palos.

September 28, Dispersal, Carl Ray, Lankershim.

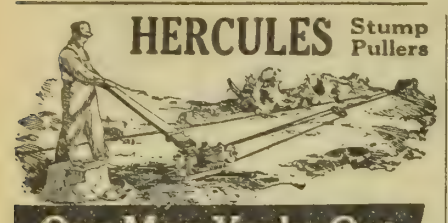
October 26,, Draft C. W. Anderson, Burbank.

November 16, Dispersal, Arthur & Maxfield Holstein Co., Hanford.

August 30-31, Dispersal, Maxwell Farms, Hollywood.

Jerseys

August 28, Dispersal, W. H. Rough herd, Hynes.

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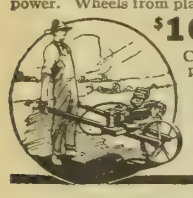

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| Sire's Dam | 3 years | 1113.57 |
| Sire's Second Dam | 4 years | 1011.71 |
| Paternal Sister | 3 years | 1158.19 |
| Maternal Sister | 3 years | 1113.57 |
| Dam's Three Sisters | | 1100.47 |
| | | 1054.06 |
| | | 1021.72 |
| Average of Eight Records | | 1073.12 |

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## Livestock News Notes

A youngster now occupies the quarters so long the home of King Alcartra Prilly at Bridgford Holstein Co. farm, Patterson, and although the task of carrying on behind the great sire that has now gone to Wisconsin is a tremendous one, this young bull seems to have the qualifications to do it successfully. The name of the young sire is King Mead Colantha Prilly. He is sired by Sir Aaggie Mead De Kol, the bull that A. W. Morris & Sons Corporation sold for $11,000, the top of the bulls in the Philadelphia National Sale, to Arfmann & Amos, Middleton, New York. He is a son of Sir Aaggie De Kol Acme and Aralia De Kol Pontiac Mead and has an average of 1,048.02 pounds butter and 24,982.7 pounds milk in one year for his seven nearest dams, all of which have records above 1,000 pounds butter in one year. The dam of the new Bridgford sire is Fairmont Colantha Prilly, a daughter of King Segis Pontiac Alcartra and Prilly Princess Colantha Lyons, a 30 pound daughter of King Lyons and Prilly Princess Julia De Kol, who is the dam of King Segis Alcartra Prilly. It will thus be noted that Fairmont Colantha Prilly is a three-quarter sister to King Segis Alcartra Prilly, being by the same sire, and she is out of a daughter of the Prilly bull's dam. Fairmont Colantha Prilly has been credited with the world's 305 day butter record in the junior two year old class with 853 pounds butter, but this is an error, being her credit for that period as she is continuing for 365 days and has a very fair chance of crossing the 1,000 pound mark. The 15 nearest dams of King Mead Colantha Prilly, including his junior two year old dam, have seven day records averaging over 30 pounds butter in seven days. Ten of his 15 nearest dams, including his junior two year old dam, have yearly records averaging over 1,100 pounds butter, giving him one of the greatest yearly record backings of any bull in service in the West. In addition he has a wonderfully well balanced pedigree, tracing on both sides in short lines to De Kol 2d, Pontiac Korndyke and King Segis, and including some of their most noted descendants among his nearest ancestors. He will be bred to upwards of 90 daughters of King Segis Alcartra Prilly and a large number of daughters of King Segis Alcartra Abbekerk, thus giving him service to females bred in much the same lines as the King Segis Pontiac Alcartra daughters upon which John Arfmann successfully used his sire, Sir Aaggie Mead De Kol.

King Hengerveld Henrietta, owned by E. D. Barry Jr. of Covina, recently completed a 365 day record of 1,014.33 pounds butter from 24,545.1 pounds milk. She is a six year old daughter of King Hengerveld and has two records above 30 pounds butter in seven days, one above 32 pounds. She will be remembered as a beautiful white cow that sold in the 1919 Guaranty Sale as a four year old for $4,000.

Several stock raisers from distant points have verified their intention of exhibiting products and stock at the Ventura fair to be held October 4-8. Among this number are one Oregon farmer and two British Columbia stock raisers.

Believing that special entertainment must be provided for the night crowds that are expected to attend, the Pomona fair will present a horse show Wednesday, Thursday, Friday and Saturday, October 18 to 21 inclusive.

Demonstration of advanced dairying methods will be an interesting department of the Southern California Fair at Riverside in October. Obsolete methods will be shown together with the advanced method now in vogue in the leading dairies of the country. Experts will give short talks each day for the education of the general public.

Swine breeders who will make this season's shows are anxious to get extreme growth on their spring pigs. This is not so easily accomplished, especially during the hot months, but keeping a good balance between the feed given and the amount of exercise will be of great assistance. Too many animals should not be fed together, and it is better to hand feed three or four times a day. Plenty of shade, pure drinking water, no mud holes, no lice, are a few of the things that will assist.

On September 28 an entire dispersal will be made of the registered Holstein females of milking age owned by Carl Ray, Lankershim. Mr. Ray is not going out of the Holstein business, but figures that by selling his cows and retaining his young heifers he will be relieved of a great deal of detail at the present time and will be ready to go ahead again when his heifers reach milking age. The herd of cows to be sold is a group of high class individuals of most substantial breeding and includes a number of cows with records above 30 pounds butter in seven days.

Armour's Bureau of Agricultural Research and Economics at the Union Stock Yards, Chicago, has just issued a booklet called "Progressive Hog Raising" which supplies a great deal of information on the breeding and growing of hogs which best please the packer. The booklet can be obtained by applying to the above address and every hogman should have one.

Winnie Cornucopia De Kol Korndyke, owned by the J. S. Gibson Co., Williams, has just completed a 365-day record of 1,115 pounds butter from 28,354.5 pounds milk at five years of age. She is out of California's first 1200 pound cow, Winnie Korndyke Cornucopia De Kol, 1,201.06 pounds butter from 31,034.2 pounds milk, and is sired by King Kastereintje Segis, a son of King Segis Pontiac Emperor and a daughter of Juliana King of Riverside. It will be noted that she is also out of the same dam as Winnie Korndyke De Kol Alcartra, the Gibson herd sire whose young daughters all under milkiing age are one of the most promising groups of heifers in the state. This record gives to Winnie Korndyke Cornucopia De Kol the distinction of being the only 1200 pound cow in California that has produced an 1100 pound daughter.

The Lewis Company, San Jose, reports sale of two sons of Ormsby Segis Marie Lad to H. Johnson, one of the leading dairymen in the Salinas Valley.

Tosantos Korndyke Walker, the first tested daughter of Sir Aaggie Hiske Walker, owned by E. D. Barry, Jr., of Covina, calving at one year 11 months has made 16.83 pounds butter from 362.9 pounds milk in seven days, going on test 16 days after freshening. Tosantos Pontiac Korndyke, a daughter of King Korndyke Pontiac 20th, also calving at one year 11 months, made 15.54 pounds butter from 423.9 pounds milk in seven days, going on test 19 days after freshening.

John L. Smith of Spokane, Washington, a well known breeder of Holsteins, will judge the dairy breeds, and Ralph M. Jenkins of Orleans, Indiana, a breeder of Durocs and Berkshires, will judge the hogs at the Los Angeles County fair at Pomona. Both are experienced showmen and judges and are very capable men. Mr. Smith will judge Holsteins at the state fair this year. Jenkins judged the Berkshires and Hampshires at the state fair last year.

The annual meeting of the California Holstein-Friesian Association will be held in the main pavilion at California state fair grounds, Sacramento on the evening of Monday, September 4, in accordance with the by-laws which call for the annual meeting to be held on the evening of the first day of Holstein judging at the state fair. The change made in the bylaws last year was to bring the meeting on judging day so that members attending the fair might see the judging and attend the annual meeting in one day.

Among other records recently completed at L. A. County Farm are those of Paragon Whittier Pontiac, a daughter of Toyon Fayne Valdessa and of Kappa Korndyke, a daughter of Sir Manuel Hengerveld. Both of these heifers were purchased at the 1921 guaranty sale and were tested as junior two year olds, the Paragon heifer making 14,859.9 pounds of milk containing 676.10 pounds of butter in 365 days. Kappa Korndyke, who is a granddaughter of the 1000 pound matron, Iowana Witte, made 589.75 pounds of butter from 11,501.1 pounds of milk in 365 days. Both of these are soon due to the service of King Segis De Kol Mead, sire of the 1139 pound state record four year old.

Several very creditable 305 day records are now nearly completed and final figures will soon be announced on the recent breaking of the state records in this class by the senior four year old, Hollywood Lillith Palmyra Abbekerk.

The Los Angeles County Farm is just beginning to get calves of the second generation of their own breeding from the wonderful yearly record sires that have been in use there in the past few years. These calves are backed by four to six dams with records of from 1000 to 1200 pounds of butter in yearly tests, with five to seven nearest dams averaging close to 1000 pounds of butter.

F. R. Bain of Los Angeles will show a splendid string of Jerseys at the Sacramento and Pomona fairs. Mr. Bain has had years of experience in livestock breeding and has a wonderful herd. A recent addition to his show string is a cow purchased from J. Ogden Mills, Jr. This cow has never been beaten in the show ring.

Peggie of Vogt Farm, a junior two year old Jersey owned by Grant A. Brown of El Monte, has qualified for a silver medal by producing 543.64 pounds butter fat from 10,240 pounds milk in a year in Class AA. She carried a calf 232 days of her lactation period.

Entries are beginning to come in for the Ventura County Fair, which takes place Oct. 4-8. Ventura County is having a livestock boom on account of the low price of sugar and the slowness of the bean market, so many ranchers are turning to alfalfa and livestock. It is a good place to show any kind and variety of pure breds, and the fair association always takes excellent care of its exhibitors and shows them a fine time.

### McGILLIVRAY HEIFERS BARGAINS

Buyers a plenty, but unwilling to pay any fancy prices, were present at the McGillivray sale of Holstein heifers on August 17. These heifers were the offspring of cows sold last May and were of excellent breeding, but were not tip-top either in type or condition.

Ninety-two animals were sold for $11,605, which is an average of $124 each. All were tuberculin tested and subject to re-test, which helped somewhat in increasing the price.

M. C. Meade of Santa Anita was the heaviest buyer, taking 40 head, 20 of which were daughters of Colony Zarilda Newman. J. W. Snodgrass of Hueneme purchased a number of calves, some for the Berylwood Stock Farm, of which he is manager, and the balance for the Ventura County Calf Club. The balance of the offering was widely distributed.

The sale was handled by C. L. Hughes for the California Breeders Sales and Pedigree Company, and Col. Ben A. Rhoades was on the block with John A. Davis, now of Los Angeles, in the ring.

### HOG AUCTIONS

California farm bureau hog auctions for this month are: Wasco, September 2; Modesto, 6; Chowchilla, 7; Fresno, 8; Tulare, 12; Visalia, 13; Hanford, 14; Corcoran, 15; Bakersfield, 16; Merced, 19; Turlock, 20; Madera, 21; Fresno, 22; Tulare, 26; Visalia, 27; Hanford, 28; McFarland, 29.

# Classified Liners

**The direct selling method from producer to consumer, and a clearing house for California's prosperous farmers. Weekly liner rates: Each insertion 4½ cents per word. No ads accepted for less than ten words. Cash with order. Mail all classified copy to Los Angeles Office.**

## POULTRY

**Profitable Poultry News**—Capacity 200,000 Chicks—off every week of year. Now booking delivery every fall, winter, spring month. Why? First half each week's delivery booked ahead at substantially reduced price; further, it's impossible to supply demand for our 180-290 egg Leghorns, Reds, Rocks, Anconas, Minorcas, Wyandottes, Orpingtons, Brahmas, Ducks, Turkeys. For quarter century imported, trapnested, selected for vigor, growth, beauty, eggs. Large, rapidly growing chicks reasonable now for fryers, roasters. Write Profitable Poultry, 13 North Fair Oaks, Pasadena.

### BABY CHICKS

Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.

Write for prices.

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**White Leghorn Trapnest Stock, our own famous Yesterlaid Egg Ranch strain.** Cockerels from hens, records 200-301 eggs, mated to males whose mothers laid 250 and up to 316 and 333. Buy your stock now. We have cockerels 8 weeks old and up. Also offer for sale several thousand pullets, yearling hens and good breeding hens and cock birds. Write for circular. Yesterlaid Egg Ranch, Kent, Washington, "Home of the 300 egg hen."

**For Sale**—We have fall chicks hatched from Mr. Craig's flock Sept. 1st. This flock has proven itself the most vigorous breeding flock in California. We have not had a single poor hatch all season. Price Sept. 1-10, $130 per 1,000; balance of Sept. $140, and October, $150 per 1,000. Rocks and Reds $15.00 per 100. L. Brahmas $25.00. Send for new circular. P. Cook Chick Ranch, 1717 Valley Blvd., Alhambra, California.

**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

**Certified White Leghorn Baby Chicks.** Booking orders now for Summer and Fall delivery. Safe arrival, live vigorous chicks guaranteed. No money in advance; pay on delivery. Established 1898. Sonoma County Farm Bureau Accredited Hatchery. MUST HATCH INCUBATOR CO., 438 Seventh Street, Petaluma, California.

BABY CHICKS
**White Leghorns, Anconas, R. I. Reds.**
Order now for Fall and Spring delivery

THREE MONTH OLD PULLETS
All selected—no culls

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Santa Ana, California

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**Baby Chicks**—Reds, Rocks, Anconas, and White Leghorns. Hatches every week after August 1st. Write at once for price list. Place your order at once, as we have several thousand now sold to old customers. Est. 1915. Hargett & Son, Route 2, Box C, Compton, California.

**Baby Chicks from my pure-bred, heavy laying strain of S. C. White Leghorns,** June and July delivery $12.00 per 100; $33.00 per 300; orders taken now for August and September delivery. Write for particulars. J. R. HEINRICH POULTRY YARDS, Arroyo Grande, California.

**White Leghorn Baby Chicks.** From free range Hoganized stock. Breeding flocks inspected by Sonoma County Farm Bureau accredited hatchery inspector. Full count and safe arrival guaranteed. For price write to the Lafranchi's Hatchery, Petaluma, California.

**Union District Hatchery** is booking orders for the fall chick. Chicks from the best tested layers at right prices. White Leghorns, Rhode Island Reds, and Barred Rocks. F. & L. Downing, Los Gatos, California.

**Fall Chicks Pay**—Order now for September and October delivery. White, Brown, Buff Leghorns, B. Rocks, Reds, Anconas, B. Minorcas. McDonald Poultry Ranch, Rt. 1 Box 246, San Jose, California.

**White Leghorn Baby Chix for summer and fall months from stock Accredited by Sonoma County Farm Bureau.** We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Pit Games**—Old and young trios. R. H. Crane, Santa Rosa.

## POULTRY

**The Archibald Hatchery** will supply through September and October White and Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons and Wyandottes. Our folder may interest you. B. W. Archibald, Soquel, Santa Cruz County, California.

**Fall Chicks**—Hatches every week. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. Stubbe Poultry Ranch and Hatchery, P. O. Box 67-E, Palo Alto, California.

**Watch Us Grow**—We are now booking orders for fall chicks. Brown and White Leghorns, Rhode Island Reds, Barred Rocks and Anconas. Ohlen's Hatchery, Campbell, Calif.

**White Leghorn Cockerels,** fine stock $1.50 up. Also Brown Leghorn pullets, fine lot. Stubbe Poultry Ranch & Hatchery, P. O. Box 67-E Palo Alto, Calif.

**Slightly Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

## TURKEYS

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

## FARM LAND FOR SALE

**If You Want a Poultry Ranch,** also suitable for fruit, grapes, vegetables or grain, of from two to forty acres—at from $200 to $350 per acre, with water IN SOUTHERN CALIFORNIA that you can buy on exceptionally easy terms or pay for in poultry, vegetables or other products, and no middleman to divide profits with, and have a few hundred dollars to start, write for particulars. EDGEMONT RANCH COMPANY, PO Box 66 Pasadena, California.

**For Sale by Owner—Poultry Ranch,** about 5 acres, 1½ mile from town, on Palermo Road, one of the main paved highways between Oroville and the Western Pacific Shops. Good 4 room cottage, large basement, city water, electric lights and telephone. Two large brooder houses, chicken houses and garage, few fruit trees and berries of all kinds, about 500 chickens. Chas. Belden, Route B. Oroville, California.

SUTTER BASIN LANDS
In the heart of the Sacramento Valley, rich, deep "river bottom" soil, with a complete irrigation system is offered to good farmers. Any crop you may want to grow will find a good home here. Most liberal terms.
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**For Sale by Owner**—100 acres of the best apple and pear land in the Tehachapi Valley. This is watered by gravity spring creek water and is fine sandy loam. A real opportunity at $200.00 per acre. Has been in trees and alfalfa and proved good. Come at once if you want something good. Address J. B. McConaha, Monalith, California.

**For Sale**—97 Acre Prune and Olive Orchard interplanted with seedless grapes, bearing. Modern Bungalow and pumping plant for irrigation. Located near Woodland on paved highway. Price $30,000—terms if desired. Call on or write Wm. Gould, Woodland, Yolo County, California.

**Paradise, The Orchard Home Place**—Water, electricity, telephone, good roads, healthful climate, reasonable prices. Box C. Publicity Committee, Paradise, California.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## MACHINERY

**For Sale Reservoirs, Grain Bins**—We have several big redwood tanks. Cheapest thing money will buy. Tanks, 2,000 bushel capacity, $68; 6,000 bushels, about 3,500 sacks, $125. Cement reservoirs crack. Quakes don't hurt wood tanks. 12,000 bushel capacity, $195 on cars. L. A. make, new galv. tanks, 10 sizes, 175 to 2,000 gals. at $45.25; 1,000, $35.25. Also rebuilt tanks. Pumps at lowest prewar prices. Windmills, tanks, pumps, cylinders, pump rod 3, 4, 6 in., irrigating pipe rebuilt, new, for less. Demmitt, 120 N Main St., L. A.

**For Sale**—2 Double Unit Pine Tree Milkers, Pipe, Pump and motor complete. Address R. F. D. 1, Box 35, Downey, California.

**For Sale**—Lisle Well Boring Machine. Equipment to bore holes 10 inches to 48 inches. Robt. Maguire, Box 409 Route 2, Inglewood, California.

## "GOVERNMENT LAND"

**Attention**—Take up government land for farming, grazing, timber. Millions acres open. Send for FREE folder. RALLY, 1111 So. Alvarado St., Los Angeles, California.

## DOGS

**For Sale**—Beautiful White Collie pups—pedigreed and eligible to registration. Box 724, Huntington Beach, California.

## CATTLE

**Jersey Show Bull Calf For Sale.** Born November 29, 1921. Sire traces 6 times to Financial Count in 5 generations. Dam Register of Merit cow with 489 pounds butter on two milkings a day. Strong in Noble of Oakland and Financial blood. A splendid individual and priced to sell. Grant A. Brown, El Monte, Calif.

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys — Grape Wild Farms — Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Registered Guernsey Bull Calves for Sale** from A. R. Dams and Sires. This herd passed the State Tuberculin test on July 10th, 1922, making one of the longest continuous T. B. free records of any Guernsey Herd on the Coast. James A. Brown, Capitola, California.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Registered Holstein Bull** sired by King Pontiac Segis 3rd. Will sell cheap or trade for good cow. J. P. Kelly, San Bernardino.

**For Sale**—Six Reg. Guernseys, two cows, two heifers, two bulls, four high class grade two year olds fresh this fall. J. M. Daley, Springfield, Oregon, Route 1.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Herefords—"Veramont Stock Farm,"** H M. Barngrover, Prop., Stockton, California.

**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

**Registered Herefords—Anxiety IV strain.** Breeding stock for sale. Chas. Rule, Duncans Mills, California.

## SHEEP

**For Sale**—500 EWES bred for early lambing to Shropshire bucks. Delivery any time. Price, $9.00 per head. No broken months. Address Route A, Box 227, Redlands, California. Phone Suburban 9152.

## WANTED

**Ranchers**—Conditions have forced me to stop ranching for myself and I would like to become placed somewhere. I can give an employer services and efficiency that he has been looking for, the kind that works at long distance from headquarters. Thoroughly experienced in general farming, Holt tractors, their maintenance and repair. Beans, beets, grain, hogs, sheep and irrigation. Speak fluent Spanish and have handled Mexicans. Thirty-five and married. Experienced in accounting and farm costs. Banking and commercial experience. Would like something on ranch or out of doors. And clean hands are not an object to this man. Will terminate my present work this fall. Who can use me? C. B. H., c/o California Cultivator, Los Angeles.

**For Two Hundred Dollars Per month** advertiser will work as foreman. Is thorough in all lines of stock raising, farming and fruit growing. Experienced in working all kinds of labor. Speaks Spanish. Address Box HPF, Cultivator, Los Angeles.

**Wanted: Men With Spare Time** to represent established California company selling standard material to ranchers in ten southern counties. Good pay. Address W. S. H., care California Cultivator, Los Angeles.

**Wanted Throughout California, men with autos** to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call J. H. Yetter, 317 Central Ave. Los Angeles.

**We Are in the Market** for several thousand first class citrus trees on sour roots. Dortons Southwest Nurseries, Harlingen, Texas.

**Want to Hear** from owner having farm for sale; give particulars and lowest price. John J. Black, 116th Street, Chippewa Falls, Wisconsin.

**A Man with Family**—wants a position as ranch foreman. Experienced—can give good reference. 448 W. Arden Avenue, Glendale, California.

## MISCELLANEOUS

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Kentucky Homespun Smoking Tobacco.** Ages in bulk. Mellow and sweet. 10 lbs., $1.50; 20 lbs., $2.75. Tobacco Growers Union, Lynnville, Kentucky.

**Leaf Tobacco**—good for smoking or to use in hen nests. Fifteen cents pound—express paid on 10 pounds or more. Grant, P. O. Box 466, Fresno, California.

**3-Pound Box Absolutely Boneless Codfish,** fine white, new catch fish, delivered by mail, $1. Coffin Fish Co., Seattle, Wash.

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**Mayflower Duroc Jersey Reds** are good ones—30 gilts, 20 boars, 8 bred sows. Priced to sell. Sired by four of the best boars in California. Their fair record stands behind them. Royal I Am, Craigs Pathfinder, Orion Cherry King J. K. and Defender W S K. Nothing but the very best sold and guaranteed to please. Kincaid & Muselman, E. Bakersfield, California.

**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

**Winsor Ranch Durocs**—The best of stock at reasonable prices. BONITA, CALIFORNIA.

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**For Sale**—Grafted walnut trees, also citrus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

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**Beeman Tractor Cheap** — Young man learn trade. Cash Nursery, Sebastopol.

## SEEDS AND PLANTS

**Carolina Strawberry Plants for Fall Planting**—the most prolific and best berry. Gives crop the first year. Postpaid $1.50 per hundred. Write for prices on larger quantities. G. M. Hawley, El Cajon, Rd. No. 2.

**D. Lotus Seed**—Manchurian stock for Japanese persimmons. Let me include your needs in my 1923 importation from Manchuria. Fred W. Kelsey, Nurseryman & Orchardist, El Monte, California.

## FOR LEASE

**For Lease**—167 acres improved, one mile northwest of Westminster, eleven miles east of Long Beach, known as Creedmoor Gun Club Ranch—would be ideal for dairy. Plenty buildings, two artesian wells, one pumping plant. Can be leased for term of years at fair rental, part of which can be paid in labor. Possession of buildings and part of land any time. W. F. Marks, 1318 West 3rd street, Los Angeles. Phone 52471.

## HORTICULTURAL PRINTING

**Catalogues and Booklets, office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts** of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St., Los Angeles.

## CORN HARVESTER

**Corn Harvester** cuts and piles on harvester or winrows. Man and horse cuts and shocks equal Corn Binder. Sold in every state. Only $25 with fodder tieing attachment. Testimonials and catalog FREE showing picture of Harvester. Process Harvester Co., Salina, Kansas

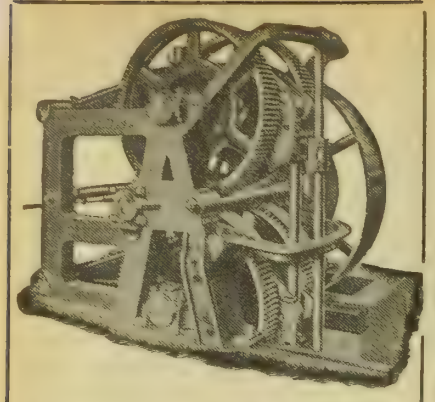
## TOP GRAFTING ORCHARD TREES

By Leonard Coates

Partial failure in many instances is due to the application of hot, liquid wax, its liability to run, leaving air underneath, with the resulting spaces evidenced by the presence of air bubbles.

This method of using grafting wax has largely superseded the old way, when a prepared wax was put on by hand, but observation and personal experience, to get at results, have convinced me that the old way is the better, and almost if not quite, as rapid. The test was made on walnut trees, both California Black and English; every graft grew perfectly, and there was no running of wax and no air bubbles, which would have made daily visits necessary.

The ordinary wedge grafts were used, the stocks being split to receive them. The same care was used that would apply to any similar work, the scions being taken only from the base end of limbs. The wax was from the old formula: 2¼ pounds rosin, 1 pound beeswax, 1 pint raw linseed oil, all cooked together, and then poured into tub of cold water and pulled until tough and smooth. A little practice will enable one to apply this wax, and spread it with the thumb and finger, leaving a job neat and clean, and which anyone may be proud of. I mention this, to encourage the non-professional, as the simplest directions in any standard work on horticulture will suffice. The columns of detailed directions are apt to mystify, and hence to mislead.



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We are the pioneers in fall hatching—others follow. Largest, Finest Hatchery in Southern California.

We have open dates of Aug. 31, Sept. 7, 14, 21, 28. We can supply our chicks when you want them

We are exclusive hatchers for Fall of 1922 for; F. R. Richardson, Geo. J. Richardson, G. A. Saylor, F. C. Barker, J. H. Tumbach, L. G. Hack, San Marino Poultry Ranch, Geo. L. Miller, James Poultry Ranch, R. C. Gibson, C. W. Phelps being the product of 30,000 Selected Breeding Hens.

I supply you with accurate information on construction and ventilation of Pride of Petaluma Brooder Houses; also carry a full line of stoves and parts.

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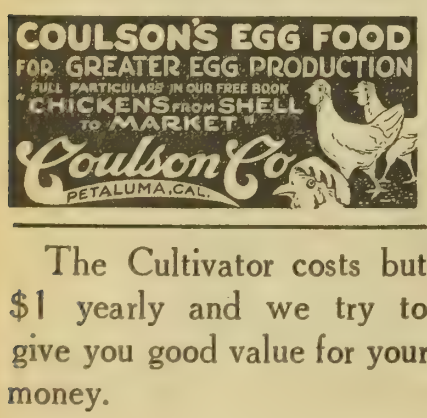


The Cultivator costs but $1 yearly and we try to give you good value for your money.

# Poultry Queries

(Conducted by Jean A. Koethen)

### Poisoned

A few days ago four of my hens were taken with what I call a chill, for they shook all over. Combs are red and hens had been feeding all right. They acted dumpish and sleepy and finally lay stretched out quite helpless. I am feeding wheat and laying mash and the hens have free range.—Subscriber, San Bernardino.

Your hens have evidently been poisoned, but with what it is hard to say for a good many poisons produce practically the same symptoms. What you call chills I should call convulsions, not very violent, perhaps, showing that they did not eat a great deal of the poison. Arsenic from rat poison or arsenical sprays used to kill insects, copper from Bordeaux mixture, lead and zinc from paint skins, all produce convulsions, great weakness and diarrhea. It would be wise to keep the flock shut up till you have examined their range carefully. Each poison has its proper antidote, but milk, white of egg and flaxseed mucilage are good for nearly all.

### Developing Pullets

Some of my pullets nearly five months old are well developed, with big red combs; others are pale with shrunken combs. Some of their droppings are soft, some yellowish, some dark, and some contain red like the pulp of tomatoes. I am feeding a commercial pullet mash. Should I change to laying mash? They are laying a few eggs a day. Some are picking up feathers and eating them. Should they have meat? I feed wheat and cracked corn, sprouted oats morning and night, mash always before them, greens morning and night, charcoal and grit.—Subscriber, San Diego.

Not all the pullets in any flock mature at the same time. Some always develop more rapidly, and there are always in a large flock some culls. If the backward pullets are not ready to lay when they are seven months old you can safely cull them out and market them, but first give them a chance to make good. Your grain feeding is all right if you are giving the pullets all they will eat once a day. If you let them fill up on grain twice a day they will not eat as much mash as they should. It would be better to give the wheat and corn about 4 o'clock, giving more than they will clean up so that there will be little left for early morning. Give the sprouted oats at seven or eight in the morning, greens at nine or ten, and at 2 o'clock moisten some of the dry mash with sour milk or semi-solid buttermilk and feed what the birds will clean up in 15 minutes. Perhaps the meat scrap in the mash is not of best quality. The best thing you can do is to change to a laying mash but add a little corn meal and bran. If the backward pullets seem very thin perhaps you can put them by themselves and give a larger proportion of corn.

### Sand for Litter

Is sand a good substitute for litter? I am using it on my floors.—Subscriber, San Diego.

Coarse sand, sometimes called "wash sand" is a fair substitute for straw, but beach sand is too fine. It would be better to cover it with litter.

### Salt Grass

Is salt grass good for chickens?—Subscriber, San Diego.

I do not know. Will some one who has had experience with salt grass please tell us about it?

### Fattening Turkeys

What is the best feed for fattening turkeys? Mine are five months old. Are they now past the most trying time?—Subscriber, Los Angeles.

A turkey five months old is as good as raised, but do not be in a hurry about fattening. The most successful turkey growers do not begin to fatten till October. For the present bran, rolled barley, wheat and sour milk, with an abundant supply of green feed, is a good ration. About the first of October you can begin mixing a little corn meal with the bran and a little whole or cracked corn with the barley and wheat. Keep feed before them constantly but do not force them. A turkey that is in good condition will fatten on either barley or corn, but whole corn is considered the best feed for fattening. It is not easy to make turkeys eat it when they are accustomed to smaller grains, and for this reason it must be gradually worked into the ration.

### Pumpkin Seed

Is it a fact that too many pumpkin seeds put a stop to laying? Last year my hens had access to a pile of pumpkins and picked the seeds out. They stopped laying almost entirely. Do you think the pumpkin seeds were responsible? The hens had their regular grain feed.—Subscriber, Lodi.

Pumpkin seeds are not recommended as a laying ration, but I do not see how a few could do any harm. If your hens filled themselves with the seeds and neglected the regular laying ration they had nothing to make eggs from. You say nothing about a laying mash. Perhaps your hens had not a balanced ration in addition to the pumpkin. You know a hen cannot lay eggs unless she has first the proper kind and amount of food to maintain her bodily health and vigor and then a little extra for eggs. The hen must have the fat and carbohydrates which are found in grain to keep her body warm and active, and the protein in meat and milk for building up the deep tissues and for eggs.

### Remedy for Ticks

D. Earl Brubaker of Hemet sends the following simple treatment for chicken ticks, which we are very glad to have:

"Four years ago, when I came on this ranch, I found an old henhouse made of old boards that were cracked, split and full of holes, besides being lapped in many places, and as full of ticks as a henhouse can be. I was advised to burn it down and build a new one, but I could not afford to do that. Then I was advised to use a mixture of kerosene and crude carbolic acid, but the carbolic acid was excessively expensive at that time, and I had to look for something cheaper. I took crude oil and diluted it with kerosene, making mixture that could be put on with brush. I used a big paint brush and painted every square inch of that henhouse, also sprinkled the dirt floor liberally. I did this three times ten days apart and saw no more ticks for six months when I noticed a few on the ceiling. This was painted again, and that was the last of the ticks. The only objectionable feature about this treatment is that it makes the ceiling black and oily. A larger proportion of kerosene will help this. If possible leave the poultry out for a few days till the oil dries and hardens. I never expect to have any trouble with mites as long as those boards are coated with crude oil, even though it is dry and hard."

Thank you, Mr. Brubaker.. I wonder if you thought about using the oil from your automobile crank case. Some one wrote me about using that for mites, and when I tried it I found it as good as kerosene and crude carbolic acid and cheap as dirt. If it will rid a house of ticks as well as mites the motorist is in luck.

### Which Are the Layers?

A few of my hens are well built for laying, plenty of room between keel and pelvic bones, pelvic bones thin and pliable, yellow color well laid out of leg and beak. But they were molting by July 20. Another lot is similar in type, but their legs are still yellow. They show no signs of molting yet. Would you keep either or both of these groups or send them to market?—Subscriber, Hemet.

I think I would separate the two groups and keep a record of their performance for a while before I parted with either. Generally speaking, the molting test is more reliable than any other, but there are exceptions, of course. Some poultrymen claim to get good production from early molters, and there are others who eliminate every hen that molts before September. The appearance of the hen should be something of a guide. Has she an alert eye, large red comb, short toenails? Is she always on hand for meals and off the roost betimes? Does she sing at her work? Is she well developed, not fat but muscular? Is her abdomen soft and round, just fitting into the palm of your hand? A little watching will show which are the hens that ought to be good layers for another season, but only the trapnest can give infallible testimony to a hen's ability.

### Peewee Eggs

My six months old Leghorn pullets are laying about 40 per cent, but 60 per cent of the eggs are peewees. I feed equal parts corn, wheat and barley and a mash of 95 per cent bran and 5 per cent bone meal, also semi-solid buttermilk in solid form, 10 to 12 pounds to 500 birds. Is that per cent of peewee eggs usual at 6 months?—Subscriber, Ontario.

That does seem like a large per cent of peewees at that age. Perhaps it is because you are feeding a maintenance mash instead of a regular laying mash. That maintenance mash is recommended for keeping precocious pullets back until they are fully ready for laying. If you will keep a regular laying mash before the birds, feeding sprouted oats or barley in the morning, hard grain at 4 o'clock, and some of the laying mash moistened with the semi-solid buttermilk (diluted with water) at 2 o'clock, you will soon have larger eggs.

### Chicks Dying

My little chicks two weeks old swell up and seem to get dizzy just after taking a drink. They fall over and soon die. Am feeding corn meal mixed with bran and chick feed and sour milk and a little alfalfa.—Subscriber, Little Rock.

I do not quite understand how you are feeding. If you are giving a wet mash in this hot weather that might account for part of the trouble. It looks as if the chicks were being overcome by the heat, but they may be suffering from indigestion as well. A moist mash that is not cleaned up quickly sours in hot weather and causes endless trouble. As you are in an unusually hot locality you had better leave off both the wet mash and the corn meal. Either get a prepared buttermilk mash or mix equal parts bran, rolled breakfast oats and middlings. Keep this before them half a day at a time to begin with, but lengthen the time so that by the end of the first month they will have it all day. For the grain feeds, give commercial chick grain in feeders but mix

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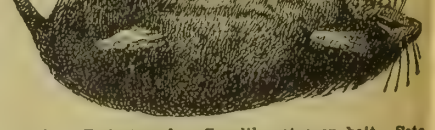

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a little wheat and kafir corn with it. By the end of the month you can drop the chick feed and use wheat and kafir corn alone. Keep sour milk before the chicks as much as possible. Be sure they have shade; let them run in the garden if you can; if not, sprinkle their run every day. Keep cut alfalfa before them. Summer chicks rarely do as well as those hatched in early spring. You will have to do all you can to provide spring conditions.

## MAKING GOOD WITH POULTRY AND FRUIT

(Continued from Page 197)

he purchased on contract a ten acre farm with a small but comfortable house, a two and a half acre bearing orchard, and but little else. This was the period of high prices, and while the times permitted him to sell his place at a profit it also represents a higher price for his investment than would be necessary now, and although today his place is worth more than he paid, a part of the enhanced value is due to improvements which he has added.

The first work of improvement was to build a concrete incubator house, not a cellar. A study of the ventilation of cellars, and the pure air requirements of the hatching egg has convinced him that incubators ought not to be put below the surface of the ground. The ventilation system is so arranged that a constant circulation of air is maintained, the building kept warm when the weather is cool outside, or when it is hot outside the interior of the house seems cool. There is never any direct draft onto any part of any incubator. This house, which is 30 by 50 feet, holds incubators with nearly 20,000 egg capacity, one or two being added at the close of this season. Forty-five thousand day old chicks were hatched this past season, and orders were behind for nearly the entire season, for instance, the first of February he was booked to capacity to May 1.

### Building Up Breeding Plant

It is his ambition to build up a breeding plant, and he is well along with his plans. All birds show strong vitality, and some excellent stock has been introduced. Trapnestinig will be begun this fall with 120 birds in flocks of 20.

The main flock is housed in long laying houses with units of 20 foot pens, the house being 16 feet wide. This flock of breeders has free range, although the double yarding system is to be installed. The brooder houses and the houses for the young chicks are located in the orchard.

The laying stock is fed dry mash in hoppers. This mash is composed of 200 pounds bran, 100 pounds shorts, 100 pounds corn meal, 60 pounds meat meal and 5 pounds charcoal with one pound salt. For grain he feeds wheat, hulled barley, hegari, and cracked corn. In summer the proportion of wheat to the starchy grains is increased.

For the young chicks Liggett says: "I have had some trouble with young chicks from feeding prepared chick foods that were mouldy. Some seem to gather moisture, possibly some are accidentally wet, but a very slight mould will prove fatal to very young chicks. I prefer, therefore, to feed a more expensive ration, and have found that a ration that is composed of one part regular rolled oats prepared for human food, one part bran and one part hard boiled eggs chopped fine is ideal and gives splendid results."

This ration is fed for three weeks and then the chicks are fed the same ration as the laying hens, grain being fed in addition. The eggs that are used are the first test eggs from the incubator.

### Nothing Wasted

Close economy has been necessary, but at that the same general principles of factory economy have been followed, that is, elimination of waste, so far as possible. Pigs are kept, and the cull eggs from the incubators that are not needed by the young chicks are fed to the pigs. About the time the incubators are closed for the season the first of the apricots come on, and there are culls that are readily disposed of by the pigs and at a profit. Following the apricots come watermelons and then peaches, and then a little grain, and the pigs go on to the butcher.

The roosting houses are kept well cleaned, and this fertilizer which so many of our valley farmers are slow in valuing at its true value, together with the manure from the pigs, is regularly hauled out to the land, and the crops that are grown prove that this by-product helps to pay the bills. The orchard receives a good deal of fertilizer from the chicks that run in it. In the fall it is thoroughly plowed and sown in barley. This method of handling produces good crops of choice fruit. One acre of apricots this year brought a revenue of $375, not counting what was consumed by the family or the culls that the pigs ate. Last year the orchard (balance in peaches), brought a total of $600, and probably will do as well or better this season.

A family garden furnishes a large part of the living, the grocery bill rarely running over $2 a week. Several acres of ground, not yet needed for chickens, have been used for growing truck crops. This naturally fertile soil, made doubly rich by application of poultry droppings and the fertilizer from the pig pens, yields wonderful crops. One-fourth of an acre of lettuce returned a little over $200, and one acre of green peas gave $350 of revenue. Four acres of watermelons are just being harvested and will probably net $600. Most of this land is fenced in one and two acre tracts. The family cow is pastured in one field which was in beans and lettuce. Later all of the truck crop land will be put in winter grain, mostly barley, to furnish the green feed essential for producing fertile eggs.

Growing truck crops fits in fairly well with the poultry work, but the main idea in growing truck was the revenue which was badly needed. Liggett plans to quit growing truck crops after this year, as with the growing poultry business, giving more attention to breeding and especially the trap nesting, there will be less time, and the place now is on a paying basis where this extra work will not be necessary.

What Liggett has accomplished on this place proves what a man of determination can do even without capital. Many would not care to take the chance, to burden themselves with the worry of debts, and to endure the hardships that are necessary, but Liggett and his courageous young wife as they see the two happy, healthy kiddies playing amid the shaded nooks of the yard of their own home, as they view the improvements which have been made and glimpse a vision of the breeding plant as it will be within a year or two and which they are building up slowly, have no doubts that it has paid to take the chance and endure the privations.

### COMING EVENTS

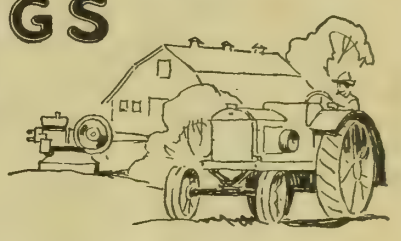
(Corrections and Additions Requested.)

**Sonoma County Fair,** Petaluma, August 19-26.
**Downey Community Fair, 7th Annual,** Downey, August 24-26.
**San Joaquin Valley Fair,** Stockton, August 24-30.
**California's Pageant of Progress and Industrial Exposition,** Los Angeles, August 26-September 9.
**Walnut Growers Field Day,** Santa Barbara, September 1-2.
**Melon Carnival,** Turlock, September 1-3.
**State Fair,** Sacramento, September 2-10.
**Grape Day,** Escondido, September 9.
**Tehama County Fair,** Red Bluff, September 11-17.
**Kern County Fair,** Bakersfield, September 12-19.
**Tulare County Fair,** Tulare, September 13-19.
**Colusa County Fair,** Colusa, September 13-17.
**Glenn County Fair,** Orland, September 18-23.
**Kings County Fair,** Hanford, September 19-23.
**Fresno County Fair,** Fresno, September 25-30.
**Siskiyou County Fair,** Yreka, September 26-30.
**Orange County Fair,** Santa Ana, September 27-30.
**Shasta County Fair,** Anderson, September 28-30.
**Ventura County Fair,** Ventura, October 5-8.
**Butte County Fair,** Oroville, October 2-7.
**Pork Day,** Turlock, October 11.
**Los Angeles County Fair,** Pomona, October, 17-21.
**Southern California Fair,** Riverside, October 10-16.
**San Francisco Livestock Show,** October 18-22.
**California Horsebreeders Association,** Los Angeles, October 18-22.
**International Festival of Dates,** Indio, October 18-22.
**Pork Day,** Fresno, October 20.
**Imperial Valley Fair,** October 23-28.
**California Industries Exposition,** San Francisco, October 27-28.
**Pacific Slope Dairy Products Show,** Fresno, November 13-18.
**Valley Citrus Fair,** Visalia, November 26-December 2.
**Orange and Olive Festival,** Oroville, November 28-December 2.
**First National Walnut Exposition,** Santa Ana, December 4-9.

COAST AND GENERAL

**Southwest Washington Fair,** Chehalis-Centralia, August 28-September 2.
**Interstate Fair,** Spokane, Washington, September 4-9.
**Washington State Fair,** Yakima, September 18-23.
**Oregon State Fair,** Salem, September 25-30.
**Arizona State Fair,** Phoenix, October 30-November 4.
**Pacific International Livestock Show,** Portland, November 5-12.


McQUAY-NORRIS
PISTON RINGS
PISTONS
PINS



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$1.25 Per ring — Leak-Proof — an exclusive two-piece design preventing loss of gas and compression. Gives equal pressure at all points on cylinder walls. For all piston grooves except top, which should have Supercyl. Each ring packed in a parchment container.

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2306-F

# Los Angeles Markets

Los Angeles, August 23, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 44 cents.

Prices extras past week:

| | | | | | |
|---|---|---|---|---|---|
| August | 17 | 18 | 19 | 21 | 22 |
| | 44 | 44 | .... | 44 | 44 |

### CHEESE

Brokers' prices:
California flats, 20@22.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 35; case count, 32; pullets, 28.

Prices extras past week:

| | | | | | |
|---|---|---|---|---|---|
| August | 17 | 18 | 19 | 21 | 22 |
| | 32 | 33 | .... | 34 | 35 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 17; colored, 30; broilers, 26; roasters, 29; old roosters, 14; fryers, 26; ducks, old, 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 11@13; old, 8.

### LIVESTOCK

Los Angeles, Aug. 22.—Weighed and delivered off cars without food or water.

Hogs (hard grain fed) 125 to 150 pounds, 8.50; 175 to 225 pounds, 9.50.

Cattle (on foot, gross weight): Steers, good, 6.50@7.00; medium, 5.25@625; cows, good, 4.75@5.25; medium, 4.00@4.50; bulls and stags, 3.00@3.50; calves, 125 to 175 pounds, 8.00@9.00; 175 to 250 pounds, 7.00@8.00.

Sheep, ewes, 4.00@5.00; lambs, 9.00@11.00.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, August 22, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement slow, market dull. New Stock: best, locals, sacked 1.25@1.50, mostly 1.35. Northern: Rivers, 1.75@1.85 cwt. Sweets, local lb., 5@7.

market dull. Stocktons: Yellows, 1.50@1.65; Whites, 1.85@2.10. Locals: Whites, 65 per lug; Spanish, 1.25 lug.

Garlic: Mex. best, 7@8; Northern, 6@7.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, August 22, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: San Pedro: Kentucky Wonders, 4@4½; Limas, 3.

Bunched Vegetables: Per dozen bunches; Turnips, beets, parsnips, 30@35. Parsley and spinach, 20. Radishes, 15@20.

Cabbage: Market steady, quality generally good. Field cr., best mostly 2.00@2.25.

Cucumbers: Local, lug, 30.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, best 3.75@4.00; poorer, 3.00@3.50

Corn: Green, local, lug, 75@85..

Eggplant: Local, 4@5.

Lettuce: Market steady. Locals: Ordinary, leafy, 90@1.00 cr.; Northern, 3.25@3.50.

Okra: Lb., best, small, 6@7.

Peas: Best, Northern, lb., mostly 8@10; mostly, 7.

Peppers: Locals: Bells mostly, 4@5 lb.; Chilis, 3@6 lb.

Squash: Market steady. Locals: Summer, lugs, 30@40; Italian, lugs, 65@70.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs best, pink, 75; ripe, 50@65.

### BERRIES

The berry market is almost bare of offerings. In blackberries a few northerns are coming in while in strawberries and raspberries the few locals are immediately picked up. Quotations are:

| | |
|---|---|
| Blackberries, Northern, crate | 2.40@2.50 |
| Strawberries, local, crate | 5.00 |
| Raspberries, local crate | 5.00 |

### FRESH FRUIT

These are actual prices obtained August 22 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc, as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Gravensteins, loose, 3 cents packed, fancy, 1.50@1.75; B grade, 1.15@1.25 per box. Crabapples, Locals, 75@1.00 per lug. Northern, 4 per lb.

Apricots: Locals: lugs mostly, 1.25@1.50; few best high as 1.25.

Cantaloupes: Market weak. Locals: Tip Tops, best 50@75; poorer low as 25 crate. Persians, 1@1½ per lb. Turlock: crate. Persians, 1 per lb.

Figs: White and Black, 12½@15 lb.; fy., 20.

Grapes: Demand slow, market steady. Northern: Thompson Seedless, per lb., 3@3½; Malagas, 6; Muscats, 6@7.

Nectarines, Local, 3; Northern, 5.

Peaches: Market steady. Locals and Northern, freestone and cling, all varieties, 1@3 per lb.; mostly, 2.

Pears: Demand moderate, market steady. Northern: Bartletts, mostly 5.

Plums: Demand and movement slow, market steady. Per lb.: Satsumas, 2½. Other varieties, 1@3 per lb. according to quality. Northerns: Various varieties 3@4 lb.

Watermelons: Local Angeleno, ½@1; Klondike, 1@1½

### CITRUS FRUITS

These are actual prices obtained bebefween 7 and 8 o'clock, August 22, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms, cash on the walk. There may be slight fluctuations during the day's trading. Higher prices are frequently obtained where credit is given or goods are delivered.

Grapefruit: Market steady. Californias: Northern, packed box, fancy, 6.00@7.00; market pack, 3.75@4.50.

Lemons: Demand and movement light, market firm. Special brands, fancy, 6.75@7.00; choice, 6.00@6.25.

Oranges: Demand moderate, market steady. Valencias, special brands, 10.00@10.50.

### HONEY

Demand and movement light, market steady, Some beekeepers holding for higher prices. General price in carload lots for outside shipments usual terms, basis per lb. Extracted: White orange, 9½@10; white sage, 8½@9; light amber alfalfa, 5¾@6; light amber sage mostly, 7.

### BEANS

F. o. b. Cal.:

| | |
|---|---|
| Lima, Henderson Bush | 8.50 |

Cal. Lima Bean Growers Assoc. reports some sales made in June for Oct. delivery of 1922 Limas and Baby Limas at around $6.25@6.40 f. o. b. Coast. Demand for futures now quiet. Assoc. has been sold out of 1921 crop for some time.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 18.00@23.00 |
| Barley | 16.00@20.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@22.00 |
| No. 1 Alfalfa | 16.00@18.00 |
| Standard Alfalfa | 11.00@13.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@20.00 |
| No. 1 Dairy | 14.00@15.00 |
| No. 1 Alfalfa | 12.00 |
| Wheat Straw | 6.00@8.00 |
| Barley Straw | 4.00@6.00 |

### GRAIN

Prices L. A. Grain Exchange, August 22:

Barley: 100 ton lots September Del., 1.25@1.37½.

# San Francisco Markets

San Francisco, August 22, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 43 |
| Prime Firsts | 41½ |

Prices Extras last week:

| | | | | | | |
|---|---|---|---|---|---|---|
| August .. | 16 | 17 | 18 | 19 | 21 | 22 |
| | 44 | 43½ | 43½ | .... | 42 | 43 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 27 |
| California Flats, fancy | 19½ |
| Oregon Trips | 23½ |
| Oregon Young America | 26 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 39 |
| Extra Firsts | 38½ |
| Extra Pullets | 28½ |
| Undersized Pullets | 16½ |

Prices Extras last week:

| | | | | | | |
|---|---|---|---|---|---|---|
| August .. | 16 | 17 | 18 | 19 | 21 | 22 |
| | 31 | 33½ | 34½ | .... | 36 | 39 |

### POULTRY

Broilers: 1 to 1¾ lbs., 28@30 per lb. Colored, 30 to 32 per lb.; 2 to 2¼ lbs., 28@30 per lb. Colored, 31 to 32 per lb.

Fryers: 2½ to 3 lbs., 32@33 per lb.; Colored, 33@35 per lb.

Young Roosters: Colored, 3¼ lbs. and up, 38@42 per lb. Staggy, showing spurs, 23@30 per lb.

Colored Old Roosters: 17@18 per lb.
Leghorn Old Roosters: 14@15 per lb.
Leghorn Hens: 2½ to 3 lbs., 14@18 per lb.
3 lbs. and over, 18@20 per lb. Large Colored Hens: 29@32 per lb. Off stock, 26@27 per lb.

Ducks: Young, 18@20 per lb.; off grades, 10@15 per lb.

Geese: Young, 20@22.

Live Turkeys: Old, 32@35; spring, 50@55.

Belgian Hare: Live, 13@15. Dressed 18@23.

Squabs: Live, fancy, 50@52 lb.; common, 3.00@3.50 doz.

Old Pigeons: 2.50@3.50 per doz.
Guineas: Young, 8.00@10.00 doz.
Jackrabbits: 2.00@2.50 doz.

### LIVESTOCK

The Western Meat Company quotes:

Steers: First quality, 6½@7 per lb.; second quality, 5¼@6 per lb.; cows and heifers No. 1 4¼@4¾; second quality, 4@4¼; bulls, 2@3 per lb.

Calves: Light weight, 8@9 per lb.; heavy, 5@7 per lb.

Sheep: Wethers, 6½@7 per lb.; ewes and stags 3@4 per lb.

Lambs: 10½@11½ per lb.

Hogs: hard, fat, grain-fed, weighing 125 to 200 lbs. 12½ per lb.; 200 to 250 lbs., 11½ per lb. 250 to 300 lbs., 10½ per lb.; light sows, 10½ per lb.; heavy, 9½ per lb.

| No Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Corcoran, August 7** | | | |
| 107 | 165 | .... | 11.25 |
| 77 | 195 | .... | 11.15 |
| 39 | 172 | .... | 11.00 |
| 5 | 234 | .... | 10.00 |
| 1 | 350 | .... | 9.50 |
| 12 | 439 | 170 | 8.00 |
| 241 hogs | | | |
| 3 cars, 19 consignors, $4,985.57. | | | |
| **Tulare, August 8** | | | |
| 89 | 185 | .... | 11.30 |
| 28 | 132 | .... | 11.30 |
| 55 | 178 | — | 11.30 |
| 100 | 158 | .... | 11.25 |
| 32 | 218 | .... | 10.80 |
| 18 | 340 | 390 | 6.35 |
| 322 hogs | | | |
| 4 cars, 30 consignors, $6,290.81. | | | |
| **Visalia, August 9** | | | |
| 82 | 171 | .... | 11.25 |
| 54 | 170 | 100 | 11.00 |
| 13 | 217 | .... | 10.75 |
| 5 | 252 | 100 | 8.00 |
| 154 hogs | | | |
| 2 cars, 8 consignors, $2,980.87. | | | |
| **Hanford, August 10** | | | |
| 100 | 158½ | .... | 11.00 |
| 44 | 184 | .... | 10.90 |
| 49 | 145 | .... | 10.90 |
| 1 | 270 | .... | 9.40 |
| 49 | 111 | .... | 9.70 |
| 1 | 430 | .... | 8.15 |
| 12 | 360 | 151 | 5.00 |
| 1 | 190 | .... | 8.42 |
| 257 hogs | | | |
| 3 cars, 27 consignors, $4,214.96. | | | |

Totals: 974 hogs, 12 cars, 84 consignors, $18,473.05.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: New, 1½@2 per lb.

Sweets: Merced, new stock, 4@4½ lb.

Onions: Gr. 1.25@1.50; Stockton Red, 1.25@1.40; Yellow, 1.40@1.65.

Garlic: Lb., 3@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock August 8, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Beans: Ky. Wonder, Blue Lake and Wax, 2@4 lb.; Italian, 6@7; Lima, 5@6.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Celery: Local, 2.50@3.00 cr.

Corn: Green, 8@11 doz.; 75@1.00 sk.

Cucumbers: Lug, 40@75.

Eggplant: 3@4 per lb.

Lettuce: Local, best, 1.00@1.25 cr.

Parsnips: 3.00@3.25 per sack

Peppers: Cal. Bells, 75@1.25 lug; Chilis, 4@6 lb.

Rhubarb: Box,, 1.00@1.25.

Sacked Vegetables: Carrots, 75@1.00; turnips, 75@1.00; beets, 1.00@1.25.

Spinach: Lb., 3@4.

Squash: Summer, 50@60 lug; Italian, lug, 50@75.

Tomatoes: River, 50@75 lug; small lug. 40@50; Peninsula, 75@85 lug; Plum tomatoes, best, 30@40 berry dr.

### FRESH FRUIT

Apples: New crop, green, 75@1.25 lug box. White Astrachans, 1@1.50; Gravensteins, fancy 3½@4 tier, 1.50@2.00; Alexanders, 4@4½ tier, 1@1.50 box. Red June fancy 1.50@2.50; Crabapples, 75@1.25 lug.

Blackberries: Dr., 20@25.

Pony, 75@85; flats, 40@60; pink meats, 1.25 standard cr.; Honey Dew and Casaba flats, 1.00@1.25; Persian Melons, 1.75@2.00.

Cantaloupes: Turlock standard, 60@75; Pony, 50@60; flats, 25@40; Pink meats, 75@1.00 standard crate; Honey Dew and Casabas, flats, 75@1.00; Persian melons, 1.00@1.50 cr.; 1½@2 lb.

Figs: Double layer box, 1.25@1.50.

Grapes: Thompson seedless, 1.00@1.10 cr.; large lug, 1.25@1.50.

Loganberries: Cr., 1.50.

Nectarines: Cr., 1.00@1.50.

Pineapples: 5.50@6.00 per doz.

Peaches: 50@85 crate; basket, 75@1.00 L. A. lug; large, 1.00@1.50.

Pears: Bartlett, 1.75@2.00; box, No. 2, 1.00@1.50.

Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.

Plums: Best, 85@1.00 cr.; other, 50@75 cr.; lug, 1.00@1.25.

Raspberries: 50@60 dr.

Strawberries: Local, dr., 45@60.

Watermelons: So., 1 lb.

### CITRUS

Grapefruit: Southern Cal., fancy, spec. pack, 7.00@7.50; choice, 6.00@6.50.

Lemons: Spec. pack, 6.00@6.50; choice, 4.00@5.50; Lemonettes, 2.00@3.00.

Oranges: Valencias, fan boxes, 126-216s, 10.00@11.00; 250-288s, 9.00@9.50; smaller, 8.00@8.50; choice, 6@9.00.

### DRIED FRUITS

**Apples, 1922 Packers' Quotations f. o. b. Cal.:**

| | |
|---|---|
| Choice | 10¼@10½ |
| Extra choice | 10½@10¾ |
| Fancy | 12¼@12½ |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— San Joaquins |
|---|---|
| Standard | @19 |
| Slabs | @20 |
| Choice | @23 |
| Extra choice | @24½ |
| Fancy | @27 |
| | Southern |
| Standard | @20 |
| Slabs | @20½ |
| Choice | @24½ |
| Extra choice | @26 |
| Fancy | @28 |

**Figs, 1922, Packers' prices f. o. b. Cal.:**

| | |
|---|---|
| White Adriatic | |
| Standard (in 25s) | @6¾ |
| Choice (in 25s) | @ 8¼ |
| Fancy (in 25s) | @11¼ |
| Extra fancy | @12 |
| Bricks, 12 No. 10s | @1.02½ |
| Bricks, 24 No. 8s | @1.65 |
| Bricks, 53 No. 6s | @2.65 |
| Bricks, 70 No. 4s | @2.75 |
| Layers, 10-lb., 4-row | 1.45@1.60 |
| Layers, 10-lb., 5-row | @1.35 |
| Black Mission | |
| Standard (in 25s) | @12 |
| Choice (in 25s) | @13 |
| Extra choice (in 25s) | @14 |
| Fancy (in 25s) | 16½ |

**Figs, 1922, Cal. Peach and Fig Growers ....Assoc. prices:**

Opening quotations for the 1922 crop of figs released July 24 by the San Francisco representative of the California Peach and Fig Growers' Association, show substantial advances, particularly in black Missions. This grade is quoted at 11¼ cents this year, as against an opening price of 5 cents a pound in 1921.

The complete price list for 1922 crop Blue Ribbon, dried figs follows:

Adriatic—Prime 6¼; standard, 6¾; choice, 8¾; fancy, 11¾.

Calimyrna—Standard, 8¾; choice 11¾; fancy, 14¾.

Black Mission—Standard, 11¼; choice, 14¼, fancy, 17¼.

These prices are for figs packed in twenty-five pound boxes, ¼c per pound less for packing in fifty-pound boxes. Adriatics, ungraded, in bags....7¼c per lb. Adriatic fig paste, 75-lb. boxes 5½c per lb.

| | | | |
|---|---|---|---|
| 12-10 oz., bricks, Adriatics | | | $1.10 per box |
| 24- 8 oz. bricks, Adriatics | | | 1.75 per box |
| 50- 6 oz. bricks, Adriatics | | | 2.80 per box |
| 70-d oz. bricks Adriatics | | | 2.95 per box |
| 24- 8 oz. bricks, Calimyrnas | | | 2.25 per box |

For foil wrap or brick figs add 10c per box.

| Box | Row | | Inches Spread | |
|---|---|---|---|---|
| 10-lb. | 4 layer | Adriatic | 2½ | $1.60 |
| 10-lb | 5 layer | Adriatic | 2 | 1.40 |
| 10-lb. | 6 layer | Calimyrna | 2½ | 1.90 |

PULLED CALIMYRNAS

| | |
|---|---|
| 48-1-lb round box | $10.40 per case |
| 6-5-lb. boxes | 6.60 per bundle |

All prices f. o. b. California common shipping points.

For shipment September, October, November, seller's option.

Terms as per dried fruit contract adopted by the National Wholesale Grocers' Association and the Dried Fruit Association of California, April 23, 1919.

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼@11½ | 15 @15¼ |
| 40-50s | 9 @ 9¼ | 12¼@12½ |
| 50-60s | 8 @ 8¼ | 10¾@11 |
| 60-70s | 7½@ 7¾ | 9¾@10 |
| 70-80s | 7 @7¼ | 8¾@ 9 |
| 80-90s | 6¾@ 7 | 8 @ 8¼ |
| 90-100s | 6¾@ 7 | 7½@ 7¾ |
| 100-120s | in 50-lb. boxes, 6¼ per lb. | |
| 120-up | in 50-lb. boxes, 5½ per lb. | |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @ | @11¼ |
| Choice | @ | @12 |
| Extra choice | @13¼ | @ |
| Practically Peeled— | | |
| Standard | @ | @12¼ |
| Choice | @ | @13 |
| Extra choice | @14¼ | @ |

| | |
|---|---|
| 11-oz. Cartons, 60 per case | 7.00 case |
| 2-lb. Cartons, 24 per case | 8.25 case |
| 5-lb. Cartons, 10 per case | 8.50 case |

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | 12½@13 |
| Choice | 14 @14½ |
| Extra choice | 15½@16 |
| Fancy | 17 @18 |

**Raisins, Sun-Maid Raisin Growers' Prices:**

Under the schedule of prices for the 1922 crop of raisins announced by the Board of Directors of the Sun Maid Raisin Growers to the trade August 9, the growers will receive 5¾ cents for Muscats, 6 cents for Sultanas, and 6½ cents for Thompson's sweat box basis. Northern bleached Thompsons, (Sun Maid quality) oil dipped, soda dipped or choice sulphur bleached Thompsons will bring the grower 6¼ cents. Fancy Northern sulphur bleached (Sun Maid quality) will bring $40 more per ton, extra fancy Northern sulphur bleached (Sun Maid quality) $60 more per ton. Southern bleached (Sun Maid quality) oil dipped, soda dipped and choice sulphur bleached will net the grower 6¾ cents. Fancy Southern sulphur bleached (Sun Maid quality) will bring 9cents. Extra fancy Southern sulphur bleached (Sun Maid quality) will bring 9 cents. Extra fancy Northern or Southern bleached packed by growers, (California brand) soda dipped, oil dipped and choice sulphur bleached are named at 5¾ cents. The price for fancy sulphur bleached (California brand) 9¼ cents. Muscat layers 3 and 4 crown, all packs will bring 7 4-10 cents. Six crowns will net 8 4-10 cents. A $15 bonus will be paid for making layers in addition to half-cent quality bonus for extra standard grade. Layers will be settled for on packout basis as provided for in the crop contract. "These prices," said F. A. Seymour, general manager, "will be returned to the grower on a sweat box basis. Their realization, however, depends upon the disposal of the entire crop at the new prices named by the board."

1921 crop practically sold out.

### HONEY

Northern California: Demand and movement light. New crop reported to be of fair size but not yet on market in sufficient quantity to stabilize prices.

Prices f. o. b. San Francisco in carlots range per pound—water white sage, 9½; white sage 9; light amber sage, 7½@8; light amber alfalfa, 6@6½. Hawaiian honey quoted per pound f. o. b. San Francisco, water white 6½; light amber, 5½; dark amber, 5¼; honey dew honey, 3¾.

### BEANS

California Bean Growers f. o. b. Cal. c. r. c.

| | |
|---|---|
| Large Whites | 5.75 |
| Small Whites | 6.00 |
| Pinks | 5.10 |
| Mexican Reds | 4.15 |
| Red Kidney | 7.75 |
| Cranberries | 7.50 |
| Bayos | 5.00 |
| Blackeyes | 4.00 |
| Henderson Bush Limas | 8.50 |

### HAY AND FEEDSTUFF

A. W. Scott Co. says under date of August 19:

Receipts past week 1765 tons as compared with 2282 previous week. The San Francisco market has continued slow and dull. Export and coast shipments have been more active and with better life than for some time. Interior trading has been heavier and several large holdings have changed hands. In general, the selling prices have been at lower levels than producers have been asking for some weeks. Railroad conditions have hastened shipment for fear of a tieup, which caused farmers to crowd everything on to the transportation lines. Alfalfa has been doing better than for some time. This has apparently been caused by a general demand from consumers in every section who seemingly fear shortage of cars or blocking of traffic will prevent them from getting their supplies later on. At the present writing, it looks as though a settlement of railroad strike conditions is imminent and this sudden demand is likely to drop back to the quiet conditions that have seemed to become almost normal.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions).

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@17.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 14.00@16.00 |
| Wild Oat and Barley | 10.00@12.00 |
| Alfalfa Hay | 13.00@15.00 |
| Stock Hay | 9.00@11.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 27.00@28.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 30.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 55.00@60.00 |
| Coconut Meal | 31.00@33.00 |
| Alfalfa Meal | 20.00@22.00 |
| Cottonseed Meal | 50.00@55.00 |
| Sugar Beet Pulp | 32.00@34.00 |
| Molasses tank, 17.00, Bbls | @25.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices S. F. Grain Exchange, August 21, f. o. b. S. F. warehouse and storage charges paid.

Barley Feed. 1.15@1.20; shipping, 1.25@1.35.

Wheat Mill, 1.80@1.85; Feed, 1.80@1.85.

Oats: 1.60@1.75.

Corn: White Egyptian, nominal; colored milo, 1.80@1.95; No. 2 bulk, 1.80@1.99; No. 2 Eastern yellow, 1.51@1.57.

## Citrus Markets

### AT THE AUCTIONS

**August 16**

New York: 12 Val., 2 lem. Val. 3.90@11.30, grapefruit 4.70@6.35, lem. 3.75@5.50.

St. Louis: 3 Val., 3 lem. Val. 4.05@6.00, lem. 2.70@5.05.

Pittsburg: 3 Val., 2 lem. Val. 2.35@7.90, lem. 3.00@4.55.

Boston: 6 Val., 2 lem. Val. 3.50@9.70, lem. 3.90@5.25.

**August 17**

New York: 12 Val., 3 lem. Val. 3.45@11.65, lem. 3.40@5.50.

Boston: 5 Val., 1 lem. Val. 4.20@8.60, lem. 5.40@5.55.

Philadelphia: 4 Val., 1 lem. Val. 2.80@7.75, lem. 4.25.

**August 18**

St. Louis: 2 Val., 4 lem. Val. 2.10@10.00, lem. 3.15@5.95.

New York: 9 Val., 1 Aus. Nav., 2 lem. Val. 4.20@11.10, lem. 5.75@6.65, Aus. Nav. 7.15.

Cleveland: 2 Val., 3 lem. Val. 3.90@5.50.

Philadelphia: 2 Val., 1 lem. Val. 5.25@7.20, lem. 2.25@5.25.

**August 21**

New York: 20 Val., 3 lem. Val. 2.95@11.65, lem. 2.85@7.10.

Philadelphia: Val. 2.75@9.75, lem. 1.80@3.15.

Boston: 6 Val., 1 lem. Val. 2.50@8.25, lem. 6.20@7.40.

Cleveland: 3 Val., 2 lem. Val. 3.55@7.45, lem. 6.85@7.95.

Pittsburgh: 2 Val., 3 lem. Val. 4.20@5.60, lem. 1.65@4.60.

**August 22**

New York: 15 Val., 1 lem. Val. 2.70@11.30, grapefruit, 5.35, lem. 7.90.

Boston: 5 or., 1 lem. Val. 3.65@9.00, lem. 6.45@7.05.

Philadelphia: 3 or., 1 lem. Val. 4.10@8.65, lem. 2.10@3.20.

Pittsburg: 1 lem. 2.85@5.00.

Los Angeles, August 23, 1922.

Because of transportation difficulties light receipts of Valencias in eastern markets have still further strengthened prices but because of small quantity remaining for shipment growers are sitting easy. Estimates of new crop not considered of much value till next month.

Hot weather in the East has improved lemon prices. Strong demand from all points. 24,000 boxes of foreigns available in next 30 days.

**Citrus Shipments**

Shipments of citrus fruits to date since November 1, 1921. Southern California: Oranges, 21,047 cars; lemons, 8,763; total, 29,810. To same date last season: Oranges, 35,399; lemons, 9,907; total, 45,306. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,603 cars; lemons, 185; total, 6,788. From Northern California to date this season: Oranges, 372; lemons, 8; total 380. To same date last season; Oranges, 305; lemons, 5; total 310.

## CALIFORNIA CATTLEMEN'S REPORT

San Francisco, August 21.—The Chicago market received slightly less cattle during the past week and showed an increase of approximately 25 cents per hundred compared with the week previous.

The San Francisco market remains strong, with a particularly good demand for really choice fat cattle. Sales are reported at 7 cents f. o. b. ranch for steers in nearby counties, and 5½ cents f. o. b. ranch for cows. Sales are reported in Tehama County for 6½ cents f. o. b. ranch for steers and 5¼ cents for cows, in Lake and Mendocino Counties at 6½ cents for steers and 5 cents for cows f. o. b. ranch, and in Siskiyou County at 6½ cents for steers weighing approximately 1100 pounds and not extra good. Additional sales have been made in Siskiyou County for somewhat better steers at 6¾ cents f. o. b. ranch. Sales in Alameda and Stanislaus Counties are reported at 6¾ cents for steers and 5¼ cents for cows f. o. b. ranch, although these cattle were not really prime.

The Los Angeles market reports additional sales at 6½ to 6¾ at the ranch in considerable numbers with several sales as high as 7 cents f. o. b. ranch for choice grass fat cattle. The Los Angeles market remains strongest for veal, 8½ to 9 cents being paid in the country.

Both the San Francisco and Los Angeles markets report an increase in consumption of all meats, due to opening of schools. Dressed beef remains steady to strong.

The railroad strike situation has been sufficiently cleaned up so that railroad officials advise us that there will be no difficulty in moving cattle within the state. Use your association to secure cars and good runs for your cattle being shipped to market.

The supply of fat cattle in the state continues to be short, and buyers are agreed that the supply will continue short even with the supply of cattle coming from high summer ranges.

A meeting of cattlemen will be held during the state fair at Sacramento on Friday morning, September 8, at ten o'clock, in the main building. Plan to attend the state fair and the cattlemen's meeting.—R. M. Hagen, Secretary.

## SNAPPY NOTES ON THE LIVESTOCK MARKET

Any error herein is unintentional and subject to correction the following week. This summary is assembled from the best sources obtainable, and both producers and packers can assist by reporting actual sales or buys, giving names, dates and facts, and we will, if requested, withhold names. All we want is fact and a fair deal and correct information for the producers. Address A. L. Spellmeyer, care California Cultivator, 317 Central Avenue, Los Angeles. The Cultivator reaches over 40,000 producing farmers and livestock men.

* * *

General offers are made on a basis of 6 cents for steers and 4½ for cows that are fat, with some buys on a 6.50 basis for medium weight steers, and priced f. o. b. range Southern and Central California.

The demand is for heavy steers. The island steers are bringing a 7.45 price delivered Los Angeles, and they have good ones. A contract is rumored of 7 cents, f. o. b. Kern County for choice steers, and small lots sales of medium steers have been made on a 5 cent basis near Los Angeles. Rumor states one lot of choice fed steers that will finish in Los Angeles in September is held at 8 cents.

The lamb prices are reported to average 9.50 f. o. b. ranges, but sales have been made as low as 8 and as high as 10 f. o. b. Arizona and as high as $7 per head on Arizona lamb contracts, though feeder lambs f. o. b., Arizona have been contracted by the tens of thousands at 10.50 strong, f. o. b. shipping points, to go to Colorado.

Swine are rather weak around the 10.50 Los Angeles mark, but there is an unfilled demand for volume at those prices.

Carcass prices show some adjustment, with lambs anywhere from 18 to 24 to hard buyers and up to 25 and 27 in other districts. Beef carcass price, especially cow beef, is being cut as low as ten cents, and the intention of grouped cattlemen is to force up this small lot bargain bought cattle, which permits such carcass offering. The volume killer cannot buy 8 cent steers unless a fair carcass price is maintained.

There is a strong feeder demand for steers that will cost five cents delivered to a range. The small lot low beef prices are delaying contracts for feeders.

**Arizona**

Range is good and rains have been plentiful in Arizona. David Babbitt states northern Arizona is a garden spot now. Gaddis says the Kingman range is well soaked and in fine shape. Adolph Schuster says the Holbrook country has had fine rains. Marteny states that southern Arizona will have some beef this fall. Lamb crops in Arizona have been fair. One outfit has 9,000 lambs from 12,000 ewe stock, or 75 per cent. The lambs will go at 65 pound average, and they are offered 10.50 f. o. b. for the feeder end. The Schuster lambs contracted for 10.50 Holbrook and will probably go close to 55 pounds.

Arizona prices on cattle figure generally $25 for fall delivery yearling steers, $35 for twos and $45 for threes, or 5 cents f. o. b. delivery point by weight. The mountain men are taking 10,000 steers locally in Arizona from the valley men and are not yet filled though they have been offering a slight reduction under the $25 yearling price asked. Over 5000 steers went to Flagstaff ranges already. There will be about 25 per cent of the usual number of large steers offered each year from northern Arizona, and the beef proportion will be large, and very few will reach this market as feeders from that source. If any margin exists they will probably be fed out in Imperial or here by the owners. Southern Arizona will have some fat cattle in light steers it is claimed. They are held at a head price that about equals 6 cents f. o. b. Arizona, and several thousand are now offered for contract for fall delivery.

**New Mexico**

In some parts at this writing the New Mexico livestock situation is very serious, for the drouth persists, only broken by inadequate showers. J. B. Herndon, president of a large bank of Albuquerque, worn out with his intensive efforts in behalf of the livestock men, has been recuperating in California, and though not fully recovered is returning to New Mexico. Mr. Herndon is known as a "white" banker and has secured through war finance and other sources more than nine millions for the New Mexico livestock men. Without his effort New Mexico conditions would be more serious than they are now.

New Mexico feeder lambs have been contracted up to 11.50. They will run light, and are subject to less freight to Colorado hence the higher price over Arizonas.

New Mexico cattle are held at $25 for yearling steers, $35 for twos and $45 for threes. They are light and generally not in condition to sell by weight. There are bargains offered in stock cattle in the dry districts. One New Mexico cattle man is offering 2000 steers at $34 for twos and $45 for threes.

The general calf crops in both Arizona and New Mexico are light this year. Arizona with good feed probably has a 150,000 1922 calf crop as compared to a 400,000 former average. The New Mexico calf crop is estimated by one man at 10 per cent this year, with the New Mexico lamb crop at 25 per cent and the breeding sheep loss at 20 per cent. All this must indicate to a blind man a certain shortage next year in Arizona yearlings and New Mexico cattle and sheep.—A. L. Spellmeyer, August 21.

### WEATHER REPORT

U. S. Weather Bureau at San Francisco, week ending Aug. 19, 1922.

| Stations | Rainfall Week | Season | Norm. | Temp. Max. | Min. |
|---|---|---|---|---|---|
| Eureka | 0 | .03 | .14 | 66 | 50 |
| Red Bluff | .04 | .04 | 0 | 94 | 60 |
| Sacramento | 0 | T | 0 | 90 | 54 |
| San Francisco | 0 | T | .01 | 70 | 52 |
| San Jose | 0 | T | .02 | 82 | 46 |
| Fresno | 0 | T | 0 | 96 | 56 |
| San Luis Obispo | 0 | T | .03 | 84 | 50 |
| Los Angeles | 0 | T | 0 | 82 | 58 |
| San Diego | 0 | .01 | 0 | 76 | 62 |

## FINE POULTRY AND LIVESTOCK SHOW AT PETALUMA

The Sonoma-Marin Counties Fair, which was transferred from Cotati to Petaluma this year, was a decided success with Petaluma poultry its big feature.

The accommodations were first class and the attendance large.

The poultry was judged by Prof. James E. Rice of Cornell University, and Prof. J. E. Dougherty of the U. of C., strictly on a utility basis. This is the first show of this kind on the coast and proved very popular. Over 1500 birds were entered by 90 breeders and all were White Leghorns for which Petaluma is famous.

The livestock show was made up principally of dairy cattle and hogs. A. B. Humphrey of Escalon was one of the big exhibitors with Guernsey cattle and Berkshire hogs. Dr. Summerfield showed Tamworth hogs and A. Brieshoni Hampshires. A number of local men showed Duroc hogs, Holstein and Jersey cattle. The Ayrshire show numbered 30 head, mostly from the La Baron herd at Valley Ford. T. T. Harrison of Santa Rosa showed a good herd of dairy Shorthorns. Prof. E. H. Hughes of Davis made the awards on cattle and hogs.

## FUSARIUM TUBER ROT

Circular 214 on fusarium tuber rot of potatoes has just been announced by the department of agriculture. It treats of the different forms in which the disease appears under different soil and climatic conditions and should be of interest to all commercial growers of potatoes. Copies of the circular may be obtained by addressing Department of Agriculture, Washington, D. C.

The soils of practically all the potato growing regions of the country are infested with species of fusarium which cause tuber rot. These fusaria are closely related molds or fungi, and the disease takes different forms under different conditions of soil and climate. The same fungi also cause a disease of the plant known as fusarium blight or wilt.

Under storage and transit conditions powdery dry rot is the most common fusarium tuber rot in the western states. Jelly end rot, which predominates in long tubers of the Burbank type, and black field rot, which is especially severe in the Idaho Rural variety, are other western types of the disease. The mushy, leaky, grayish type of the rot is predominantly a southern disease. The blight or wilt occurs only in the warmer potato sections. It does not occur abundantly, if at all, in the earliest Florida crop, or in such cool districts as Maine or Oregon.

With the exception of crop rotation, no effective measures are known for the control of types of tuber rot that are primarily field diseases. However, there are a number of practices that help to reduce losses. It is desirable to use seed from plants free from the blight. Crop rotation and good culture are recommended. In the west losses by blight are avoided to some extent by planting whole seed.

The loss that occurs after harvesting may be cut down by careful handling during and after digging to avoid cuts and bruises. Potatoes should not be handled as if they were stones. Before storing, diseased, frozen, or badly bruised tubers should be culled out. Some storage and transit types of the disease may be controlled by keeping the potatoes in a dry place at a temperature between 32 and 40 degrees Fahrenheit.

## HONESTY IN CALIFORNIA TRADE NAMES

Not long ago the federal trade commission handed down a ruling in the case of a New England textile manufacturer, forbidding the use of the name "wool" or other words signifying wool for goods of which the principal ingredient was cotton or anything else other than wool. A decision of somewhat similar character has been given by a New York court in the case of a jeweler who sold as "sterling" a belt buckle not made entirely of silver. The New York judge rules that when the word "sterling" is stamped upon an article all parts of the article so stamped must contain at least .925 pure silver. The same general principle will shortly be applied to everything bearing as part of its name or trademark the magic word "California."

Factories distributing dairy products, growers and shippers of fresh fruit, melons, onions, lettuce, celery and other vegetables, sun dried and dehydrated fruit establishments should maintain the agricultural integrity of "California" by seeing that their respective products live up to implied guarantees and representations.

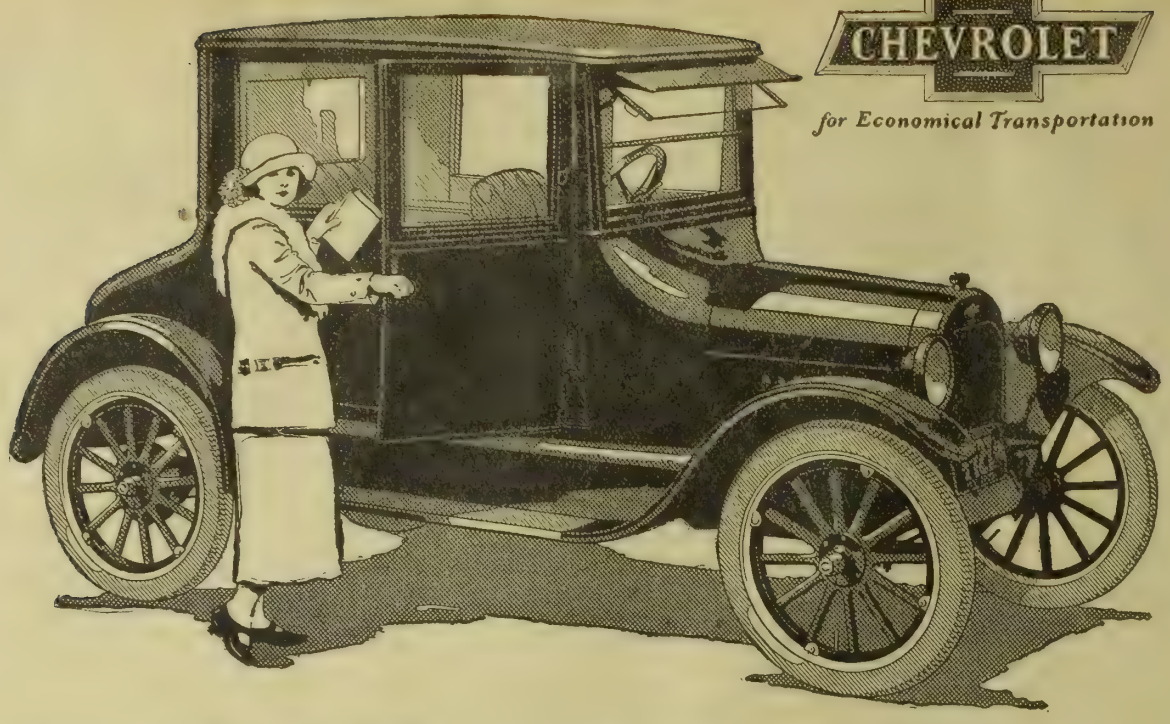
Study the state standardization laws where such apply to your products and live up to them in every detail. You will then not only maintain the excellent standard of California's offerings but also benefit yourself in a financial way.

## MILDEW OF ROSES

When mildew attacks bush roses in the open garden it will not do to say much about proper circulation of air, but examples are known of climbing sorts that mildewed on buildings and which were freed of the trouble, without moving the roots, by placing the plant on a trellis, free from the house, so air could circulate freely on all sides.

Sulphur fungicides are best for mildewed roses—lime-sulphur, potassium sulphide, dilute sulphuric acid (1-1,000), all are used as liquid sprays, but Prof. L. M. Massey, plant pathologist at Cornell University says dust sprays are better. He advises 90 parts sulphur to ten parts arsenate of lead. California farmers use much Bordeaux mixture and should try it on the rose bushes for a 5-5-50 mixture holds all mildews under fairly good control.

Keep seed pods off all plants if you would have the best development.



CHEVROLET

*for Economical Transportation*

# For the Woman on the Farm

## *Chevrolet Four Passenger Coupé*

**$840** *f. o. b. Flint, Mich.*

Every farm should have two cars.

The farm car—usually an open touring model, is used for carrying milk cans, merchandise, etc., and is seldom in condition for going to church, shopping trips to town, or for making calls in the neighborhood.

Moreover, the farm family with only one car is at a great disadvantage. As a rule the family have disposed of their driving horse, so when the farmer is using the one car, the women and the children of the family must stay at home.

The New Superior Chevrolet 4-passenger Coupé is ideally suited to overcome these conditions. It is a splendid, all-year, woman's car for the small farm family. It has fixed seats for three and a folding fourth seat.

For a larger family, the New Superior Model Chevrolet 5-passenger Sedan is recommended.

Both of these cars have Fisher bodies, beautiful in line, finish, upholstery and interior appointments. The mechanical equipment is the same that has given the New Superior Chevrolet line such an excellent reputation and first place in the sale of standard fully equipped cars.

This Chevrolet Coupé can be easily operated by any woman and has a remarkably low cost of operation and upkeep.

## Chevrolet Invites Comparison Because Comparisons Sell Chevrolet

Consider What Chevrolet Equipment Means:

*Standard Rear Axle Construction. The new Superior Chevrolet has the strong, quiet, Spiral Bevel Gear Axle that "stands the gaff" without breaking.*

*Standard Transmission*—three speeds forward and one reverse.

*Standard Braking System*—foot service brake, hand emergency brake.

*Standard Electrical System:* Starter, storage battery, Remy ignition, electric lights front and rear on battery circuit.

*Standard Cooling System*—pump circulation, large, honey-comb radiator and fan. This means a cool, efficient engine, saving gasoline and oil and ensuring driving comfort.

*Standard Instrument Board,* containing speedometer, ammeter, oil pressure gauge, lighting and starting switch and choke pull.

*Standard Type of Carburetor,* with exhaust heater—one reason why you get most miles per gallon of gasoline with a Chevrolet.

*Powerful Valve-In-Head Motor.* The same type as used in successful cars selling at much higher prices.

*Demountable Rims*—extra rim on rear. No trouble to change tires on a Chevrolet.

*Many Other Advantages* which will be noticed on inspection, comparison and demonstration.

***Investigate the Difference Before You Buy***

## Chevrolet Motor Company, Detroit, Michigan

***Division of General Motors Corporation***

PRICES F. O. B. FLINT, MICHIGAN — Touring, $525 Roadster, $510 5-Passenger Sedan, $860 4-Passenger Coupe, $840 Utility Coupe, $680 Light Delivery, $510 Commercial Chassis, $425

**Chevrolet is the World's Largest Manufacturer of Low-Priced QUALITY Automobiles**

**There are 5,000 Chevrolet Dealers and Service Stations Throughout the World**

**Applications will be Considered from High Grade Dealers in Territories not Adequately Covered**

C A

# California State Fair, Sept. 2-10

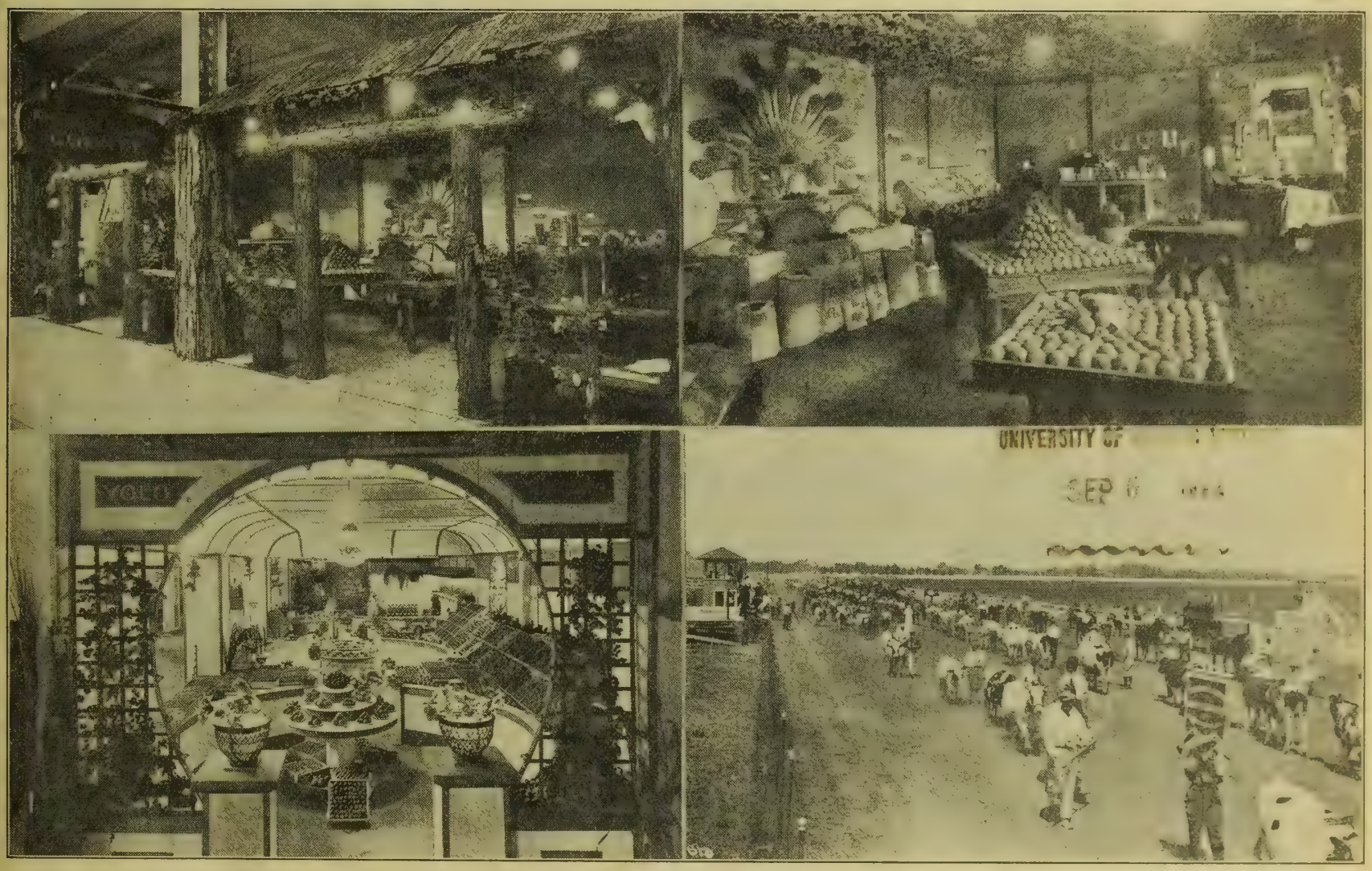

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — September 2, 1922 — No. 10


## Exhibits at Former State Fairs at Sacramento




Three of the scenes shown above were in the horticultural building, and the fourth, or lower right hand photograph, was taken on a Thursday morning when the governor comes out and sees the million dollar livestock parade. It may be noted that there are four lines on the track at the time the photograph was taken. The Ayrshires are coming up in the foreground, the Holsteins are marching down next near the center, the drafters are coming up over near the fence, while the ponies, tandems and fourinhands are going down on the fourth line. A visit to the state fair gives a start in a fairly liberal education.

LOOK FOR THE BLUE PLOW

# "Knapp" Plows

LOOK FOR THE BLUE PLOW

## "KNAPP"

Reversible Plows for Hillside, Vineyard, Orchard and Garden Plowing
A leader for over 50 years.
Made in six sizes.

Straight grain oak handles, rock maple beam.

Shares and Moldboards made of High Carbon Plow Steel.

No. 3 Four-horse Land Breaker for clearing new land.

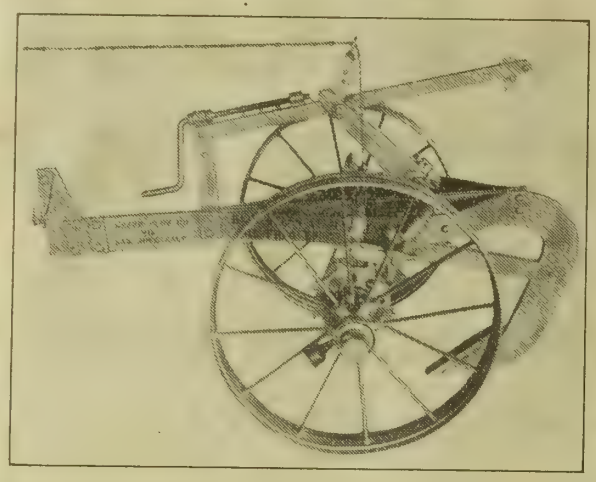
No. 4 "Grader's Pride"—heavy duty—light weight Grading Plow.

No. 6 "Ocean Shore Grader" largest and strongest reversible grading plow made. Built for railroad and heavy construction work.

Nos. 1, 2 and 2-S, made for hillside, vineyard, orchard and garden plowing.

## "KNAPP" LIGHT DRAFT Subsoil Plows

"Fordson" Size



No. 20 (Fordson Size) Knapp Light-Draft Subsoil Plow.

A tool for each size tractor.
Standard sizes.
No. 20—Depth of Standard 18 Inches
No. 24—Depth of Standard 24 Inches
No. 30—Depth of Standard 30 Inches
Built of HIGH CARBON STEEL with ELECTRIC STEEL CASTINGS.
Rigid frame construction, positive power lift.
20% lighter draft.
Better results at lower cost.

## "KNAPP"

Power Lift Orchard and Field Tractor Disc Plows with Ridger—Ditcher—and Subsoil attachments.
A "Three-in-one" tool.

Lifting Plow to Cross Road

Designed and built in California to meet California conditions and requirements of the California Farmer, Orchardist and Vineyardist.

Ask your neighbor who owns a "New Model" Knapp.

Its rigid frame and disc penetration makes easy plowing out of the hardest soil.

If Your Dealer Does Not Stock "KNAPP" Plows,—Write Us for Catalogue and Name of Nearest Dealer

## Knapp Plow Company, Inc.

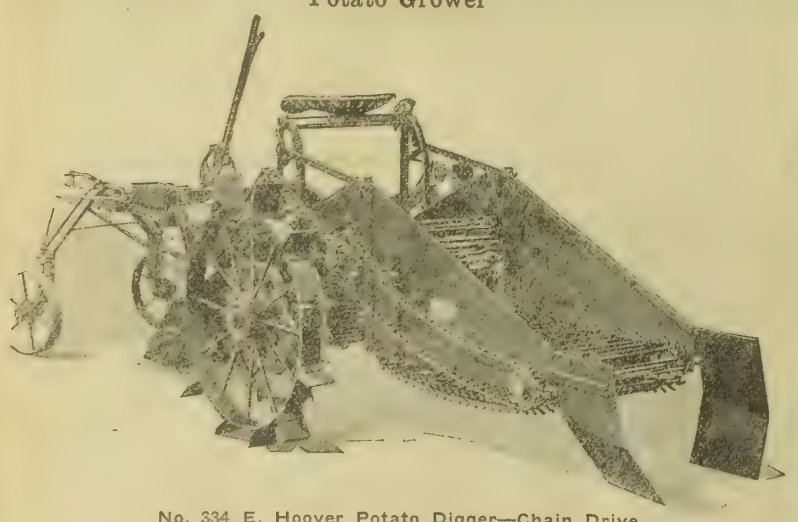
SAN JOSE — Builders of Plows Since 1871 — CALIF.



# Hoover Potato Diggers

## Harvest Millions of Bushels Every Year Most Economically

There is a Hoover Digger Built to Meet Every Condition
Last Longer—Do Better Work—Make Bigger Profits for the Potato Grower



No. 334 E. Hoover Potato Digger—Chain Drive

The power to operate the machine is transmitted from the large drive sprockets by Locke tempered steel chain to hardened steel sprockets on the main elevator shaft, which makes a direct driving arrangement.

Roller bearings—quick-turning, patented, double-action front truck; specially shaped, high carbon crucible shovel.

Hoover Diggers are noted for their better separation of the potato from the stalks, weeds and earth—and they get out more potatoes.

SEND FOR DESCRIPTIVE LITERATURE

## John Deere Plow Company

San Francisco, Cal. — Los Angeles, Cal.



# Tenth Annual Southern California FAIR

*Riverside, October 10-15, 1922*

*The Greatest Fair in the Great Southwest*

FEATURING

## THE JUNIOR FAIR

Boys and girls of 67 different high schools in the Southland will participate.

Pig Clubs, Calf Clubs, Poultry Clubs, etc.

Boys and Girls Stock Judging Contests.

## SEE THE MODEL FARM

A splendid demonstrational exhibit with its model dairy, silos, farrowing pens, orchard, etc.

GREATEST AGRICULTURAL SHOW EVER HELD

LARGEST SHOWING OF BEEF BREEDS & DAIRY CATTLE

U. S. DEPARTMENT OF AGRICULTURE WILL EXHIBIT

STATE DEPARTMENT OF AGRICULTURE DEMONSTRATIONS

HIGH CLASS RACING DAILY

POULTRY SHOW, RABBIT SHOW, GOAT SHOW, ETC.

AUTOS—TRACTORS—INDUSTRIAL

The Southern California Fair Sets the Pace

# California Cultivator

Vol. LIX, No. 10 Los Angeles, September 2, 1922 One Dollar Yearly


# The State Fair From an Educational Standpoint

By M. C. Holman

WITH the opening of the state fair on Saturday, September 2, California again assembles the most luscious fruit from her orchards, vegetables from her gardens, the prize winners from her livestock pens and products from her great factories. Visitors will have an opportunity to view some splendid racing, which is, to a limited extent, a revival of the olden times when the turf was the vortex of sporting activities. There are side shows full of wonders brought from the far corners of the earth, and one can find much amusement in taking a peek at the seeming impossibilities of Nature's work.

But the state fair is vastly more than the fluttering of colored banners, the playing of bands, and amusement features; it is an educational institution replete with courses fully illustrated and diagramed for your observation. The man who goes to the state fair solelly for the purpose of having a good time fails to get the great lesson for which the agricultural show was instituted and for which it is maintained.

There are so many and such varied educational features that the visitor may spend three or four days profitably, making a careful study and analysis of those things which have interested him on the farm and which have influenced his crop for better or for worse.

The exhibit of the University of California is always interesting and can well be given very thoughtful consideration. The splendid display of rodent destruction merits careful study. Whether one is using trap, carbon bisulphide or other means of extermination, one cannot fail to gain valuable information through the actual illustration of the various methods which have been successfully employed.

Fertilization, with examples of methods of proper application of various fertilizers, should be of interest to everyone engaged in the raising of crops.

In the big power-on-the-farm tent the various tractors will be shown with their working parts exposed, giving the operating story of the machinery through actual illustration, and competent demonstrators are always on hand with full information relative to their respective tractors.

One of the main features in connection with the tractor tent is the lecture room, conducted by Prof. L. J. Fletcher, of the engineering department of the University of California. Prof. Fletcher and his corps of assistants lecture upon the care and operation of every part of the tractor and are always glad to answer any question relative to troubles which may arise and the methods employed for their elimination. These lectures include repair of broken parts, and proper adjustment of the delicate mechanism that enables the tractor to properly render the service for which it was built. Anyone who uses a tractor will find great benefit from these lectures and a day can profitably be spent in the lecture tent.

Near the tractor tent is the great dairy barn where milking machines are in almost constant operation. Sanitary barn equipment is used exclusively and the construction, benefit, and operation of this modern equipment can be carefully noted and studied.

Much use is made of electricity on the farm, and those who are not connected with the main power lines of California's big supplying stations will be interested in observing the various home lighting plants which are on display. These lighting plants offer tremendous convenience to the farm home that is remote from available service. Different methods of producing light and generating power may be studied and can be fully explained while one is on the ground.

Several types of silos are erected at various points of vantage, and the relative value of concrete and wood as silo material may be advantageously considered together with approximate cost, durability and capacity of a given size.

The big agricultural building is the center of attraction. This building contains splendid exhibits from various counties, chambers of commerce and private owners, and whether one is interested in agriculture, horticulture or mining, the exhibits cannot fail to arrest one's attention. The gallery is filled with splendid pictures showing the danger from and proper disposition of refuse, the treatment of various diseases of cattle, poultry, hogs, horses and sheep, the proper handling of milk, soil analysis, pruning of trees and vines, blasting of stumps, together with illustrations showing hundreds of improvements which go to make the agricultural home a prettier place and a better place to live. As a stimulant to the production of bigger and better fruit and vegetables the agricultural building shows many striking examples of what can be done through proper selection, cultivation and care.

The educational building is filled with splendid exhibits of the work done by children in the graded schools of California. It is with considerable pleasure that one views these splendid achievements and realizes that little hands, under the guidance of patient and persevering instructors, are able to produce such splendid art work, such attractive needlework and such accurate fabrications from wood. The products of our Indian school make us know that the state is doing wonderful work for the Redmen. The exhibits of the deaf, dumb and blind show what results can be accomplished by these greatly handicapped children. So many examples of technical skill are on display that one may profitably spend half a day in the educational building.

The woman's building is particularly interesting from an educational standpoint. The work of women from all over the state is assembled within its walls. It tells a story of the splendid work that women are doing for the beautification and convenience of the modern home. Practical utility holds a dominant place in the displays. The art gallery is well stocked with splendid pictures which may be studied to advantage.

Every modern agriculturist is interested in automobiles. At the state fair one has an opportunity of viewing nearly all of the popular models in various styles, for they are assembled under one mammoth roof near the entrance to the grounds. Their various points of advantage may be observed through the operation of the exposed models, and one whose mechanical inclination has been encouraged will find much to interest him in this exhibit.

The livestock department is always one of the main features of the state fair and this year the various departments bid fair to contain a greater number of separate entries than they have ever had before. It is most in-

(Continued on Page 246)

# A Hemet Laying House

By Jean A. Koethen

NEARLY every poultry community in Southern California has its own type of laying house. In Pomona we see many no-yard houses of the Weeks type, long and narrow, with the birds in small flocks. At Inglewood no-yard houses holding 75 to 100 hens each are being tried out. In the San Fernando Valley district the hens are in large flocks but the houses, instead of being all open front, are closed nearly two-thirds of the distance from ground to roof. Around Riverside they are mostly open in front with fairly large flocks.

In Hemet we found a house different from any of the above. It is on the ranch of H. S. Brown in the Fruitvale district, and was copied, we were told, from another in the same district. This house is 50 feet by 24, with gable in the middle and an alley dividing the house from end to end. On each side of the alley are five sections, each about 10 feet square and designed to hold 50 hens. This makes 750 hens to the house when all the sections are filled.

The floor is cement. Each section, instead of being wired in in regular-fashion, is boarded up solid except for a large window and a low door through which the birds reach the outside run. Additional ventilation is supplied through transoms at each end of the alley and also through the alley doors which may be left open or shut as occasion demands. Feed hoppers, nest boxes, water fountains and green feeders are all arranged along the alley so that it is necessary to enter the sections only for cleaning. On cleaning days a small truck is run along the alley and the droppings are quickly removed.

A Double Laying House

Note the window and door for each inside run. Liberal circulation of air is provided by end doors and transoms.

Mr. and Mrs. Brown plan to keep 1000 chickens regularly in their two houses. They have now about 300 three year old hens which in May were laying 80 per cent, a remarkable performance. One hundred fifty yearlings have done nearly as well, and a small pen of R. I. Reds averaged 290 eggs last year.

Chickens are only a side line with the Browns, who have 40 acres planted to fruit, but they believe that aside from the income from eggs 1,000 hens will be invaluable as producers of fertilizer.

Cleanliness is the keynote of the care of the flock. Droppings are removed daily, and the entire house is sprayed once a week. Every two weeks the litter in the scratching pens is changed and the old litter used on the orchard.

# Agricultural News Notes of the Pacific Coast

## Northern California

The state fair at Sacramento, September 2-11.

Petaluma shipped three carloads of eggs to New York August 2.

Two cars of Wickson plums were sent from Lincoln, Placer County, to Havana.

Threshing of horse beans has commenced about Redwood City, San Mateo County.

The Tehama County peach growers contest has been closed. Twenty-four entries were made.

Date of bond election on the Sutter-Butte by-pass assessment has been changed to September 23.

One million cases of pears valued at $4,000,000 were produced this season in Sacramento County.

For the week ending August 9 shipments of eggs from San Francisco to Hawaii totaled 40,000 dozen.

The chamber of commerce of El Dorado County has been conducting plum and pear packing schools.

Sheepmen are encouraged over upward trend of wool prices. Modoc lambs are averaging seven dollars a head.

Miss Anne Polak has been appointed home demonstration agent for Glenn County, and has already assumed her duties.

The Butte County Beekeepers Association is asking that a bee school be conducted by the state university at Chico this fall.

The annual meeting of the California Holstein-Friesian Association will be held at the state fair grounds at Sacramento, September 4.

The section of the Tahoe-Ukiah highway, now in course of construction from Ukiah to Upper Lake, will be completed by the end of this year.

Due to favorable weather conditions most of the rice fields in the Biggs section are two weeks ahead of the crop of last year on a corresponding date.

Reforestation measures that will mean that the timber resources of Lassen County will never be exhausted are being carried out by the Fruitgrowers Supply Company at Susanville.

The second annual convention of the Placer County fruit growers is to be held at Auburn, October 4 and 5. Attention of the convention will be directed to subjects of interest to fruit growers in Placer County.

The value of cargoes carried on the Sacramento river during the year 1921 was $52,092,000 and the tonnage was 976,596, according to the report issued by Major U. S. Grant of the United States army, engineers division.

Preliminary surveys by the city engineering department show it is feasible to develop a hydro-electric system for Sacramento, on Silver Creek, upon which the city authorities have filed claims. Figures on construction costs are now being compiled.

The South Shore Port Company has just completed the dredging of a channel two miles in length from the south end of San Francisco Bay to Kingsport, otherwise known as Port Sunnyvale. The opening of this port is expected to prove a boon to shippers and importers of the Santa Clara Valley.

## Central California

Kern County has decided not to hold a fair this fall.

The Giant Forest Park will remain open until October 10.

There is talk of establishing a lettuce packing plant at Salinas.

Tulare County shipped out 61 carloads of cantaloupes this season.

California Farm Bureau Exchange closed its grain pool, September 1.

The first California Citrus Institute will be held at Lindsay, September 6.

Grape growers are urged to test their raisin grapes for sugar content before picking.

Tehachapi pear festival will be held September 4; Rio Bravo community fair, September 9.

The California Almond Growers Exchange is expected to set prices about September 10.

Stocks of beans in warehouses in California, August 1 were 262,980 bags, one-third supply on hand last year at same date.

The Cooperative Cannery at Modesto expects to handle a big yield of Bartlett pears from the Oakdale district.

California Olive Growers is planning an advertising campaign among retail grocers of the East to make known the value of ripe olives.

Difficulty in obtaining box shook is worrying grape growers in the Manteca section. Only about 30 per cent of the shook needed has been obtainable.

First National Bank of Porterville has offered a prize of $25 to the member of the farm bureau who has the best kept roadside at the end of the year.

Work is being rushed on the new packing house for the Richgrove-Jasmin Citrus Association which will handle fruit of growers in southern Tulare and northern Kern.

Water Master Kaupke of the Kings River is making plans to extend the snow survey farther into the Sierra Nevada to secure accurate data on the whole Kings River watershed.

Inyo County sheep raisers report getting good prices for their sheep. Breeding ewes are now bringing $10 to $12 a head, with many sales reported at $11. Sheepmen expect that the price will go to $16 this year.

Following the lifting of embargos on the Santa Fe railroad, fruit movement from the San Joaquin Valley is rapidly approaching normal. Cool weather has made it possible for the growers to leave their fruit in the orchards and vineyards.

The Pine Flat project is rapidly nearing realization. Seven irrigation districts have now been formed and petitions for the enlarged district are being circulated throughout Fresno, Kings and Tulare Counties. The state engineer's office is preparing to make preliminary borings for the proposed dam.

Frank L. Blain of Exeter has been elected president of the California Cooperative Canneries. The three big plants of the California Cooperative Canneries at San Jose, Visalia and Modesto, are operating to full capacity on peacnes and pears and have completed the largest pack of apricots in the history of the company.

## Southern California

Imperial County has given up holding its fair this year.

Lima bean cutting has commenced in the Oxnard section.

The Oxnard sugar factory began the season's run, August 19.

The Orange County fair will be held at Santa Ana, September 27-30.

California Lima Bean Growers Association is selling beans at $6.25.

Bean dealers of the state held barbecue picnic at Oxnard, August 26.

The walnut harvest will be a week or ten days later this year than usual.

The annual fiesta at the Soboba Indian reservation will be held, September 3-10.

Ventura County bean growers would like to see some foggy weather for the sake of their beans.

A Moorpark, Ventura County, farmer has had a 25 horsepower electric motor stolen from his pump.

Imperial Valley growers shipped this season 12,198 carloads of cantaloupes, the season lasting from May 15 to July 24.

S. P. Nealey of Rialto says the honey crop is high grade and abundant, marketing being now the problem.

Frank B. Astroth, representative of the American Jersey Cattle Club, has been visiting Jersey herds in Riverside County.

Officers of the Los Angeles County farm adviser have been moved from court house to next building south of hall of records.

The management of the Ventura County fair has excluded all gambling features from exhibits and shows on the grounds.

New equipment for all forest rangers in the Angeles forest reserve will include portable telephones attached to the backs of the patrolmen.

The annual meeting of the Oxnard Citrus Association was held at the warehouse at Hueneme, August 4. Reorganization plans were considered.

The Mojave Valley Fruit Growers Association has decided not to pack or ship fruits this season because of inability to build its own packing house this year.

The alfalfa seed crop is practically all harvested in the Bard district of Imperial County. Cotton growers are organizing to handle picking and ginning of their crop.

Manager F. A. Wolz of the Imperial Farm Bureau Exchange reports getting better than Los Angeles prices for barley sold directly in San Bernardino and Los Angeles Counties.

Charges are made that bean buyers are attempting to break the market by making sales among themselves for November delivery at prices of a dollar or more under association prices.

Potato growers of Southern California met at Los Angeles, August 21 to consider marketing problems and appoint a committee to look into the matter of storage till better prices can be secured.

A 30,000 ton crop of walnuts for California is estimated by officials of the California Walnut Growers Association. This is 50 per cent over last year's. Sizes promise to be excellent and quality better than usual.

## The Coast and General

The Colorado agricultural college, Fort Collins, will open September 13.

Hop growers of Washington, have decided to pay pickers $1.25 per box.

Increasing amounts of condensed milk are being manufactured in Brazil.

Walla Walla County, Washington, shows a general average of 20 bushels of wheat per acre.

The Texas honey crop is estimated at less than one-third of normal owing to drouth conditions

The Smyrna fig crop for 1922 will be 20 per cent larger than last year and of much better quality.

Dairymen of Clarke County, Washington, have organized a cooperative marketing association.

The majority of honey producing sections in the Rocky Mountain states report less than average yields.

Continued dry weather in Oregon will result in considerable reduction of apple, pear and prune crops.

The commercial apple crop of Washington this year is estimated at 33,400,000 barrels against 21,000,000 last year.

Mississippi has been growing as a tomato producer. This past season shipments amounted to approximately 3,450 cars.

Florida expects to begin shipping oranges by the first of September. Commercial output of all citrus fruits is now estimated at from 12 to 15 million boxes.

U. S. Consul Robertson at Shanghai reports that over 11,000,000 fresh eggs came in from China last year besides millions of pounds of dried eggs and egg products.

Manager Lea of the Oregon Cooperative Growers Association says that Oregon banks, which one year ago hesitated to make loans to members, are now offering money.

Washington peach growers were forced to lower their prices for Elbertas because of transportation tieup. They had been asking 75 cents but dropped to 60 and 52½.

Florida watermelons were widely distributed this season. Some shipments went as far as San Francisco, Portland, Seattle, Vancouver, B. C., and other Canadian points.

A writer to the Arizona Cattleman and Farmer says: "We have just had 'Melon Week,' eat a melon a day and save the farmers ten thousand dollars. Why not have "Beef Week," eat a beef a day and save the cattlemen $100,000?"

Berries grown in the Puget Sound region of the Northwest are served on breakfast tables in Chicago 80 hours after being picked as a result of the establishment of a special express refrigerator train service operating on passenger schedule between the Pacific Northwest and Chicago.

Twenty million acres of land in Alberta, Canada, are to be placed under irrigation by the Dominion government. An artificial canal connecting the North Saskatchewan river and Sullivan Lake will be 125 miles in length while a natural channel of 125 miles will be utilized, making the entire length connecting the two bodies 250 miles.

# Pear Drying

By L. C. Barnard, Division of Pomology, U. C.

THE Bartlett pear is the variety grown in greatest abundance and it is also the principal variety used for drying. Good, close grained pears of good size are required, if the best dried product is to be secured.

### Ratio of Green to Dry Weight

In Lake County it takes about 4½ or 5 pounds of green fruit to made one pound dried. In other sections of the state it takes from 5 to 7 pounds of green fruit to make one pound of dried. Perhaps 6 to 1 is a fair average.

### Yields Per Acre

Yields vary from ¾ to 1½ tons dried per acre. One ton per acre is a good average.

### Harvesting and Handling Methods

Pears are practically all hand picked, and only the best of the windfalls are picked from the ground. Some growers prefer canvas bags and others pails for picking. It generally takes two and sometimes three pickings to properly harvest the crop.

Pears are picked when they are hard ripe, or when the stem separates readily from the spur. They are at this time too green for immediate curing and must be given time to ripen. The pears are put in field boxes and then hauled in to the drying plant where they are culled and graded. Wormy, sunburned, bruised and blemished fruit is sorted out and placed by itself, as it ripens faster. The remaining good fruit is generally roughly graded on the basis of size, each size being placed by itself. Some growers do not size the fruit previous to cutting, but pick out the small fruit when it is partly dry on the trays. The small fruit dries much more quickly than the larger, and if it is not sorted out it becomes too dry by the time the larger fruit is at the right stage of dryness. Better work is done, however, when the sorting out is done previous to cutting the fruit, then all the work of sorting out the small sizes from the trays is saved.

If the grower has enough boxes it is best to allow the fruit to ripen in the boxes, keeping each day's picking of fruit separate. In case there are not enough boxes, the fruit is allowed to ripen in bins in a shed, care being used not to pile the fruit too deep, nor to mix the pickings of different days. If pickings on different days were mixed, the late fruit would be too green when the first day's picking was ready to be cut. If the fruit is allowed to ripen in bins it is well to cover it with canvas sheets which keep the temperature more uniform during the day and night, thereby hastening the ripening process. In case the grower has neither enough boxes nor shed room, straw may be spread 6 inches deep in the shade of trees and the fruit carefully piled in rows about six inches deep and one foot wide, and 6 or 8 inches of straw placed on top of the fruit. The wormy and sunburned fruit will be ready to cut in from five to seven days and the remainder in from a week to ten days. To secure the best results and obtain the maximum weight of dried product, the fruit should not be allowed to become too ripe before being cut.

### Cutting

When the fruit is ripe, but not overripe, the pears are cut into halves lengthwise. The best product results if the stem is pulled out and the core and calyx are cut out. Some growers remove only the stem, while others only the stem and calyx.

### Sulphuring

There is less uniformity in the methods, time and amount of sulphuring for pears than for probably any other product dried. The amount and time of sulphuring generally is considerably greater than that for other fruits. A high grade product, as demanded by the trade, is nearly translucent when cured, and in order to secure this translucency long continued sulphuring must be given.

The practice in Lake County is to put the fruit in the sulphur house as soon after it is cut as possible and light the first charge of four or five pounds of sulphur. Early next morning another charge of four or five pounds is put in the house and lighted. The third and last charge of four or five pounds is put in on the evening of the same day. On the second day, 48 hours after the fruit is placed in the sulphur house, it is taken out and spread on the dry ground.

The amount of sulphur burned probably ranges between 12 to 20 pounds per green ton and the time of sulphuring 20 to 48 hours, depending on condition of sulphur house and fruit.

### Curing

The condition of the fruit, amount of sulphuring, and the weather determine very largely how long the fruit should be exposed to the sun and how long it should cure in the stack. Small, very ripe fruit requires less exposure to the sun. Fruit which has been sulphured 48 hours should not be exposed to the sun's rays as long as fruit sulphured 24 hours or less. In any case, the fruit should not be exposed too long to the sun or it will be discolored.

In Lake County pears are exposed to the sun for about five hours if the weather is very hot, but usually they are exposed for from one to two days. Principal curing is in the stack and is from one to four weeks.

Sometimes the trays are stacked on a slant, one end a foot higher than the other. The top of the stack is then covered with a roof tray. The roof tray has the same size bottom as the others. The roof is made of shakes laid roof fashion, and often covered with roofing paper. If stacks are covered with a roof or cover tray, they may be exposed to the rain without damage to the fruit. Some growers have sheds which they use to stack the trays in in case it rains. In the open, the stacks are about 20 trays high. It is a good plan to place a one-inch strip between each two trays or allow the ends of alternate trays to project a few inches to insure aeration. The stacks should be so placed that the prevailing wind will have the greatest opportunity to hasten the curing.

Curing is said to be complete when the fruit is rubbery or leathery to the touch, but not mushy. Some growers allow a handful of fruit to roll across the tray, and if the fruit rattles it is called cured.

As soon as the fruit is sufficiently cured on the trays it is usually stored in bins, boxes or on a good clean floor of a shed. The fruit should be placed so that air may circulate around it if it is to be stored for any length of time. If not, some of the fruit may mold.

# This Month in the Vegetable Garden

## Northern California

By A. R. Gould

THIS is a busy month as there are many things to harvest. All crops stored for the winter must be in perfect condition and kept in a dry place. Tomatoes, turnips, carrots, etc. may be preserved by the evaporation method, while onions, cucumbers, etc. may be pickled in vinegar. Dry beans and peas should be collected and stored in bags or barrels. Winter varieties of squash and pumpkins may be kept in the cellar but should not be cut until thoroughly mature.

It is also important to keep a proper record of all crops as harvested, making a note of the location, in the plot where grown, as when using the rotational system of cropping this information is essential. Dig plots as soon as cleared, trenching them deeply with manure and where necessary use slacked lime to work in the surface. Poultry manure must be used very sparingly as it is a powerful agent as also is rabbit manure.

### Leeks and Celery

These two useful crops will need feeding with liquid manure if they are to be brought to perfection, and this stimulant should be given twice a week. The plants must be blanched by covering with stiff paper or filling soil in trench. A dusting with arsenate of lead will prevent attack by insects.

### Kale and Brussels Sprouts

Plant out 18 inches apart in rows which should be three feet apart. Sturdy plants should be secured and kale planted extensively for poultry as it is very hardy. Water frequently until well established.

### Tomatoes

Remove all diseased fruits; if left on the vine they are liable to cause troube. Bury with quick lime. Avoid overhead watering as this will injure the flowers now about to set for late fruit. Where the foliage is too heavy some of it may be cut out to allow the fruits to ripen better.

### Beans

Make sowing of Broad Windsor, a hardy bean of excellent flavor, in rows two feet apart. Canadian Wonder, a dwarf green pod, may also be sown. Cultivate the ground thoroughly before sowing.

### Cauliflower

Sturdy plants should be put out in well manured soil 18 inches apart in the rows which should be 2 feet apart. Autumn Giant and Early Snowball are the best varieties.

### Corn

Dust the tassels of maturing cobs frequently with dry lead arsenate to destroy the corn worm which will otherwise play havoc. Irrigate late sown plots.

### Beets

Thin out those sown last month, leaving them six inches apart in the row.

### Parsley

Make sowing of Moss Curled for winter use, in rows or broadcast and later thin out.

### Parsnips

Sow Hollow Crown in well prepared ground in rows two feet apart. This is an excellent vegetable and should be more widely grown as it is very hardy and useful for winter use.

### Potatoes

The digging of this crop should be completed this month and the tubers stored in dry sand. Inspect them frequently to remove diseased or bruised tubers.

### Carrots

After the bean crop has been cleared off sow carrots. Danvers Half Long and Early Shorthorn are the best to sow now in rows 18 inches apart.

### Cabbage

On a well prepared border sow Savoy and Autumn King for planting out later. This plot may also be trenched with manure as it pays to fertilize heavily for cabbage. A dressing with lime will also be beneficial.

## Southern California

By D. F. Reichard

THIS is the time to get the early winter garden started. The one big thing is to have the ground to be planted or the seed bed in shape to properly germinate and grow the seed. This is only accomplished by having plenty of water in the soil and by having the soil properly worked.

To get enough water into the ground, on small plots set a sprinkler going, leaving it at least an hour to a place or on larger pieces of ground irrigate either by furrows run close together or by check flooding. Enough water should be put into the ground to put this top moisture down to the bottom moisture, which at this time of the year may be two or three feet down. After a couple of days the land wet as suggested will be ready for working. Dig it up to a depth of ten or twelve inches and thoroughly pulverize.

As winter vegetables are not vining plants it is better to plant them in rows. After getting the land nicely pulverized and level furrow it out, making the ridges about 12 or 15 inches across the top. When the ridges are made run water down the furrows; this will settle the ground as well as show where to sow the seeds on ridges. The seed should be sown a few days later just above where the water ran. After a few days irrigate again and as soon as the ground is dry enough cultivate lightly so as not to disturb the freshly germinating seeds.

Except in the absolutely frostless districts it is too late to put in the summer stuff like squash, cucumbers, melons and corn, and only in warm sections can beans be planted in the

(Continued on Page 228)

Established 1877 Forty-fifth Year

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and LIVESTOCK and DAIRY JOURNAL

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### EDITORIALETTES

The state fair which opens on the fair grounds Saturday morning of this week is the 68th state fair to be held in California. The fair will continue all of next week closing on Sunday night, September 10. The illustrations on the cover, taken at former fairs, give a slight indication of the beauty and utility to be seen and studied in Sacramento on those eight days.

* * *

The state fair is nothing if not educational. Of course there are some displays made purely for the purpose of making money. There are some features of the program for the purpose of inducing a great attendance and to swell the gate receipts; there are features encouraging the picnic or play-spell spirit, but with the fun and the merrymaking, the real foundation of the fair and the reason the state is lending financial aid is because of the educational opportunity. That this is appreciated by the management more fully than ever before is indicated by the elimination of the Teddy Bear gambling joints which have been features of the fair for many years. One year there were nearly a hundred of these tents or booths devoted to games of chance or "skill." The management promises this year that these first steps in gambling shall not be taught any more on the California state fair grounds. This is fortunate and a most commendable move. Many a taxpayer is becoming restive because of his money being used to educate youngsters, who attend the state fair, in first steps in gambling.

* * *

And educationally we may refer to the fact that the taxpayer gets an opportunity to see where some of his money goes by attending the state fair. Many departments of the state and federal governments make exhibits showing their activities in a way which enables even a casual visitor to form an idea as to the uses of moneys appropriated for those departments. For instance, at the last state fair Director Hecke and many of his department united in putting up exhibits in standardization, bureau of markets, rodent control, insects both beneficial and injurious, veterinary and other divisions of the animal husbandry bureau. These exhibits were of sufficient interest that hours could be spent with profit in the various booths. The sealer of weights and measures, the state harbor board, the federal bureau of forestry and almost innumerable other government activities all make educational exhibits.

* * *

The attendant at the fair who goes with the idea that an agricultural fair has become an exhibit of monstrous pumpkins and over-fed hogs has another lesson to learn when he attends the 68th annual California state fair.

### JAPANESE BEETLE

Southeastern Pennsylvania and western New Jersey, or a small portion of those two states comprising an area of a couple of hundred square miles, are threatened by the ravages of a recently discovered pest known as the Japanese beetle. Not only is this one section threatened, but from the rapidity with which it is now spreading all of the eastern United States is threatened. The destructiveness of the pest appears to be far greater than any other which has been introduced to this country. It seems to have a score or more of favorite host plants, and smart weed, nettles and others prove to be just as acceptable as fruit trees or field crops.

Pennsylvania and New Jersey authorities are issuing warnings to farmers, and investigations are being made as to how the spread of the pest may be brought under control. A few of the beetles on a leaf soon reduce it to a skeleton, and if they attack an apple tree they do it in such numbers that the insects may be gathered by the quart. One who has seen the pest in operation told of gathering the beetles in large double handfuls from a single apple.

It has been determined that this pest has been in New Jersey for the past dozen years but heretofore little was thought of it.

The federal horticultural board has much to its credit in preventing the entrance of other similar pests. This pest, with all the other major pests which have been introduced into this country, secured entrance before the present quarantine movement.

### AFIELD

Texas is an awfully big state. The other morning I wakened as my train was crossing the Sabine. A little later we breakfasted, a few hours later we lunched, then dined and slept, and all the time proceeding toward California on the Limited. Again we breakfasted, lunched and dined and we are still in the state of Texas. A thousand miles we have come since crossing the Sabine and leaving behind the rice fields, cypress swamps, turpentine forests, teams of six oxen hauling turpentined logs to the big saw mills, the pendant grass mosses on pine and live oak, the bayou and other characteristics of southeastern America, and we passed the oil fields, thousands of acres of cotton fields and are now whirling through the great plains of the Southwest where are the sage, yucca and cactus and the sunset, and the western boundary of Texas is still beyond. The land of the planter and his oxcart, the darkey and his pickanniny is left behind and the land of the rancher, the cowboy, the Mexican and his little brown skinned kids have come, and we still have the Rio Grande to cross.

As I consider some of the figures "of astronomical importance" concerning Texas there comes to my mind an incident during this same trip where three states in three minutes was possible. I had an early breakfast in Boston, took train for New York, where I lunched. It was but a few minutes after we left Boston until we rounded the hill on which stood the capitol of Rhode Island. A little later we were skirting Long Island Sound, and, as noted, lunched in York State. Yet with all their diminutiveness these states are important to the Union. Each is of the original 13, each is great in manufacturing, and in the early arrangement of things national these states granted to Texas the same right they had in the matter of representation and gave to Texas two members in the United States senate. The justice of this is rather startling when considered from the standpoint of area. Massachusetts has an area of 8,040 square miles, Connecticut 4,845, and Rhode Island 1,053, or a total for the three states of 13,938. Subtract these 13,938 square miles from the 265,780, which represents the area of Texas, and it doesn't make a dent in the great bulk of that state. Subtract the area of those three states from the one county of San Bernardino, California, and there are still left in that county a half dozen Rhode Islands. On a strictly area basis, proportionately with Rhode Island, Texas would have some three or four hundred senators. All of which means nothing and is more or less of foolishness yet it makes outstanding some recent events in the United States senate. Of these I will mention just one, the wool discussion in the tariff debate. The growers were appealing for the preservation of the wool industry. The agricultural bloc had worked nobly and secured some recognition. Western Democrats joined with Republicans and all worked to the end that a little protection was secured for the wool grower and—more for the wool manufacturer. But the consumer, the maker of wooden nutmegs, had his interests watched for too. The old time protectionists labored valiantly for manufacturing interests and they finally made the horrible discovery that a member of the United States senate who was working for protection on wool was actually a wool grower. Naturally committees were appointed, and investigation started which might involve and eliminate a wool grower from any participation in the effort to protect his own industry. In this discussion Texas, one of the greatest wool growing states of the Union, was represented by two men. Buyers of wool who wanted to buy it cheaply for the sake of great profits in manufacturing were represented by a great many senators, six of whom were from the little states of Massachusetts, Rhode Island and Connecticut, all combined with an area of one-twentieth that of Texas.

There is not the faintest hint of a suggestion for a change in methods of representation at Washington, but having spent a rather unprofitable hour in the gallery of the United States senate listening to Senator Walsh of Massachusetts endeavoring to hammer the life out of the wool schedule, I am reminded by these dreary hours over the plains of Texas of that event. Also I am now reminded by the Rio Grande over which we are just beginning to pass that I am still in Texas.

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# Ripe Olives Return to Favor

By W. V. Cruess, Farm Products Laboratory, University of California

DURING the years 1920 and 1921 the sale of ripe olives in Eastern states was almost nil. Some of the Eastern wholesalers held over during these two years goods that they had purchased in California in 1920. The Eastern buying public apparently had lost its confidence in this product. The sale of green olives went merrily on and the green olive packers and dealers did very little to restore confidence in the California ripe olives. The California packers, however, did not lose confidence and during the past two years have spent large sums of money in advertising the California product and in operating their business at a loss. They did not lose confidence in the future and close up shop, except in two or three instances. It is probable, however, that these plants that did close their doors temporarily will again pack olives in the near future. At the present time the situation has changed definitely for the better. Most of the packers in California could clean out their entire 1922 pack in a few weeks time if they desired to do so. The demand is apparently rapidly increasing. Every effort is being made by the California Ripe Olive Association to spread the gospel of the ripe olive to the eastern consumers.

Mr. Shurtleff has been on the road continuously during the past several months for the association, demonstrating to grocers throughout the East the merits of the California product and calling the attention of the consumer to the California ripe olive. Mr. Shurtleff's efforts have been well rewarded by an increase in sales. In California the sale of ripe olives did not decrease markedly following the set-back of 1919, and it was the sale of olives in California that made it possible for the packers to continue in business.

The biggest factor, in the writer's estimation, which has led to a return of confidence in the California ripe olive has been the state board of health's ruling in establishing a safe sterilization of ripe olives. The board of health ruled that ripe olives offered for sale must be sterlized at 240 degrees Fahrenheit 40 minutes in retorts equipped with temperature recording devices. The board has further ruled that each batch of olives sterilized must be given a number and a record of sterilization made by the recording thermometer must be kept and numbered for the use of its inspectors. This temperature and time of sterilization has been religiously observed by the commercial packers. The packers, therefore, have had no hesistancy in going to the consumer with the statement that commercial packed California ripe olives are safe. The ruling of the board of health was made as a result of the investigations of Dr. E. C. Dickson of the Stanford Medical School and Dr. Meyer of the Hooper Medical Research Foundation of the University of California. When this temperature was first used commercially in 1919 and 1920 it was found that some of the olives softened badly. Investigations by the college of agriculture have proven, however, that softening could be avoided if all of the bitterness was removed from the olives in the pickling process by adequate lye solution. Softening is not very great and practically all of the commercial factories are producing a canned product that is very acceptable to the consumer.

### Bulk Sales of Olives

The board of health's ruling prohibits the sale of unsterlized olives. However, there is a certain quantity of olives marketed without sterilization. Dr. Meyers has recently proven that such olives stored in bulk without sterilization can develop botulinus poison. He is strongly of the opinion that the bulk sale of olives should not be continued. The canneries can take care of all the olives since the organization of the growers into the new olive association. This new association will erect plants if necessary and will cooperate with the California Ripe Olive Association to utilize all ripe olives in California. The real future of the olive business lies in developing a demand in the East for the commercial canned product. Bulk sales in California will never utilize any great proportion of the crop and in the writer's estimation will increase the danger of another outbreak of botulinus.

### New Standards

The California Ripe Olive Association is now obtaining data at their Los Angeles headquarters and through experiments being made by the writer at Berkeley, for the establishment of standards for ripe olives. The association has already adopted the rule that olives of dark brown or black color will be considered first quality and those of light brown second quality. They desire now to establish more definite size grades and standards for texture and flavor and other qualities. Such standards will materially assist in advertising and in establishing in the minds of the consuming public the relation of the different grades.

### The Future

As noted above, the writer is strongly of the opinion that the future of the ripe olive industry in California depends upon closer cooperation between the grower and packer and an effort to put on the market the best qualities of ripe olive possible We must stabilize the Eastern market and develop it to the fullest extent. The United States is consuming several times as many green olives as ripe Therefore, it can be readily seen that we have much room for increase of our output. No one should feel pessimistic about the future, provided we are extremely careful to exclude the invader Bacillus Botulinus that nearly wrecked the industry three years ago

If this one precaution is observed religiously and the present publicity campaign is maintained there is no doubt as to the future of the olive industry in this state. We have a natural monopoly—let us make the best of it.

### WHITE SAPOTES

A richly flavored subtropical fruit popular with a majority of those who taste it is the white sapote, the zapote blanca of the Mexicans, the Casimiroa edulis of the botanist. It is native of Mexico, and nearly all planted in the past are from seeds sent from that country. It is said the leaves have some medicinal value and consumption of the fruit induces sleep. Of late years a few of the best varieties have been budded on seedling stock and these select named varieties may be had from nurserymen and seed stores. The best two are the Maechtlen and the Harvey. The former comes from the ranch of Jacob Maechtlen, Covina, and the other was grown from a seed sent from Mexico to the late J. C. Harvey of Los Angeles.


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# The Carob

By G. P. Rixford, United States Department of Agriculture

A FILLMORE subscriber in the Cultivator of August 12 asked for information regarding the carob tree, Ceratonia siliqua.

This tree is one of the most ancient in cultivation and figures in the Bible in connection with the prodigal son. According to Alphonse de Candolle in his "Origin of Cultivated Plants'" its original home was about the western coast of Asia Minor and Syria, and perhaps Tripoli. Its cultivation began in historical times, was diffused by Italy and Greece, and was carried west by the Arabs as far as Spain and Morocco.

Its pods are regarded as of great value in southern Europe and Northern Africa and are extensively used for stock feed, and when ground up are even used for feeding poultry. The late Dr. Aaronsohn, chief of the experiment station at Haifa in Palestine, told me that it was one of the chief exports of that country, thousands of tons being shipped to England and used as stock feed. He says that an acre of mature trees will yield a tonnage of pods equal to the yield of barley or oats if planted on the same area while in nutrients the pods are superior to oats and fully equal to barley. He gives the sugar content of the best varieties as high as 40 per cent and in some varieties even higher, and the protein content as high as 7 to 8 per cent. The analysis published by Riviere and Locoq gives a higher digestive coefficiency and nutritive value a little higher than oats. It is estimated that 147 kilos of carobs equal 100 kilos of wheat. (A kilo is nearly 2¼ pounds.

### First Introduction

The first introduction into the United States was by the patent office in 1854, and from Palestine in 1859. About 8000 plants, grown from seed in Washington, were distributed during the spring of 1860, mostly in the Southern states. Some of these plants found their way to California, as a number of old trees are growing in various parts of the state from San Diego in the south to Butte in the north. Several varieties were imported in June, 1911, from Valencia, Spain, and last spring a half dozen kinds from Spain, Italy, Greece and Palestine from the office of foreign seed and plant introduction of the United States department of agriculture. This shipment consisted of cuttings of many of the leading varieties grown in those counties, which are now being propagated at Chico, and other California points.

### Both Dioecious and Monoecious

The species is either dioecious or monoecious. All trees that I have seen in California are monoecious, although Dr. Aaronsohn asserts that the dioecious varieties give the most valuable pods. Therefore to produce these pods it would be necessary to plant trees as pollenizers with the females. Instead of planting male trees it is better to plant monoecious trees as pollenizers, and in that case all the trees will produce pods.

### Needs Warm Climate

The carob thrives only in a warm climate, and in the southern part of Spain and France it is planted mostly in proximity to the Mediterranean shores, possibly because of the freedom of such localities from frost. The tree is found to thrive in all parts of Southern California, around the shores of San Francisco Bay, and a few specimens as far north as Biggs in Butte County and Napa Valley. In these northern localities, however, the crop is very uncertain. The tree has a habit of blossoming late in the fall or early winter, and frost may occur which will destroy the flowers without injury to the foliage. Therefore as a commercial product the cultivation is likely to be confined to Southern California. The tree, however, is well worthy of cultivation on account of the beauty of its deep green coriaceous evergreen foliage, even in localities where it fails to produce its pods. The plant is usually propagated by seeds, though with bottom heat it can be grown from cuttings. Quicker germination is secured by soaking the seed in water for three or four days until they begin to swell. At Aleppo in Syria the propagators plant the seed in pots made of clay and cow dung, which after being dried, are filled with earth in which the seeds are planted. After the seedlings have reached a size for planting out the pot is sunk in the ground, and when it becomes moist in contact with the earth, the roots readily penetrate it.

### Bud to Hasten Bearing

While the carob is rather a slow growing tree, it lives to a great age and should be planted not less than 35 feet apart, and may be interplanted with peaches or other growths for income until the carob begins to bear. It makes a fine border tree, and at the same time yields a profit.

The trees are frequently budded with buds from the best variety taken from bearing trees, and may be expected to bear in three or four years. In California seedlings bear when six or eight years of age. While it is eminently a dry climate tree, the young trees will be found to appreciate irrigation two or three times during the season and respond to good treatment the same as our cultivated fruits.

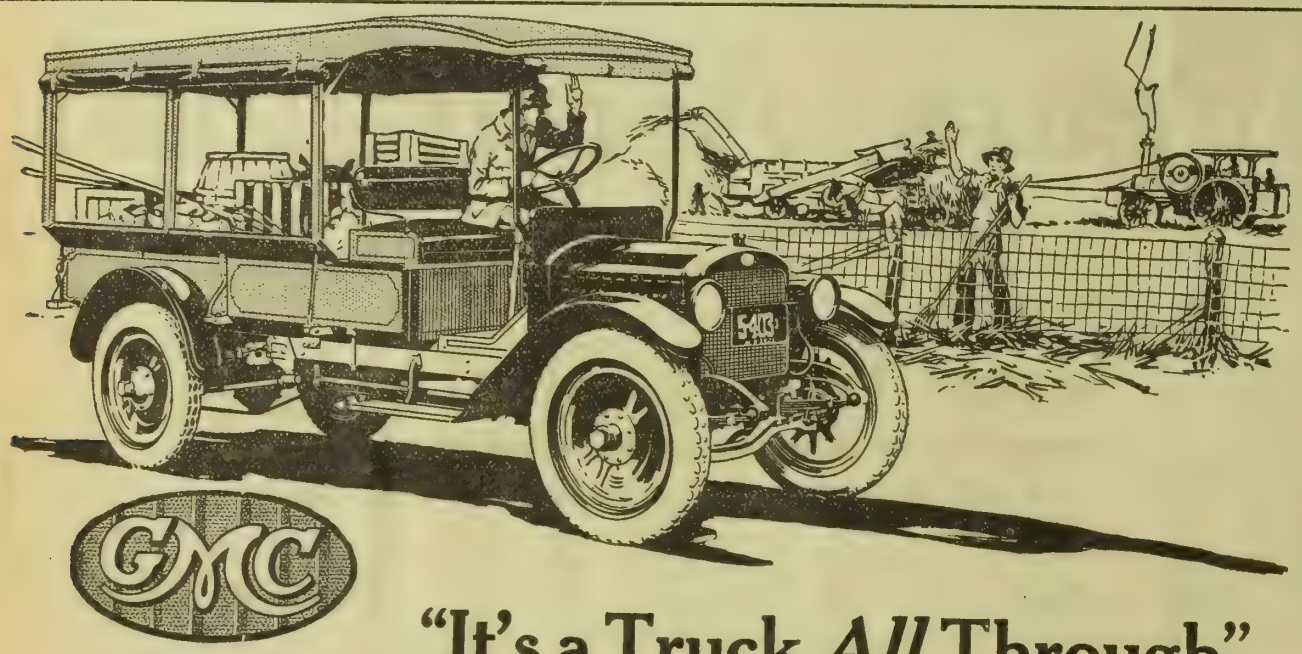
The pods ripen in the fall, September and October, and many of the trees, like some of our fruit trees, show a tendency to produce more abundantly in alternate years.

### Yields

Aaronsohn informed me that the crop in Palestine in good years on mature trees averages 450 pounds to the tree, and states that he has seen wild stocks 15 to 18 years after grafting yield 900 to 1000 pounds of pods. Du Brueil gives the yield in southern France at 220 pounds and mentions single trees in Valencia, Spain, that produce as high as 1380 kilos, or 3040 pounds. Among thrifty trees observed by the writer are a number in Alameda County, planted by the late Professor Hilgard, (between Centerville and Mission San Jose) about 30 years ago and more than 2½ feet in diameter. They produce crops annually. Others are grown by the California Nursery Co., at Niles, and are fruiting regularly. A few trees in Napa Valley and Biggs, mentioned above, occasionally produce crops of pods but are frequently injured by frost.

There are good sized trees growing in the park at Riverside, and one large tree at the Langenberger place at Anaheim. Mrs. Langenherber told the writer that she had sold pods from her trees to Italians at 40 cents per pound, showing that the variety is a valuable one and should be propagated.

It may be mentioned that during the Peninsula campaign the cavalry horses of Wellington's army were fed on carob pods instead of grain. The tramway horses of southern Italy are also fed on carob pods. The pods are frequently sold in drug stores and

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# Another Reason Why—

## California will supply the world with fruit food

**By J. E. Bergtholdt**

Secretary and Manager of The Silva-Bergtholdt Company, Nurserymen, and one of California's most extensive growers of fruit.

*The Second of a Series of Three Vital Messages to Fruit Growers*

IN MY FIRST ANNOUNCEMENT on "The Reason Why," in which I called your attention to the inevitable decrease of fruit production in the States outside of California as being an element insuring the growth and prosperity of the California fruit growing industry, I stated that there were other equally vital factors which, *if you are alive to your opportunity,* constitute a double assurance of your fruit growing business.

Have you realized that the dietary of the 120 million people of the United States and Canada is undergoing an evolutionary change? People are consuming with each year a larger proportion per capita of fruit and vegetable products.

This change in dietary is scarcely noticeable by the individual, but is an evolutionary fact, and when involving 120 millions of people, assumes each year an enormously increasing consumption of fruit products.

This process is not alone in evidence among the people of the North American continent, but is manifesting itself to a degree, in a like evolutionary change in the dietary of the people in other civilized lands, whereas the same adverse climatic conditions prevailing in every State east of the Pacific slope are, in a like degree, operative in every other country where fruit growing is practiced in agriculture.

### Facts Concerning European Production

For instance, the Prune, like the Apple, has been a staple food product of the European people, comprising a potential consuming population of over 400 millions.

Prune growing has been an important European industry for many generations, yet the entire production on the continent of Europe, according to the most authentic figures available, has never been in excess of 75,000 tons.

The production of France, Bosnia and Servia, the principal Prune growing sections of Europe, for 1921 was estimated at 50,000 tons, and advance information for this year's yield would indicate a little over 30,000 tons.

When you compare this production of a maximum 75,000 tons with an estimated production for California for this year of 110,000 tons, you will realize that in growing Prunes, Europe, though in the business for many generations, cannot keep pace with the California Prune grower. *This fact is further proved by the ever increasing exports of the California product to these European people.*

This is not alone true in quantity but also in quality of product.

What is true of the Prune is, in a larger measure, true of California grown Peach, Apricot and Pear, canned and dried.

### Potential Possibilities of European Consumption

When you consider that, barring import duties, the California product can be delivered to the European consumer at the same cost for transportation (and oftentimes for less) than to the American consumer, you must realize that, in addition to supplying our California grown fruit foods to the American consumer, there is tributary to the California product a potential consuming population of approximately 400 millions of Europeans. In supplying whose fruit wants, barring import duties, the California grower has the same advantage over the European fruit grower that he has over his brother producer in the various states East, in which, as shown in my former announcement, the production of fruit is gradually, but inevitably, declining.

When the industry in California has so organized its machinery of distribution that this potential European consumption will be intelligently exploited, the export business of California fruit may be made to reach enormous proportions, not to speak of the potential possibilities of exploiting the consumption of our staple fruit products in other countries, such as the Orient, South America, Australia, New Zealand and South Africa.

### Existing Facts Further Emphasized

You will now more fully realize what I meant in my former announcement when I showed that in view of the decreasing production, not alone of the states east of the Pacific Slope, but in Europe, and the gradual but ever increasing consumption of our staple fruit foods in the dietary of the world's population, that there is being created a vacuum that every acre in California planted to fruit cannot supply, provided, however, (*and this in the final analysis is the vital feature*) the California grower exercises *the forethought and good judgment to so organize the distribution of his products as to exploit the possibilities of this potential consumption to the maximum degree.*

To further illustrate, I will ask you to allow me to repeat a few facts that I have often, in connection with our nursery business, reiterated heretofore, for instance:

### Prunes

In the production of the Prune the California grower has an 85% monopoly (estimating the northwestern production at 15%), not alone in supplying the wants of the people of North America, but has also an enormous advantage over his Prune grower competitor of every other known country.

### Apricots

In canned and dried Apricots, the California grower has an entire monopoly of the consuming population of North America and a like enormous advantage over every other Apricot grower in other countries.

### Pears

Canned and dried, the same is true as of the Apricot.

In Pears to be eaten out of hand, the California grower, in quality of fruit, season of ripening, regular production and freedom from disease, has an enormous advantage in the American market over the Pear growers of the Northwestern and Eastern States, with as yet undeveloped potential possibilities for export to the countries of Northern Europe, to whom the Pear is a fruit as staple as the Apple and Peach to the American, and to whom, in the no distant future, our Pears will be delivered by refrigerator steamers at less cost of transportation per box than the present rail and refrigeration rates to the American consumer.

### Clingstone Peaches

In canned Clingstone Peaches, the California grower has a monopoly, both at home and abroad, for the reason that the California Clingstone Peach, owing to our climate—no rain during the ripening period—matures to a texture so firm that, canned, it is the only Peach grown that will not rag out in canning.

This is likewise true of the California Pear and Apricot, canned.

### Peaches-dried

By reason not alone of the substance and good quality of this dried product, but by reason of our dry summers, permitting of uninterrupted sun curing, there is no peach growing section anywhere where this product can be sun dried and delivered to the consumer in a degree of quality that will compare with the California product—true likewise of California dried Apricots, Pears and Prunes.

### Raisins

Raisins on this continent are grown only in California, and there are more raisins grown in California than in all the other countries of the globe. The California raisin grower has a practical monopoly of the North American consumption and is protected by tariff against European importations. In addition to that, on account of the quality of his product, he is enabled to compete successfully in the European market with the raisin producing districts of Southern Europe and Asia.

### Citrus

Inasmuch as the successful commercial production of Citrus fruits is limited mainly to the lower San Joaquin Valley and the Citrus growing districts south of the Tehachapi, this branch of the industry has more nearly reached its maximum production, with Florida, however, our only competitor, and to this degree the prosperity of the California Citrus growing industry is well assured.

If space would permit, in further proof, I could enumerate in detail like advantages which the California grower has in the production of Cherries, Almonds, Walnuts, Figs, Table Grapes, Olives, etc.

### Fruit Growing is California's Prime Industry

Summing up the facts presented in this and in my previous announcement, I am justified in the statement the truth of which is not realized by many, that *fruit growing* is, *more* than any other, the prime industry of California, and that in the future will add more to the development and prosperity of the State than any other activity, depending, however, upon one vital factor, concerning which I will write you in my next.

This comprises the second angle of my story. The third will appear in this publication at this time next month.

J. E. Bergtholdt

Secretary and Manager,
The Silva-Bergtholdt Company, Nurserymen,
New Castle, California

---

at fruit stands, and are looked upon by Italians as a sweetmeat. The sugary fecula surrounding the seed is very palatable and liked by most everybody.

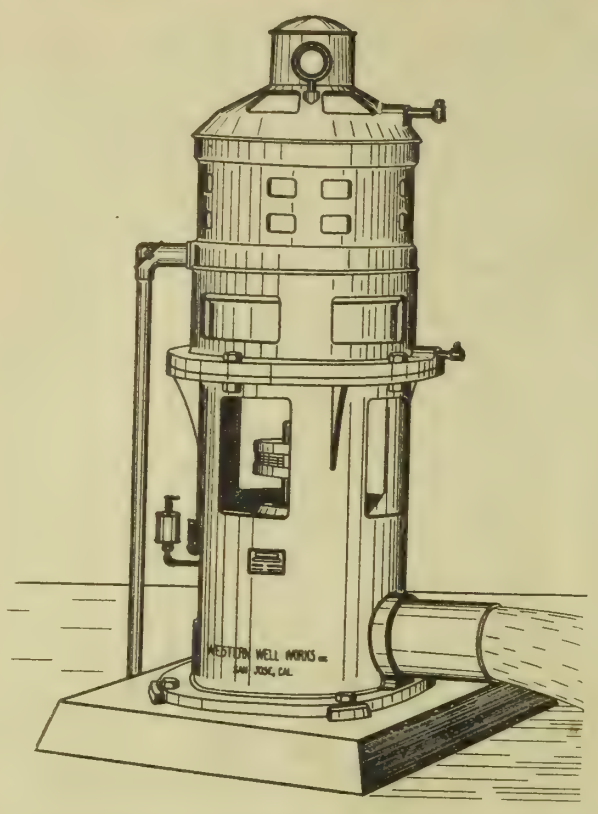
It is quite apparent that this tree is worthy of cultivation, both for ornamental and commercial purposes. It can be planted on rocky, rough land where it would be difficult to cultivate most other trees.

### IMPERIAL TO HAVE LOWER FREIGHT RATES

Declaring that rail freight rates between Los Angeles and Imperial County points had become excessive and discriminatory, the railroad commission has ordered put into effect within 30 days reductions applying to both commodity and class rates which are estimated to amount in saving to shippers to $200,000 a year on present volume of business. San Pedro and Wilmington are given the same mileage schedule of class rates as Los Angeles. This decision is designed to enable Imperial Valley to ship into the Los Angeles market upon equal competitive conditions with other agricultural regions, and receive supplies at fair rates. This case was brought by complaint of the board of supervisors of Imperial County.

Oregon cherry growers have been experimenting with placing fresh cherries in cold storage without sugar. The cherries were packed in five gallon cans. Northwestern berry growers have been successful for several seasons in storage of berries by this method.

# The Pride of Ownership

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# FRUIT TREES

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FRESNO CALIFORNIA


### VINEGAR FROM CULL FRUITS

Request has come for reprinting directions for making vinegar at home from various fruits, written for the Cultivator last fall by W. V. Cruess. Here it is:

Good vinegar for home use can be made from grapes, apples, oranges and other sweet fruits. Culls, cores, parings and windfalls can be used as well as dried fruit, raisins and honey.

**Preparing the Juice**

A sweet liquid is first prepared containing from 10 to 20 per cent of sugar. This is made from the fresh fruit by crushing, heating and pressing out the juice. If the juice is not very sweet one-quarter to one-half pound of sugar should be added to each gallon The juice of very ripe grapes should be diluted with one or two pints of water per gallon. Honey should be diluted with an equal volume of fruit juice plus five times its volume of water. Dried fruit should be soaked in water (one gallon to two and one-half to three pounds of fruit) 24 hours, then heated and pressed.

**Peels and Cores**

To peels and cores, add three quarts of water to each quart. Boil a short time. Press and to each gallon of juice add one pound of sugar.

**Yeast**

The liquid prepared by any of the above methods is placed in a barrel, crock, wooden bucket or large bottle and caused to ferment by adding a cake of well broken up compressed yeast to about each five gallons of liquid. The vessels in which this fermentation takes place should be cleaned and sterilized with hot water and soda and must be free from vinegar. Never use galvanized metal.

The temperature of the fermenting liquid should not fall below 65 degrees Fahrenheit, nor rise above 90 degrees Fahrenheit. The usual house temperature in California is satisfactory. It should be stirred frequently during the first week and in two or three weeks all the sugar should have disappeared.

**Adding Starter**

It is then drawn or poured carefully off the sediment into a clean barrel, crock, or demijohn, inoculated with vinegar bacteria and acidified to prevent injurious bacteria from growing. Both these objects are accomplished by the addition of about one pint of home made or barrel vinegar from the grocery to each gallon of fermented liquid.

**Vinegar Fermentation**

A wide surface and exposure to the air are necessary for the work of vinegar bacteria. The barrel, therefore, should not be filled more than three-quarters and should be provided with air holes in the heads. Other vessels should not be too deep. All openings should be screened with fine netting or cheesecloth to exclude flies. A film of vinegar bacteria will form on the surface and should not be disturbed by stirring or by moving the vessel.

The higher the temperature up to about 80 degrees Fahrenheit and the more abundant the air supply, the more rapidly the vinegar is formed. Below 60 degrees Fahrenheit the process is very slow. In an ordinary kitchen the temperature is usually favorable. In from two to six months, according to the temperature, the vinegar can be used. It should be drawn off the sediment and put in full, closed barrels or bottles. If cloudy, it can be filtered through several thicknesses of cloth. If placed in full well corked bottles and heated to 150 degrees Fanrenheit for a few minutes it will keep perfectly for years and improves with age.

When the clear vinegar has been drawn from the vessel in which it was made the cloudy vinegar and sediment remaining may be used to start another lot. This is done simply by adding a pint of this liquid to each gallon of fermented juice. Never add vinegar or vinegar sediment to fresh unfermented juice; it kills yeast fermentation. Use yeast only on the fresh, sweet juice.

### RABBITS AND PET STOCK AT LOS ANGELES COUNTY FAIR

The Southern California Rabbit and Pet Stock Association is affiliating with the Ontario-Upland Rabbit Association in arranging a rabbit and cavy show at the Los Angeles County fair at Pomona, October 17-21. W. A. Hannah, president of the Ontario-Upland Association will have charge of the rabbit department and W. E. Dean of Pomona will manage the cavy exhibit. Lewis H. Salisbury of Pasadena, president of the N. B. and F. A. Inc., will judge the rabbits.


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Los Angeles California

# June Drop Again Takes Toll

By Robert W. Hodgson

THERE have been a number of factors responsible for the unusual June drop reported in all districts this season. The vitality of trees in many districts was seriously sapped by hot dry electric windstorms last fall. Humidities of eight per cent and less were reported in some districts. There was a heavy leaf drop and loss of vitality.

Perhaps the most important factor contributing to the general weakness of the trees was the January freeze. Not only were the temperatures very low, but the lack of moisture in the air was the greatest ever reported in connection with similar temperatures. The unusually slow recovery of the trees, by many observers is attributed to the extremely dry atmospheric conditions that obtained at the time of the freeze. Relative humidities of eight to ten per cent were common.

Following came a cool, delayed spring, with the soil not warming up until only recently. Then too, over the principal citrus districts late spring frosts occurred, in a few cases sufficient to injure the bloom; in most instances not sufficient to noticeably affect the bloom, but undoubtedly devitalizing to the trees in general and responsible for much of the shedding of the bloom in the early part of the season, as well as for failure on the part of many of the trees to put out a normal bloom. Then came a rather sudden change to normal summer weather. Summer temperatures have not been excessively high in most districts, but the sudden change has unquestionably caused a heavy dropping of what few fruits still remained. Taken all in all there could hardly have been a combination of circumstances more favorable to a heavy June drop than has occurred during the present season.

The investigation by the citrus experiment station during the 1916-17 season indicated that there are two principal overlapping causes of the June drop of the Washington Navel, most important being abnormal relation between the leaves and young fruits with respect to water supply. It was shown during the hot, dry summer days between 10 o'clock in the morning and 4 o'clock in the afternoon, the leaves were unable to secure as much water from the roots as they lose to the atmosphere by transpiration. The result is a decrease in water content. When conditions become severe the leaves are able to withdraw water from the young fruits situated adjacent to them, the fruits having been shown to have a higher moisture content than the leaves, thus serving as potential sources of water supply. It was shown by careful experiments that young fruits decrease markedly in water content during the hot part of the day, increasing again during the late afternoon and night to the normal point. This daily fluctuation in moisture content was established as the stimulus leading to abscission or shedding.

It was also shown that in certain seasons when climatic conditions are favorable, at least a portion of the drop is due to the young fruits being attacked by Alternaria fungus which infects them while still either in the flower stage or shortly after the styles are shed.

The control measures recommended in California Bulletin 290 are as follows. Careful selection of site, growing of summer cover crops, adequate irrigation, moderate winter pruning, closer planting, growing of adequate windbreaks, mulching.

### Fungus Theory

In the belief that a fungus is partially responsible, considerable spraying has been done, but there are no data indicating material improvement in set of the fruit through sprays, with one possible exception. In certain parts of the San Joaquin Valley, where citrus thrips constitute an important pest, claims have been made that the June drop has been lessened by spraying. It would seem quite probable that control of thrips might result in improved set of fruit.

During the last year or two this abnormal water relationship has been suspected by a number of investigators to be responsible for the shedding of immature parts and a number of investigations on this point are now under way. An abnormal water relationship of similar character is now generally regarded as the principal factor in the cracking and splitting of partially mature or mature fruits. It has been quite definitely shown with a number of crops, including peaches and apricots, that after the fruit has developed considerable sugar content the leaves are at a disadvantage during periods of stress and are sometimes actually dry up to the point where they are shed, the fruits having taken the water from the leaves.

### Influence of Cover Crops

During the past three years, investigations on the June drop of the Washington Navel conducted by the citrus experiment station in most points have definitely established that in certain seasons the percentage of Alternaria infection is quite high, and beneficial effects from covercrops have been noted, together with a distinct modification in the climatic conditions surrounding the trees. In an effort to secure a set of fruit through lowering the atmospheric temperature and humidity certain trees were covered with tents and grown under these coverings for several years. These were found not to carry as much fruit on the average as trees exposed. This is not peculiar, however, and is likely due to the cutting down of illumination and a reduction in the manufacture of elaborated foodstuffs.

Since the issuing of bulletin 290 a large number of citrus growers have raised summer cover crops in their orchards with varying degrees of success, in some cases utter failure. In a number of instances, however, in the San Joaquin Valley and notably in the vicinity of Bakersfield, phenomenal increases in yield have been secured. Several instances of the same character have occurred in Southern California districts. In this connection it is desirable to point out that so far as it is now known the importance of the summer cover crop in preventing June drop lies in the relation which it has to sudden climatic changes. It is not so much the average increase in atmospheric humidity and decrease in temperature which the cover crop causes which prevents June drop as it is the protection which the cover crop offers when sudden climatic changes occur. This protection is due principally to the average lower atmospheric temperature which has been found by a number of investigators to be from five to ten per cent lower than where cover crops are not grown and to the increase in atmospheric humidity which is quite pronounced. It is also probably due to the lower soil temperature which is more favorable to root absorption.

### Present Viewpoint on June Drop Prevention

Summarizing our present attitude toward possible methods of June drop prevention it may be said that

1. With very few exceptions and those probably due to the control of citrus thrips, spraying as a means of prevention of June drop has to date been found unsuccessful. Further investigations on this point are desirable. It should be pointed out, however, that Alternaria infection varies tremendously from year to year and spraying will therefore probably never give any remarkable results in prevention of June drop.

2. The summer cover as it is generally known, meaning a crop planted in the latter part of April or in May, cannot be expected to give appreciable results on account of the fact that no crop we now have planted this late in the season reaches sufficient development to provide measurable protection by the time it is needed. The spring covercrop planted in February, March or April according to local conditions is by far more promising. To date the most promising spring cover crops tried are buckwheat, melilotus alba, certain varieties of the soy bean and hubam clover. None of these is entirely satisfactory in all points and there is need for a search for better spring cover crop materials. It should be pointed out however, that cover crops should only be used where water is plentiful and cheap and where the soil has good underdrainage.

3. A greater use of windbreaks and closer planting of trees offers a promising means of June drop prevention. Many observations have been made of closely planted orchards yielding much heavier than trees of the same age planted wider apart, and there are plenty of observations to show that tree rows close to wind breaks consistently bear heavier crops than those farther away when all other conditions are similar.

4. It has long been recognized that the water requirements of plants growing in soils well supplied with plant foods are much lower than in soils where there are deficiencies in any of the principal plant food elements. This is particularly pronounced with respect to nitrogen. Hellriegel in 1883 showed that water requirements of plants growing in soils treated with varying amounts of potassium nitrate varied from 867 pounds of water per pound of dry matter where no potassium nitrate was supplied, to 292 pounds where 1.6 pounds

(Continued on Page 230)


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| 750 | 18 | 5 | 9 | 4 | 11 | 580 | 30.75 |
| 1,000 | 24 | 6 | 6 | 4 | 11 | 655 | 35.25 |
| 1,500 | 36 | 7 | 1 | 5 | 11 | 830 | 45.00 |
| 2,000 | 48 | 8 | 1½ | 5 | 11 | 975 | 52.50 |
| 2,500 | 60 | 8 | 4 | 6 | 11 | 1,145 | 60.75 |
| 3,000 | 71 | 9 | 1½ | 6 | 11 | 1,270 | 69.00 |
| 3,000 | 71 | 8 | 5 | 7 | 11 | 1,290 | 69.00 |
| 4,000 | 95 | 9 | 10½ | 7 | 11 | 1,555 | 87.00 |
| 4,000 | 95 | 9 | 2½ | 8 | 11 | 1,580 | 87.00 |
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| 12,000 | 285 | 13 | 10½ | 11 | 11 | 5,370 | 258.75 |
| 15,000 | 357 | 15 | 6 | 11 | 11 | 6,080 | 303.75 |
| 20,000 | 476 | 17 | 10 | 11 | 11 | 7,280 | 352.50 |
| 25,000 | 593 | 18 | 4 | 13 | 11 | 8,510 | 412.50 |
| 30,000 | 714 | 20 | 2½ | 13 | 11 | 9,800 | 465.00 |
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1604 Hobart Building, San Francisco

Los Angeles Office: 308 East Third Street

### THIS MONTH IN THE VEGETABLE GARDEN IN SOUTHERN CALIFORNIA

(Continued from Page 221)

early part of the month.

Sow seed of Crosby and Early Egyptian beets, Swiss chard, endive, kohlrabi, Los Angeles Market lettuce, Bermuda onions for green onions or for growing on to early mature onions, parsley, parsnips, Giant Amsterdam spinach, Chantenay carrots, turnips, radishes, peas and kale. Start seed bed of cabbage and cauliflower.

Ground that is not to be put to graden till next spring should be cleaned up as fast as crops mature, the trash put on a pile to make compost or turned under to decay in the ground to make humus. As soon as the rains come have the garden covered with manure to be turned under with the first spading or plowing.

## Southern Arizona

By M. E. Bemis

THE list of things plantable for September includes beans, beets, cabbage, carrots, cauliflower, kohlrabi, kale, lettuce, onion seed and onion sets, peas, radishes, spinach and turnips. Beans should not be planted except in the early part of September, and then not largely, as there is always danger of frost. Usually in the Salt River Valley we do not have killing frost until early in November, but sometimes it comes in late October. The late planted beans if they are not cut off by early frost will make a welcome addition to the home garden, but the commercial gardener hesitates about putting out a crop that may be cut off before maturity.

Beets, carrots and radishes may be planted at any time and in the usual way. Eclipse beets, Crosby's Egyptian, Early Blood turnip and Long Blood beet are varieties recommended. Swiss chard for the chickens and stock beets for both cows and chickens are worth while planting where space permits. Oxheart, Danver's Half Long, Chantenay and Improved Long Orange are recommended for carrot lovers, and more of us might to advantage cultivate the taste.

Seed of cauliflower may be planted during September. Henderson's Early Snowball and Large Pearl are recommended. A few growers in the vicinity of Phoenix are doing well with cauliflower, and it is probable that more will be grown as it is a popular vegetable on the Phoenix market. It is not especially difficut to grow, but the soil should be rich and porous.

Lettuce is easily grown, but still there are many failures, some of them due to poorly prepared soil, and some to soil that is not rich and some to worms and grasshoppers. Lettuce is usually grown on ridges 12 to 18 inches wide, 4 inches high 10 to 15 inches apart. Irrigation water should run between the ridges but not over them. There is a nice art in irrigating lettuce as well as cotton or most other crops. It requires plenty of moisture, but may be ruined by too much. New York Market and Arizona Wonderful are most popular in Arizona, especially for shipping.

Bermuda onions, Crystal White Wax, Australian and Yellow Globe Danvers are recommended for the home garden. For green onions plant in double rows 6 inches apart in ridges 12 inches apart. Green onions may be pulled and thus thinned. Some will mature for table onions later. Most people prefer for the home garden to set out the onion sets, as it is less bother.

Early peas may be planted up to September 15, and the later sorts any time. The dwarf varieties may be planted rather close together, that is 18 inches apart for the rows, but the heavier growing varieties should be planted in rows three feet apart. The Blue Bantam and American Wonder are good dwarf peas. Yorkshire Hero and Gradus are good peas of the later sorts.

Spinach should be sown in drills 12 to April. The Prickly Seeded Winter is the variety most commonly grown, but Bloomsdale is being grown some and is a favorite with many.

Cabbage may be planted for later transplanting, though most home gardeners will prefer to buy the plants later.

# September in the Ornamental Garden

## Southern California

By Ernest Braunton

FOR the next 60 days considerable attention should be paid to chrysanthemums (what a mouthful when 'mum's the word). This is the time of intensive feeding, but do not overdo it. More 'mums of promise are killed or spoiled by over feeding than by under feeding. Yet they should be heavily fed.

One of the first requisites is staking. If you have no large plant stakes or wire trellis use "stem stakes," that is, a small stake to each stem. These are best made of shakes—split shakes are preferable to sawed shakes. Tie with raffia or large soft twine; small hard cords will cut the stems. After staking feed well if buds have formed, and all but the late sorts should now be budded. Feed and water well until color shows in the buds then feed no more, but water still more heavily. The best local growers use liquid manure, made from that obtained from dairies. The best amendment to this is a solution of one pound sulphate of ammonia to 50 gallons water. Make your feedings semi-weekly and semi-weakly. To be short, feed little but often.

### Propagate from Cuttings

Nearly all herbaccous plants capable of rooting from cuttings will start easily during September. Get a box of any depth more than three inches, bore some holes in bottom so water may escape. If six inches or more deep either put in an inch or two of gravel or do not fill box to top. Four inches of sharp sand, not too fine, yet not gravel or having gravel stones of pea size in it, is just right for all cuttings. Put in cool shady place, but not in cold place and see how many kinds of plants you may root. Never let the sand get dry, yet do not flood it.

This is a good time for moving plants, especially tropical plants, the best time except the warm days of early spring. Nurserymen "dig and sack" palms etc., for winter trade during September in order to have them ready for winter trade. They recover from the shock in lath houses or shady places by covering the balls of earth with wet sand or wet shavings or sawdust. It is much safer to move plants and reset them in the garden, so be unafraid. When transplanted at this season water freely if weather is warm.

### September Sowings

Sow at once seeds of pansy, stock, calendula, snapdragon, flax, sweet sultan, salpiglossis, candytuft, lobelia, bachelor's button, Canterbury bell, foxglove, columbine, larkspur, hollyhock, pink, lupine, mignonette, penstemon, and sweet peas. Don't forget the sweetpeas now; they will give you Holiday flowers, the best of all the year. Dig soil up for at least a foot and make rich with well rotted manure. Soil cannot be too rich or too deep.

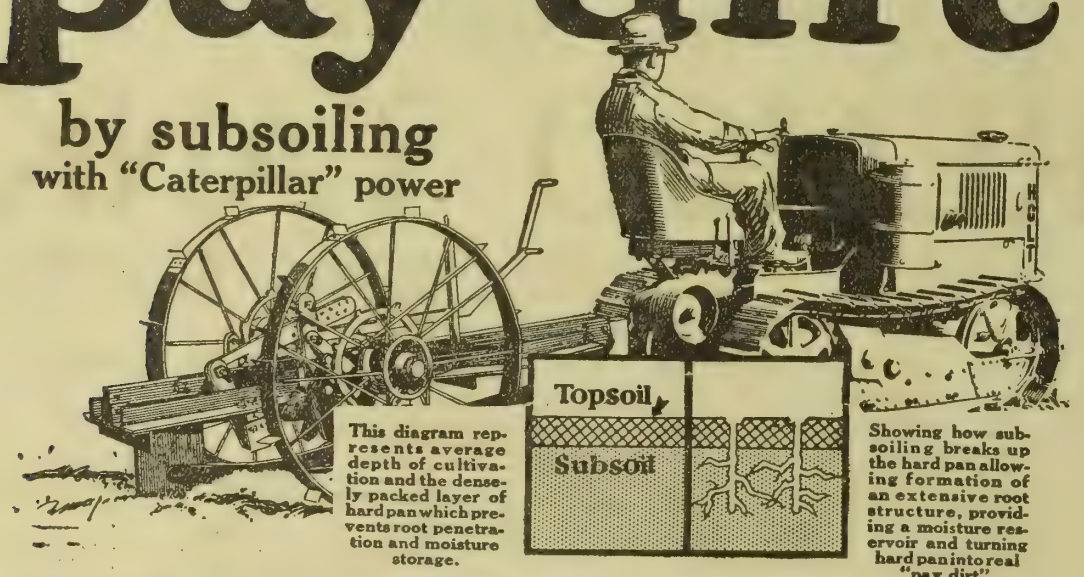
### Bulbs

Many sorts of bulbs may now be planted. Freesias and Watsonias are in full season and those that may be planted during this month are: paperwhite narcissus, Roman hyacinths, oxalis in great variety. Later in month also put in narcissus, ranunculus, anemone, sparaxis and ixia. When the new stock of lily bulbs arrive plant them as quickly as possible. They should be in market now and the less drying they receive the sooner will they "resume."

Cinerarias are very satisfactory if you have a good place, good soil, and will give them good care. Start seeds now, in light soil, in a box placed in a cool, shady spot. When plants are two inches high transplant to permanent quarters. This permanent position must be shady, except for sun up to nine or ten o'clock in the shortest days. The soil must be deep and rich,


# Turn hard pan into "pay dirt"

## by subsoiling with "Caterpillar" power




This diagram represents average depth of cultivation and the densely packed layer of hard pan which prevents root penetration and moisture storage.

Showing how subsoiling breaks up the hard pan allowing formation of an extensive root structure, providing a moisture reservoir and turning hard pan into real "pay dirt".

**SUBSOIL pan and hard pan cramp root structures, prevent proper drainage, check growth and yield. Subsoiling, with "Caterpillar" power, breaks up tough hardpan, conserves moisture, increases food area for roots and makes plants more resistant to disease.**

**Look at some of the results as told in hundreds of letters—"My prune crop graded 21 points better to the pound after subsoiling." "24 sacks of barley against 8 by subsoiling"—"Subsoiling saves fertilizer, saves 50% in water, saves 20% in plowing."**

**Subsoiling by "Caterpillar" power is the proved way—the economical way of producing better and bigger crops. The "Caterpillar" T-35 Tractor is the one *small* tractor with sufficient power for the heavy work of subsoiling. While it is only 48 inches wide and 52 inches high it surpasses, in power and endurance, many tractors of much greater size. Subsoiling is just one of the many jobs that the T-35 does easily. Its versatility is amazing—its dependability insured by Holt design and workmanship.**

**"Caterpillar" Tractors are made in larger size—the 5-ton, Western 10-ton and the big 75—to meet any power need. Subsoil before the rainy season. Send at once for complete information.**

***Here's what they think of the "Caterpillar" T-35 for subsoiling:***

**"I used the T-35 to subsoil and went down 20 inches deep the second time and you could hardly tell it was working.**
***Jacob Dittenbir*—Reedley.**

**"I have subsoiled 16 inches deep. Have also pulled a 7-foot double disc—the T-35 simply played with this load."**
***G. Weyand*—Acampo, Cal.**

CATERPILLAR

# The Holt Manufacturing Co.

*Stockton, Calif. Peoria, Ill.*
*Los Angeles, Calif. San Francisco, Calif.*
*Spokane, Wash.*

retentive of moisture and be kept moist. Cinerarias are very impatient of weeds, even small weeds, are gross feeders, always thirsty, and invite aphis or green fly. Fierce hosings will keep the aphis away and dusting leaves with tobacco dust after each hosing will complete the job. They thrive best under the same liquid manure treatment given chrysanthemums. Splendid results have been obtained by giving them very dilute doses of chamber lye every morning, but it should be made very weak if you are to make the plants strong.

## Northern California

By A. R. Gould

We are reminded of the fact that autumn is at hand by the glorious tints of the leaves and the color of the berried trees and shrubs. The Mountain ash and crataegus are now beautiful and as the season advances will add even more to the fall effects. No garden can be complete without these shrubs, and if you have none in your garden make a note of these for spring planting. The best are Crataegus leylandi, C. crenulata and C. augustifolia. For fall decoration they are unsurpassed.

Attention must be given the dahlias; they will need tying up, disbudding and spraying as the black fly or aphis is just now very troublesome. Detroy these with "Black Leaf 40" as it is very important to keep these in check. They may also be on the cosmos, etc. Keep the lawns well watered during the hot, dry weather and where necessary apply sulphate of ammonia or decomposed lime shell to color up the brown spots as a starved lawn is unsightly. Usually at this season snails and slugs will be doing their worst on the leaves and often blooms of your choicest plants. Hand picking is the safest way to get rid of these pests and their hiding place will not be far from their feeding place.

**Roses**

Now is a good time to apply a heavy mulch to the roses. If you did not prune the bush roses last month as advised you may do so now and still stand a chance of encouraging a few late blooms this season.

**Chrysanthemums**

These should be kept well watered and given liquid manure as advised last month. Where the choice large blooms on the single stem are being grown they should be put under cover this month. A muslin sheet should be arranged to cover the plants and protect them from the strong sun. Remove all but the crown bud or terminal if large blooms are desired. With the other types such as singles and pom-poms very little disbudding is necessary. Spray for aphis as they appear and have all plants securely staked.

**Begonias**

These need extra care as they will provide bloom for late in the fall and they like semi-shade and heavy feeding at this time of the year with liquid manure. Tall varieties must be staked.

**Bulbs**

It is not too early to plant freesias, and these may be planted in fairly rich soil in solid groups or the bulbs may be planted along the borders of the path. Plant the bulbs 3 inches apart and one inch deep. It will also be a good plan to place your order for the daffodils, narcissus, hyacinths and tulips.

**Lest You Forget**

For spring flowering sow at once on a well prepared border forget-me-not, pansy, viola, snag-dragon, alyssum saxatile, California poppy in all the new shades, nemophila, phacelia, clarkia, cineraria in tall flowering mixed and dwarf rose and blue shades, primula, dianthus and sweet william. The sweetpeas sown will provide a wonderful display just when you need it during the winter months, thanks to our sweetpea experts who through many years of selection and hybridizing have perfected a wide range of the best colors. Prepare the trench deeply with manure, having it well mixed and moist before sowing the seed which should be sown thinly.

## Southern Arizona

By M. E. Bemis

As everyone knows, the gay colored nasturtiums make a better display for three or four months of the season than almost any other plant. And considering the time, labor, and soil, they produce more flowers than any other annual and in such an array of colors that they are irresistible. Nasturtiums grow best on thin soil, too much moisture cutting the production of blossoms. They love the sun and are bothered very little by heat. But it is well to remember that soil which is too rich will not produce plants that can withstand the wet weather.

Pansies, too, are great favorites and seeds may be planted now in rich, moist beds with liberal shade, but, if the seed is good, any situation will do. Another good flower to plant at this time is the Sweet Alyssum. This flower may be used extensively for borders, edgings, baskets and cutting In order to have winter blossoms the seed should be planted in September or roots divided. Mignonette for winter flowering may be seeded now.

An Arizona garden would not seem

Those lights in the train

Long before the locomotive is coupled to the train, you push the button in your berth and the light flashes on. Have you ever wondered what supplies the current for those Pullman lights? Storage batteries, charged by a generator under the car when the train is in motion, furnish the current. Exide Batteries are used on many of the country's leading railroads.

In the automobile field the first starting and lighting battery was an Exide, and today more new cars have Exides than any other battery.

The pioneer battery for light and power plants on farms was an Exide, and a great majority of the thousands now in use are rugged, long-lasting Exides.

Experience in making batteries for all purposes since the start of the storage battery industry is built into the Exide for your car. The result is a battery that keeps its power through a long life of steady service. For real comfort and true economy in motoring, get an Exide when your present battery must be replaced.

Exide BATTERIES SERVICE STATION

The nearest Exide Service Station has a battery the right size for your car. If your present battery needs repairs, no matter what make it is, it will be repaired skillfully and reasonably. If not in your telephone book, please write us for the address.

The Electric Storage Battery Company
Philadelphia

Service Stations Everywhere
Branches in Seventeen Cities

THE LONG-LIFE BATTERY FOR YOUR CAR

complete without the rich orange gold of the African daisy, seeds of which may now be planted. It is gaining popularity through its easy culture and long blossoming season. Hollyhocks will lend a touch of color and dignity. Seeds planted now will bloom next spring, as will Shirley poppies

It may be added, for the industrious gardener whose planting was delayed last month, that September still offers possibilities for planting the zinnia, Christmas flowering sweetpea, phlox aad cosmos.


# Herbicide Kills Weeds Cheaply, Effectively

**Satisfaction Guaranteed**

Destroys, **absolutely**, all pest weeds, noxious grasses, vines, shrubs, including Johnson, Bermuda, Morning Glory, Crab, Nut, Bronco, Water Grasses, Malva, Thistle, and all other noxious plants.

Herbicide is a triumph of modern science. It is a combination of chemicals, which, when sprayed on the foliage, permeates the entire sap system of the plant, and kills it root, branch, seeds and all. Inasmuch as the seeds, also, are killed, your next season's crop of weeds will be lighter and eventually you will banish them entirely.

Herbicide is **extremely economical** and easy to use. Does not require a professional sprayer. Far cheaper and more effective than hand labor with a hoe. To save freight we ship in concentrated form—one gallon makes ten gallons of spray. This is one of the reasons why Herbicide is a more economical spray to use.

Herbicide is tried, tested, proven. It cannot fail to remove noxious weeds in the cheapest and most effective manner known. **Now is the time to kill them.** Enrich your land by removing worthless weeds which sap the soil.

Write for prices today.

**Herbicide Chemical Laboratories, 1963-C Santee St., Los Angeles, Cal.**


### JUNE DROP AGAIN TAKES TOLL

(Continued from Page 227)

potassium nitrate was added to the soil. The pronounced effect of available nitrogen in increasing the set of the fruit has long been known not only with citrus but with other fruits as well. Lewis and Allen have found that the use of nitrate of soda in the apple orchards of the Northwest has resulted in phenomenal increases in set of fruit. This same relationship has been shown in the Arlington Heights fertilizer plots conducted by the citrus experiment station, and is well recognized by many progressive citrus growers who plan to each season apply quickly available nitrogen at the time of spring plowing. This relationship has been so well established as to be hardly open to dispute. It appears however that the underlying cause is likely to be found in the decreased water requirements of the trees in the presence of plenty of plant food and particularly of available nitrates. Therefore the maintenance of ample quantities of organic matter in the soil together with the application of quickly available forms of nitrogen fertilizers in early spring or cultural practices conducive to early warming up of the soil so as to encourage nitrification constitutes perhaps the most promising means for June drop prevention.

The recommendations of the writer for June drop prevention may therefore be summarized in the statement that for Southern California districts the maintenance of a high organic matter content in the soil, together with the application of a limited quantity of quickly available nitrogen in early spring is the most promising method for June drop prevention. For the interior valley districts, in addition to these practices, where ample water is available the growing of a spring cover crop offers a promising method of prevention and the use of windbreaks and of closer planting is to be advised as a possible means of relief.

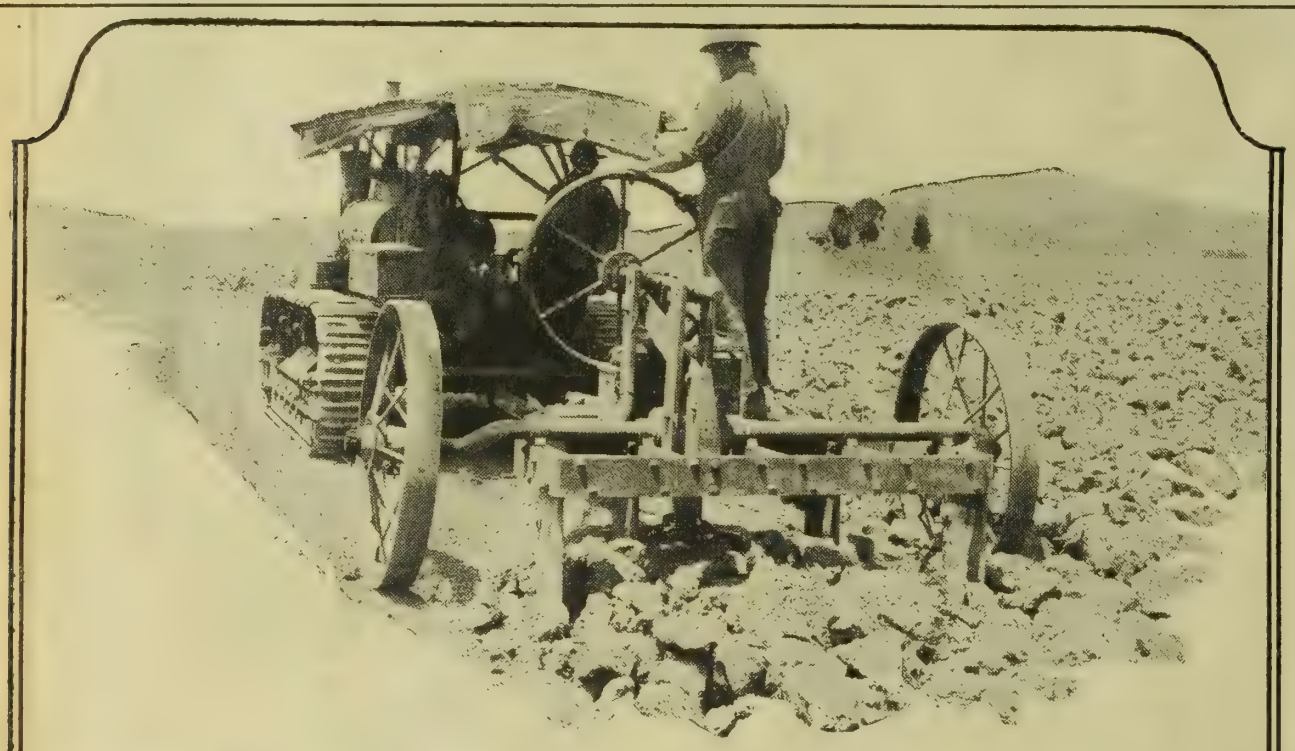
### NOVEL MUSEUM PLANNED FOR CATALINA ISLAND

Two hundred feet above the Pacific Ocean, and overlooking Avalon, Ralph Glidden of the staff of the Museum of the American Indian, George G. Heye Foundation, in New York will erect a unique museum that should prove one of the wonders of the modern world. Mr. Glidden is an archeological authority on the famous Channel Islands in whose ancient history there is steadily increasing interest.

Instead of a tower to crown it, the Glidden Museum will be capped by a gigantic skull, 16 feet wide, 11 feet high, and 24 feet through. For his model Mr. Glidden is taking the skull of an Indian chief which he unearthed recently on San Nicolas Island, just out beyond Catalina. The enlargement will follow its dimensions proportionately.

The museum will be an imposing structure of solid masonry, 30 by 40 feet. The skull featuring the exterior will serve as an index to the contents of the building. The eye sockets will be five feet in diameter, equipped with powerful electric lamps which will be visible far out at sea. The nose-bridge will also be fitted up with additional illumination, as well as the lower jaw. The effect of the latter will be designed so as to show up the teeth, whch were one of the notable features of the aborigines. The whole thing will be such that no one ever seeing it can forget Mr. Glidden's museum. If men ever grew large enough for heads of such a size as this skull they would be from 60 to 70 feet tall. Although the original Channel Islanders were large men, not many exceeded one-tenth of that size.

When completed the museum on Santa Catalina will be unlike anything else anywhere in this country. It will be open to the general public, and the builder plans to give talks on the relics so that the people who visit it will learn something besides having their curiosity catered to.

# Subsoiling Improves Crops

By shattering the hardened strata of earth, the hard-pans and plow-pans, the air and water get deep down into the soil. New soil resources are unlocked, bacterial action begins to work the soil into plant food; the little feeder roots reach out and draw the plant food in.

New orchard and vineyard land should be thoroughly subsoiled before planting. Successful growers are securing improved crops in old orchards and vineyards by subsoiling.

POWER is the key to modern soil culture. The Best "Sixty" handles the big 5-standard subsoiler and the combined equipment of large farming operations. The Best "Thirty" is adapted to the deep tillage demands of the smaller farm, orchard and vineyard.

**C. L. BEST TRACTOR CO.**
**SAN LEANDRO . . . CALIFORNIA**

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**BEST TRACTORS**


### PRESIDENT HARDING SAYS

In speaking of the work of the American Farm Bureau Federation, President Harding says:

"Its policies have been directed with a uniform wisdom and breadth of understanding which have well earned the high place which the federation holds in the confidence of the country. I feel that it has been worthy of especial commendation by reason of the broad view it has taken of national problems and industrial relationships. This liberality of vision has been particularly illustrated in its broad and comprehensive interest in behalf of an adequate merchant marine, and its favorable attitude toward the Great Lakes-St. Lawrence waterway project.

"No particular department of industry or commerce will in the long run be promoted by an attitude, on the part of those immediately concerned for it, which excludes an accurate view of the common interest among them all. Being thus convinced, I have especial satisfaction in expressing my commendation of the federation's work and attitudes, and my sincere hope for its continuing and increasing prosperity."

# The State Fair of Interest to Women

WOMEN who have the opportunity of visiting the state fair will find much to interest them in the various exhibits in the big agricultural and horticultural building and also in the smaller buildings and the tents which cover the grounds. The fair management a number of years ago constructed a building to be devoted exclusively to women and their interests. This is the meeting place, the lounging room, the assembly room where friends may meet and old acquaintance be renewed. It is typical of a structure designed with the object of giving the most comfort to its women guests. This building contains splendid examples of needlework of all kinds from the simple quilt to the finest tatting and hand made lace. Splendid examples are shown of embroidery for household use, center pieces, doilies, napkins, linen and cotton finery of every description. Women cannot fail to be interested in the pleasing art exhibit, and the splendid pictures may be studied at leisure.

Adjoining the woman's building is the children's playground. There you may park the kiddies for an indefinite length of time and know that they are perfectly safe on the apparatus which has been prepared by the state fair management. This includes swings, wooden horses, merry-go-rounds and other things to amuse the children. All is set in a deep bed of sand where the little folks can play to their hearts' content.

You will find one of the most interesting buildings to be that of manufactures. This contains the manufactured articles which you will delight to have in your home, assembled under this one roof for your convenience and special observation. There are many aids to lightening kitchen drudgery, including improved cooking utensils, fireless cookers, patent stoves for oil, gas and coal, fancy baking dishes, washing machines, mangles and electrical appliances for every room in the house. Those who take an interest in cooking will find exhibits of special kinds of flour for particular needs, such as bread, cake, pastry and biscuits, together with many examples of flour suitable for hot cakes. Electric sewing machines occupy a prominent booth, together with a large number of improvements in the ordinary foot power machines. This building also contains the latest designs in furniture and bedding, carpets of various textures, window decorations, beautiful examples of home decoration, pianos and other musical instruments, the latest styles in house dresses and many other objects in which all women are interested.

After you have spent considerable time in the manufacturers building you can cross the main avenue and enter the educational building where your eye will be attracted by the exquisite lace work and you can watch the intricate process of rug making. Perhaps you will be most interested in the juvenile art work which is found on tables and walls. This has been gathered from the various educational institutions of California and is a splendid example of what young hands and young minds can do. Painting in water and oil is shown in beautiful landscape scenes and architectural designs, splendid applique work in pleasing figures, wood carving, furniture manufacture and a complete display of the work done by the manual training departments of grammar schools.

The main agricultural and horticultural building will have much of tremendous interest for women. There are splendid examples of canned fruit and vegetables, jelly making and preserving, and the making of cakes and cookies. Novelties of many kinds in fruit are displayed, and there are abundant samples to be had of delightful puddings, cereals and beverages.

A great many women find tremendous interest in the races which are held every afternoon from two till four. There is also plenty of music by three bands, together with vocalists and soloists on various instruments.

Those who do not desire to have their lunches in the restaurants will find ample accommodations on the beautiful lawns which surround the various buildings.

The general agricultural, poultry and livestock exhibits will be of great interest, as will also the big tractors and implements in the "Power on the Farm Tent."

At night there is a splendid display of fireworks in front of the main grand stand. This is a typical, old time display, including many beautiful set pieces, colored lights, bombs and figure fireworks of all descriptions.

Any woman who attends the state fair will be amply paid for the visit. Special consideration is shown women in every department, and the demonstrators take particular delight in having interested women in their audiences.

### A FELLOW FEELING

"Aren't you lonesome, my poor man?"

"Not so lonesome as I was."

"How is that?"

"I feel that I have company. You see, me and Germany can't pay our debts."—Ex.

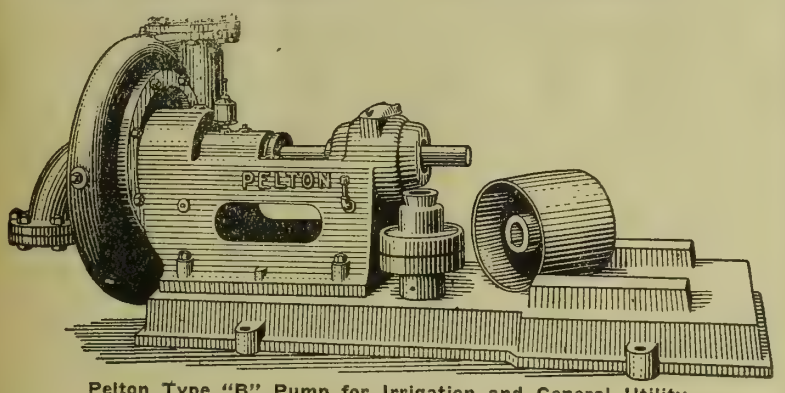

PELTON PUMPS

will be shown

At the State Fair

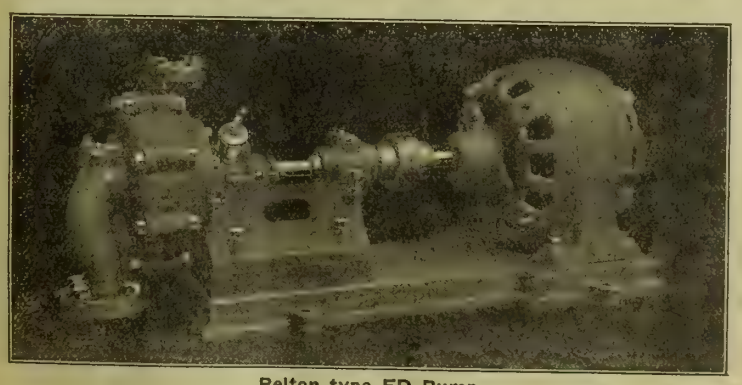
in the exhibit of

The California Mechanical & Electrical Engineering Co.




Pelton Type "B" Pump for Irrigation and General Utility, for Eeither Belt or Direct Drive

Not only Pelton irrigation and heavy-duty pumps will be exhibited, but there will also be shown in actual operation a complete pressure system, actuated by one of the new Pelton type FD pumps, an efficient and economical system for domestic supply and fire protection.



Pelton type FD Pump

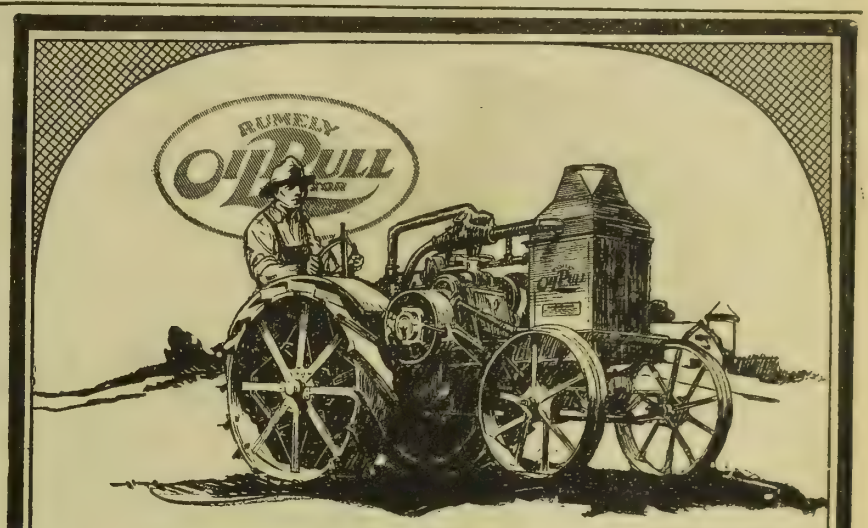
Ask your nearest Pelton dealer about Pelton Pumps, or write for bulletin 18 to

THE PELTON WATER WHEEL CO.

HYDRAULIC ENGINEERS

2033 Harrison Street San Francisco






Compare Power Costs

Purchase price plays the least important part of all in the cost of tractor service. How much fuel it uses to produce belt and drawbar power; how much repairs and upkeep cost per year; how many years of satisfactory service it is calculated to give, are the important factors to consider. Power is what you want and these factors determine the cost of tractor power.

OILPULL

*"The Cheapest Farm Power"*

Burns Kerosene, Distillate or Stove Tops

The OILPULL is a "quality" machine. It costs what good workmanship is worth. But think of what it does! Saves 39% of fuel cost. Has held all principal fuel economy records for the past ten years. Saves 50% in upkeep cost. Works day after day at this low cost for an average of ten years. Keeps depreciation at a minimum. These facts are proved by authoritative tests, investigations and comparisons.

OILPULL economy is due largely to TRIPLE HEAT CONTROL. This scientific system of oil burning positively solves the problem of getting the tremendous hidden power out of cheap kerosene, distillate or stove tops. It is exclusive with the OILPULL. Because of it we guarantee in writing that the OILPULL will burn kerosene successfully under any conditions and at all loads up to its full rated brake horse power.

For further facts and a demonstration see a nearby Advance-Rumely dealer. Or, write us for information and a copy of our booklet on Triple Heat Control.

ADVANCE-RUMELY

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*The Advance-Rumely line includes kerosene tractors, steam engines, grain and rice threshers, alfalfa and clover hullers, husker-shredders and farm trucks*

*Serviced through 30 Branch Offices and Warehouses*

# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Pumping Problems

I have a three inch centrifugal pump. Wells are 18 feet deep. Can I pump into a 6 inch cement pipe 500 feet long, 40 feet elevation? What size electric motor and what size gas engine will it require? Will I have to put in a stand pipe or can I pump direct into pipe line? What will take care of the back kick when pump is stopped? What speed will the pump run?—Subscriber, Escondido.

A pump working under the conditions named cannot be satisfactory. Cement pipe, unless very heavily reinforced, will not be strong enough, and particularly so under the strain of stopping a column of water 40 feet high. Any stand pipe that might be put on will not relieve the strain sufficiently to prevent bursting a cement pipe. Unless the flow of water into the well is strong enough to keep the water from lowering more than ten feet you will have trouble from air getting into the bottom of the suction pipe even with the suction pipe reaching within two feet of the bottom of the well. The actual power used to pump 25 inches of water through a well finished cement pipe six inches in diameter to the required height will be seven horsepower. This will be large enough for a motor but a gas engine of one or two horsepower more than this will be more satisfactory. The pump will have to run about 1200 revolutions per minute though different makes of pumps will likely vary in speed required.—J. B. N.

### Budding Deciduous Stock

Have budded some deciduous fruit trees. Do the buds make any growth this year or do they remain dormant? Also does it make any difference whether the wood is removed from the buds, (just leaving the bark) or not before inserting them?—Subscriber, Terra Bella.

The budding is usually done early in the spring so as to secure immediate growth and growth during the entire summer. Some, however, prefer fall budding, sticking the bud in the fall and allowing to remain dormant over the winter and forcing early growth next spring. Usually the wood is not removed. Some think, however, there is slight advantage in doing this with some kinds of buds.

### Turkens

In regard to the new turkines, what do you cross to get them?—Subscriber, Manteca.

We presume the inquirer refers to a mongrel or offspring from the cross of turkey gobbler and chicken hen. It seems such cross is possible, and there are one or two breeders in the state who are breeding this stock and we believe offering for sale. We do not know what particular merit is claimed for the cross. We believe the name generally applied is turkens.

### California Tarweed

Kindly inform me as to use of California tarweed and market for same. —Subscriber, Willows.

There are at least a dozen distinct species of plants that are known as tarweeds in California. Almost any regional botany of this state contains five or six so-called in that particular territory. But none of them, so far as we know, have any market value. Indians roast seeds of Madia for food and also obtain a cooking oil from them, and seeds of Hemizonia are used likewise. Neither is of commercial value. There is, however, in your section of the state, a native "gum plant," very common, which is harvested in some counties by the ton and sold to manufacturing chemists. The extract is used in asthma medicines and in lotions for cure of poison oak or sumac. Its name is Grindelia robusta and it resembles a small light yellow sunflower, with a heavy "clubby" or almost globular head which is very sticky with a whitish gum just below the petals. Better send flowers of your plant for identification.

### Tomato Rot

To those who have asked for aid in combating blossom end rot of tomatoes, we can only say that nothing can be done. It has been thought that good drainage and control of water supply were factors in control of disease, but this has been questioned. The disease has been very bad this year and D. E. Milbrath, of the state department of agriculture is making a special study of it. If anything favorable is discovered it will be published.

### Leave Frost Injured Trees Alone

Regarding "Citrus Dying" which is touched upon in the query department of August 5, and many other times in the Cultivator, C. Lincoln Bennett of Santa Ana writes:

"I have recently examined numerous frozen trees. All those given good care but no 'treatment' are doing the best."

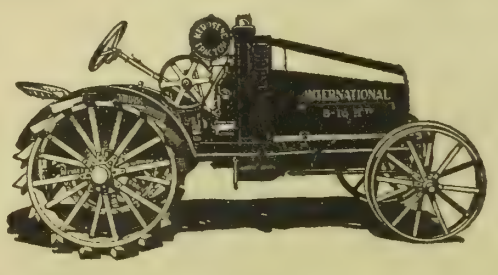
### Peach Scab

A number of peach growers of the San Fernando Valley are complaining because of peaches affected with a fungus causing small round spots or scars on the side of the fruit. This is proving so serious this year that some canners are culling and rejecting many. Some expressed the belief that it was a spot caused by dewdrops on the fuzz of the peach focusing the sun's rays and merely creating a physical blemish. However, specimens were sent to the Riverside experiment station and Dr. J. T. Barrett writes:

"The peach is infected with what is known as peach scab. It is caused by a fungus well known and with the scientific name 'Cladosporium carpophilum.' This is a disease which has not been, at least in recent years, of very great economic importance in Southern California. However, it seems to be on the increase in certain sections and because of the suitable weather conditions prevailing this spring for the development of the fungus and its spore germination it is quite prevalent on peaches. The same fungus also attacks apricots and produces a very similar effect to that noted on the peach. In severe attacks the skin of the fruit becomes hardened and sometimes badly cracked. Such fruit is, of course, unfit for use. The disease has become, the last few years, of sufficient importance to warrant a rather systematic experimental test for its prevention and control. I understand that Mr. Weldon this past year tried out a few spraying tests but with what result I am not yet informed."

### Rotate Crops

I wish to continue the good work of R. W. Bates. (See Cultivator, August 5, Page 130). Let us snuff out error and promote truth. The facts are these: No legume plant, of itself has any power or "ability to take nitro

International 8-16 - - - - - $670
Titan 10-20 - - - - - - - - $700
*With Free P & O Plow*
[Tractor and Plow f.o.b.Chicago]

## Greatest Farm Power Values—Bar None

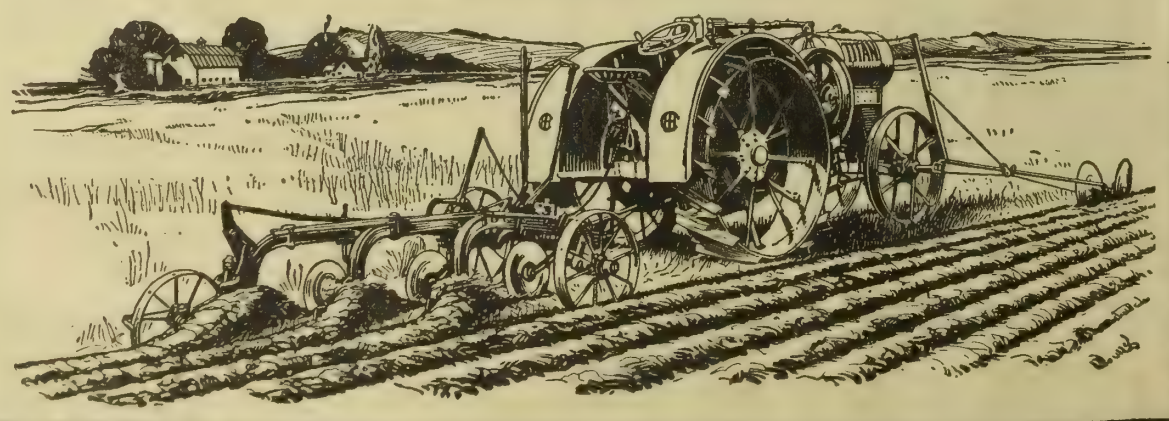
REMEMBER that these are not stripped tractors, pared down to make low prices. Titan at $700 and International 8-16 at $670 include all essential equipment—belt pulley, fenders, platform, throttle governor, adjustable drawbar, angle lugs, brakes. This equipment for each is worth more than $100, and is necessary on any tractor to make it serviceable and safe. And above all, the prices include P & O Tractor Plows—2-bottom with the International 8-16 and 3-bottom with the Titan 10-20.

THIS is a time for investment in Titan 10-20 or International 8-16 tractor power. Make your choice and get the complete outfit from the McCormick-Deering dealer. Every day, keep this efficient power at work at your fall plowing and other drawbar work, and tie it up to all sorts of belt machines. By winter time you will be enthusiastic about the all-around usefulness and economy of International Harvester tractors.

These tractors have enormous reserve power, as every owner knows. They pull their plows in all soils with the greatest ease, and they have extra belt power in proportion. They are famous for long life. As the seasons go on you will find them outlasting smaller, inferior tractors, actually by several years. You will find also that they do their best work on kerosene and that the expense of repair and upkeep is remarkably low.

These are the greatest of all power farming values—bar none. Nearly a hundred thousand owners are proving it. Be guided by their judgment. See the McCormick-Deering dealer.

INTERNATIONAL HARVESTER COMPANY
of America
(Incorporated)
Chicago USA
*93 Branch Houses and 15,000 Dealers in the United States*



# EASY NOW TO RID YOUR PLACE OF FLIES

**Widely Known Scientist Discovers Wonderful Chemical That is Fatal to Flies. Not a Poison—Harmless to Stock.**

Flies are one of the most dangerous and annoying things with which the farmer has to contend. Now, through the discovery of E. R. Alexander, widely know scientist, you can rid your house and barns and livestock of these pests almost instantly, and with no trouble at all. This discovery is in the form of an organic chemical that is fatal to flies, and similar pests, such as chiggers, mosquitoes and moths.

This new discovery, which is called Alexander's Rid-O-Fly, is not a poison. Though it kills flies like magic, farm animals and human beings are not affected by it at all. In addition to killing these insects, Rid-O-Fly is a strong repellant. Flies will not come near stock or buildings where Rid-O-Fly has been used. Rid-O-Fly is particularly valuable for cows and horses, as it is a known fact that flies do untold harm to these animals.

So confident is Dr. Alexander that his discovery will rid your house, barns and live stock of these pests that he offers to send a $2.00 supply for only $1.00 on the guarantee that if Rid-O-Fly does not solve your fly problems it will cost you nothing. Two big Kansas City banks guarantee the reliability of this offer.

SEND NO MONEY—just your name and address to the Alexander Laboratories, 1577 Gateway Station, Kansas City, Mo., and this introductory offer will be mailed at once.

THE SUREST AND PUREST FOR DUSTING AND BLEACHING

ANCHOR BRAND SUBLIMED VELVET FLOWERS OF SULPHUR, also EAGLE BRAND and FLEUR DE SOUFRE, packed in double sacks, are the FLUFFIEST and PUREST sulphurs money can buy. The fine light SNOWFLAKE-LIKE particles float to every surface and crevice of the plant.

Do not adulterate these sulphurs with any inert material such as Lime or Kaolin, etc. Coating the sulphur particles with an inert material PREVENTS the FUMING ACTION caused by the sun's rays.

TRY OUR "ALFA" BRAND DRY WETTABLE SULPHUR

Send for Circulars 6, 8 and 10 about our "Tore" Brand Agricultural Compound and booklet "The Truth About Sublimed Sulphur," also price list.

SAN FRANCISCO SULPHUR CO.
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Asphaltoid ROOFING PAINT

## Only 15c a Gallon

Best Roofing and preservative paint under sun sold direct to you by the manufacturer for only 15c a gallon. Write for particulars and free sample of Asphaltoid. Special Barn Paint 45c a gallon. Paints & Stains 85c & 55c a gallon. Full line paints from 15c to $2.90 a gallon.

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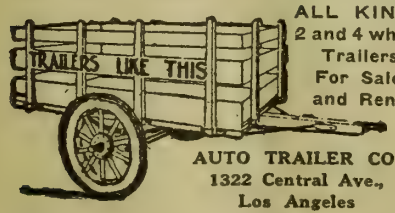
Los Angeles, Cal. Phone 52342




ALL KINDS 2 and 4 wheel Trailers For Sale and Rent

AUTO TRAILER CO.
1322 Central Ave.,
Los Angeles

## BREEDING DATE BOOK---FREE

We have issued a convenient little book for the keeping of breeding dates of cattle, hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly mail you a copy free if you request it. A postal will do.

CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
O. L. Hughes, Sales Manager
Sacramento Cal.


gen from the air and store it in the soil" as Mr. Frazer and lots of others claim. On the contrary, all legumes are ravenous users of nitrogen and soon rob the soil of that element as the crops are grown and removed. Nature, aided by scientists, has provided a way for its replacement, but our "high brow" friends don't seem to know it. There is no "continuous bean field" in the world, under our ordinary practice, that shows as good yield this year as it did years ago. Witness—The worn out "persistent" bean fields of Illinois and other Mississippi Valley states. In this state. take the Greenville district a few miles southwest of Santa Ana; 40 and 50 bags to the acre, of Limas, a few years ago—now 20 to 25 is a big yield. Note the "40 miles of beans" between Santa Ana and Oceanside. The crops of late years are nothing to what they used to be—nitrogen approaches exhaustion; ground lean of humus. The farm advisor of Ventura County recently wrote: "A survey of the average bean field shows that many plants have but few pods and small numbers of beans per pod." "Expenses as great for a poor crop as a good one. Growers discouraged." Does that sound like the famous Ventura bean fields were "improving each year?" Mr. Bates' experience shows the striking truth. Why can't our "men in high places" get onto these truths and give it to us straight?" That's my question. Will any one answer? The remedy is simple and inexpensive.—"Imp" Rover.

We know of no general propaganda urging continuous cropping, even to beans. In fact, we believe our educational institutions have spent much time and money in publications urging crop rotation. Further, we believe it has been pretty thoroughly established that beans make one of the finest crops to be used in the rotation scheme, this because of their ability to get along with a lesser quantity of nitrogen than many other crops. Express it as "ability to gather nitrogen from the air," or as you will, leguminous crops have proven their own abilities as valuable aids in soil upbuilding. But soil upbuilding is not accomplished through everlasting removal of crops from the field without making some return. Unfortunately it comes hard fc some of us to determine exactly what the soil does need. We have determined as fairly correct proposition that soil building means "building" and not the application of any cure all. But the snuffing out of error and the promotion of truth is, unfortunatey, for most of us, a matter of growth which makes it impossible to state with absolute definiteness all the "facts" in the case.

### Irrigating Vegetables

Please inform me how often the following vegetables should be watered, all of which were planted a week ago: string beans, peas, tomatoes and squash. Soil is of medium texture, holding moisture well.—Subscriber, El Centro.

Frequency of irrigation is purely a local problem, depending on nature of crop, soil and weather conditions. All young plants in your district need frequent water; if planted but a week they should not go more than three days without new supply. When growing well tomatoes and squash will need but one-fourth the water necessary to keep peas and beans growing.

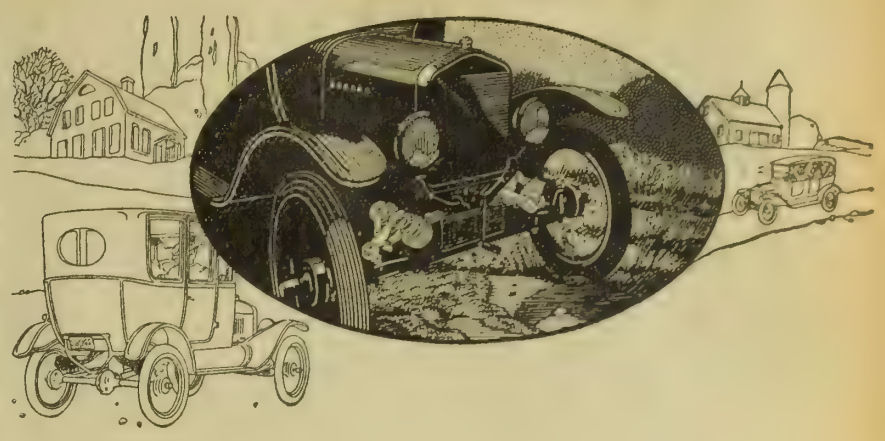
### Dates Dropping

Could you explain cause of souring and dropping of a limited quantity of green seedling dates? The dates that dropped showed no signs of insect infestation.—Subscriber, El Centro.

Excission of green dates is due to either soil or atmospheric conditions. Unfavorable weather is one factor and a heavy irrigation with cold water, especially in a cool period, would be another. But the contributing causes possible are so many that definite answer is impossible.

### Vine for House

Kindly advise me what is the best vine to plant on the west side of a

# Good roads are coming—*but* you can have Hasslers *now!*

SOME day, the statesmen say, all our roads will be perfect! But why wait? You can have Hasslers *now* and escape most of the troubles bad roads cause.

Even the so-called "good" roads of today are seldom perfect throughout. There are invariably old worn stretches that make Hasslers a vital necessity for comfort and economy.

Hasslers smooth out the bumps, reduce vibration, minimize breakage, save repairs, and slacken deterioration of your Ford or Dodge Brothers car.

That is because they have a double action. They cushion the bump; then check the rebound. Unique Hassler features, that you can get only in Hasslers, make that action possible. No single acting device, whether shock absorber or rebound check, can ever give you Hassler results.

Test Hasslers ten days at our risk. If you are not satisfied, money back.

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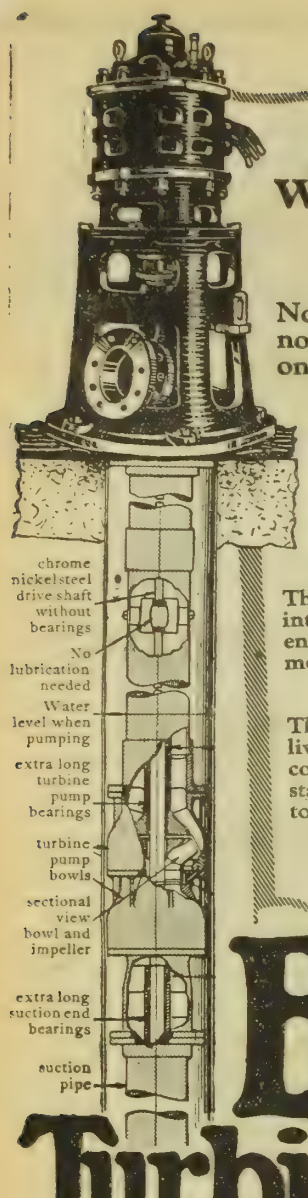
Indianapolis, U. S. A.
ROBERT H. HASSLER, LTD., *Hamilton, Ontario*

HASSLER
TRADE MARK REGISTERED
Shock Absorbers
PATENTED


chrome nickel steel drive shaft without bearings
No lubrication needed
Water level when pumping
extra long turbine pump bearings
turbine pump bowls
sectional view bowl and impeller
extra long suction end bearings
suction pipe

# A Pump without lubrication troubles

No lubrication troubles because there are no under-surface bearings to lubricate. The only lubrication required in the New Bean Turbine is in the head, where a radial thrust bearing operates in an oil bath. We have eliminated all drive shaft bearings through improved construction. The advantages of this construction are at once apparent.

*Built in All Sizes from 6-inch up*

The Bean Turbine goes into a bored well—or into your old pit, if you have one. It is suspended entirely from the surface—and can be easily removed when desired.

*Efficient—Economical*

This pump develops surprising efficiency and delivers the maximum of water at the minimum of cost. Requires little attention and the heavy substantial construction insures long and satisfactory service.

Send the coupon for Turbine Pump Bulletin—also ask for catalog of Horizontal Pumps, if interested.

Bean Spray Pump Co.
121 W. Julian St., San Jose, Calif.

# Bean Turbine Pumps

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Gentlemen: Please send me your pump catalogs as follows:

_____New Turbine Pumps _____Horizontal Pumps

Name_____Street or R. F. D._____

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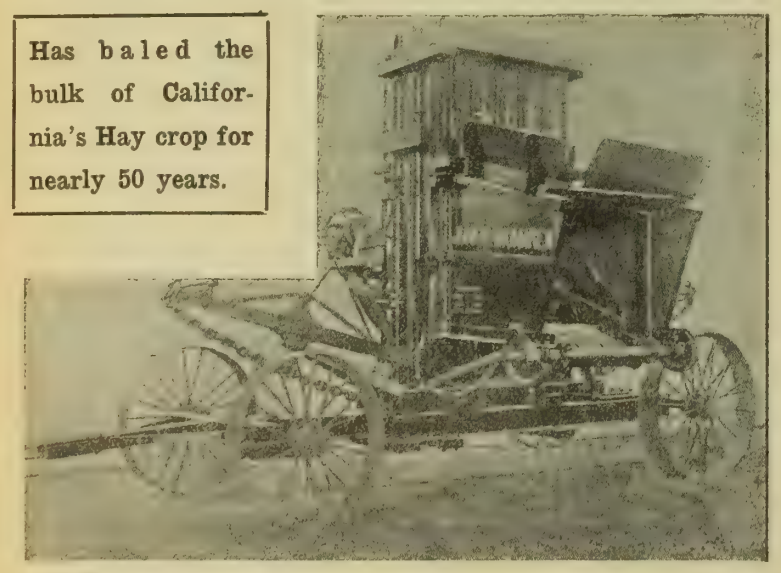
50-P2



# Jr. Monarch Hay Press

Has baled the bulk of California's Hay crop for nearly 50 years.



**Belt or Horse Power**

Guaranteed to excel any press built. Capacity 50 to 100 tons per day.

BALES HAY, STRAW OR GRASSES

Write for Descriptive Circular

JR. MONARCH HAY PRESS CO.
SAN LEANDRO, CALIF.
See the Junior Monarch at the State Fair


Your appreciation of the California Cultivator can be shown best by writing to and buying from Cultivator advertisers.

house in San Joaquin Valley for early shade and when should it be planted? —Subscriber, Earlimart.

"For early shade" is a little vague; perhaps rapid growth was in mind. As permanent results are no doubt desired there is no better vine than the common Chinese or Japanese honeysuckle. It is hardy, vigorous, as free from disease or pests as any plant, of good appearance, flowers freely, very fragrant, grows quickly and has no objectionable qualities not chargeable to vines in general. It may be planted any month in the year. It may be that it was desired to plant seeds but query does not so state. If such information is wanted "come again."

### Trees on Line

Neighbor has row of eucalyptus trees planted about three feet from our line on his land. These trees are about 100 feet high and a lot of the limbs extend over our land so as to shade two rows of our orange trees. These take moisture from the orange trees. Could we make this neighbor take out these trees or trim them in such shape that the trees would do us no harm?—Subscriber, Garden Grove.

This is one of the most perplexing and most often repeated questions which come to the Cultivator office. Recent decisions have been in effect that the person maintaining the trees which damage another is responsible for all damage which can be proved and must pay for such loss or injury. In addition decisions have been rendered in effect that where they are a menace or continuous injury to neighboring property they may be abated as a nuisance. In the former case one must secure an attorney and enter suit for the injury suffered. In the latter case, reporting to county district attorney may possibly be sufficient.

### COMING EVENTS

(Corrections and Additions Requested.)

**California's Pageant of Progress and Industrial Exposition, Los Angeles, August 26-September 9.**
**Walnut Growers Field Day, Santa Barbara, September 1-2.**
**Melon Carnival, Turlock, September 1-3.**
**State Fair, Sacramento, September 2-10.**
**Pear Festival, Tehachapi, September 4.**
**Rio Bravo Community Fair, Rio Bravo, September 9.**
**Grape Day, Escondido, September 9.**
**Tehama County Fair, Red Bluff, September 11-17.**
**Tulare County Fair, Tulare, September 13-19.**
**Colusa County Fair, Colusa, September 13-17.**
**Glenn County Fair, Orland, September 18-23.**
**Kings County Fair, Hanford, September 19-23.**
**Fresno County Fair, Fresno, September 25-30.**
**Siskiyou County Fair, Yreka, September 26-30.**
**Orange County Fair, Santa Ana, September 27-30.**
**Shasta County Fair, Anderson, September 28-30.**
**Ventura County Fair, Ventura, October 5-8.**
**Butte County Fair, Oroville, October 2-7.**
**Pork Day, Turlock, October 11.**
**Los Angeles County Fair, Pomona, October, 17-21.**
**Southern California Fair, Riverside, October 10-16.**
**San Francisco Livestock Show, October 18-22.**
**California Horsebreeders Association, Los Angeles, October 18-22.**
**International Festival of Dates, Indio, October 18-22.**
**Pork Day, Fresno, October 20.**
**California Industries Exposition, San Francisco, October 27-28.**
**Yucaipa Apple Festival, Yucaipa, November 9-12.**
**Pacific Slope Dairy Products Show, Fresno, November 13-18.**
**Valley Citrus Fair, Visalia, November 26-December 2.**
**Orange and Olive Festival, Oroville, November 28-December 2.**
**First National Walnut Exposition, Santa Ana, December 4-9.**

COAST AND GENERAL

**Southwest Washington Fair, Chehalis-Centralia, August 28-September 2.**
**Interstate Fair, Spokane, Washington, September 4-9.**
**Washington State Fair, Yakima, September 18-23.**
**Oregon State Fair, Salem, September 25-30.**
**Arizona State Fair, Phoenix, October 30-November 4.**
**Pacific International Livestock Show, Portland, November 5-12.**
**Northwest Fruit Growers Exposition, Seattle, November 11-19.**

### MANY MORE EGGS IN STORAGE

A check of Northwestern markets develops the following estimates as to holdings of eggs in storage plants: Seattle, 50,000 cases against 40,000 a year ago; Portland, 60,000 cases against 51,000 a year ago; Tacoma, 30,000 cases; Bellingham, 18,000 cases; Spokane, 18,000 to 22,000 cases; Boise, 9,000 cases; Walla Walla, 6,500 cases; Yakima, 4,000 cases; Butte, 7,000 cases; Salt Lake City, 18,000 cases. In every one of the larger markets these figures represent total in excess of those for the previous year, and with at least normal production assured for this season, there is no great optimism in the storage egg deal.


*"From Farm to Consumer"*

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OF ALL KINDS
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ORDER EARLY
CROP IS SHORT

Will be ready for delivery soon
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## WHY NOT BEGIN RIGHT?

FIRST
Decide on the branch of agriculture you wish to pursue.

THEN
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We will advise you as to the best locality for your particular requirements.

LET US DO THE WORK AND GET YOU EXACTLY WHAT YOU WANT

Due to climatic and soil conditions, certain sections excel in the production of certain products.

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We have over 60 associated representatives throughout the State who have listed only the choicest properties in their localities. Be it an acre or fifty thousand, if we do not already have it listed, we will find it for you at once. Possibly this extensive FREE service may be of considerable value to you.

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**15 Cords a Day**

$81.00 2 H-P
4 H-P—Low Priced. F.O.B. the Factory.

Easily sawed by 1 man. Wood selling at $4 a cord would bring owner $60.00 a day.

OTTAWA

Log, Tree, Limb Saw. Cash, Easy Terms. Shipped from Nine Branch Houses. Free Book.
OTTAWA MFG. CO.
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30 Days' Trial.

## Snappy Notes on Livestock

Any error herein is unintentional and subject to correction the following week. This summary is assembled from the best sources obtainable, and both producers and packers can assist by reporting actual sales or buys, giving names, dates and facts, and we will, if requested, withhold names. All we want is fact and a fair deal and correct information for the producers. Address A. L. Spellmeyer, care California Cultivator, 317 Central Avenue, Los Angeles. The Cultivator reaches over 40,000 producing farmers and livestock men.

Steer beef is strong 7.50 Los Angeles with 8 cents asked for some lots. General flat offers f. o. b. country for beef steers of ordinary quality are 6 cents with 6.50 for heavy fat steers and cows from 4.00 to 4.50. At the same time I have found several lots of good steers that sold at a 5.50 delivered Los Angeles price and other lots of heavy steers that sold at 7.45.

Carcass meat prices are competitive. One packer who was asked for the prices for this column on his average steer and cow carcass sales stated the prices were changed daily and he could not give them over the telephone. It was rather startling to run into a revival of the old time played out secret price and selling packer method. The list put out by another packer gives 13.50 as price for No. 1 steers and 27 for lambs and 18 for hog carcass. The facts of bills among the retailers give cow carcass sales from 10 to 11.50, beef carcass from 11 to 12 and lambs at 24, with hogs from 18 to 20 and hog loins up to 32 cents.

It is evident a merry little price cutting campaign is on for volume trade among the various abattoirs. It appears the good cows that are costing 5 cents or better are being sold on the 11.50 basis and the good steers that cost 7.50 on a 12.50 basis. This is a reasonable margin but would be healthier if carcass prices were two cents higher. The killer has had to pay more for lambs but is making a good profit on them. From carcass indications lambs and hogs look stronger than beef for the next 60 days.

Lambs have been peculiar. The bankers backing Colorado feeders sternly declared they would advance no money for buys over 10 per cwt. on feeder lambs but after casting up the possible supply must have changed their mind. Further details arriving from New Mexico and Arizona contracts show that 11 to 11.50 was the New Mexico feeder lamb price per cwt. and 10 for heavy Arizona feeder lambs, without cuts and 10.50 for the better end. Eastern prices from the best of the K. C. commission men show a 12 to 13 cent lamb market, but this will have to better to attract any shipments with feeders going the strong 10 to 11.50 basis in the range districts. A strong demand for dairy cows at $75 to $100 f. o. b. country exists now.

Colorado sent to Los Angeles city 25 per cent of the steers fed in that state last winter, and a significant item is that Colorado buyers were down in Northern Arizona offering 5 cents f. o. b. for some lots of fall delivery steers. Five cents seems fairly settled as the fall feeder steer price irrespective of where the cattle are, in California or Arizona.

A bunch of 1500 old ewes has been contracted f. o. b. northern Arizona for fall delivery at $6 per head. The same outfit sold its May lambs at 10.50 and its other lambs at 10.00, all f. o. b. for fall delivery, and totaling over 6000 head. California sheep men can well take notice I am not giving a few top notch sales but general contracts covering over a hundred thousand head contracted. Also several Colorado and eastern buyers are writing in for they have heard that fat lambs have been selling in California as low as 9 cents f. o. b. range. Down in New Mexico, which has some light sheep and some good ones also, there is a drouth, and even in that drouth good ewes are bringing on the ten dollar basis practically forced by range condition on the market. A sheep is a sheep now, with a lamb that dresses 35 pounds of meat bringing $7.50, and a yearling steer that will dress 350 pounds of meat only four times as much.

If Texas doesn't get good rains soon, and if the boll weevil gets the cotton, the word is there are going to be some bad times.

It is not made generally public by beef buyers that both New Mexico and Texas have been dry, very dry in fact, and the financial condition is bad because this condition comes on top of several years of low livestock prices that followed a previous drouth.

And all this means no grass beef from those districts for us, and, what is more important to us here, no grass beef for other districts that will be meeting us for fat cattle in territories usually considered sacred to this California and Portland market. If we get more than a smell at certain Idaho and Wyoming fat steers this year it will only be through a much higher market here than reports indicate.

Carcass prices are competitive. Secrecy instead of publicity rules actual carcass beef prices and live beef prices in some of the packing houses. A merry little price cutting campaign is evident.—A. L. Spellmeyer.

### COW TESTING WINNING

The Stanislaus County farm bureau reports through its Supervisor Gorow, successful mid-summer work accomplished by that association. Mr. Gorow writes:

On the first of August two additional units of the testing association were started on the West Side of the river, making approximately 3700 cows signed up in the testing association, which makes it one of the largest, if not the largest, in the world. H. L. Mead will be in charge of the Patterson unit, while H. B. Tucker will be in charge of the Crows Landing unit.

Later in the fall, after sufficient information has been obtained, it is hoped to put on a purebred bull campaign, especially on the West Side, where a large number of scrub bulls are being used at the present time.

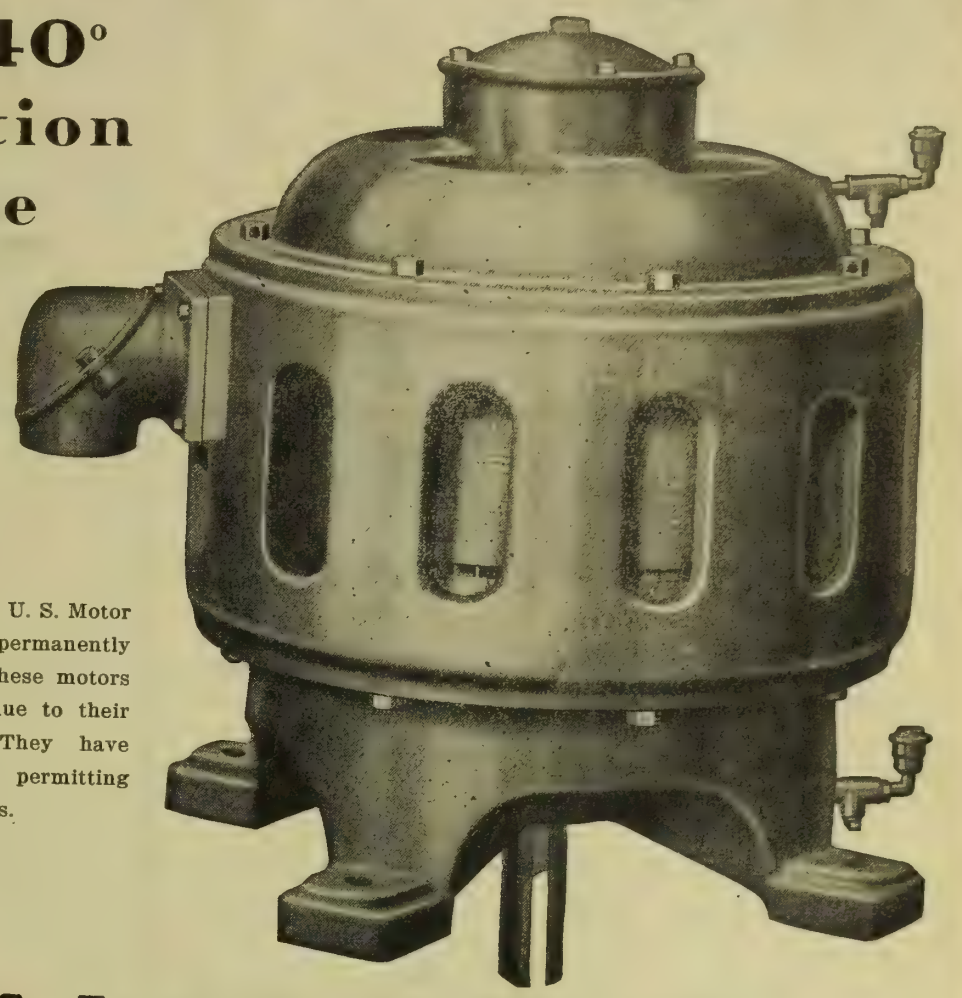
A few of the dairymen have started feeding grain ensilage, which was put in the silos about a month ago. Some of them are obtaining very good results from it, while others, who did not put it up in the right manner, have found it difficult to have their cows eat it as they should. The cause of this trouble has been that there was not enough sap in the stems of the plants when they were put into the silo; and consequently, the ensilage is too dry. The man who added water to it when it was being put into the silos, in most cases found that the cows will eat it very well.

H. Stammerjohan has a registered Holstein cow, Prilly Maid Wayne Colantha, which in her 24th month of continuous milking since her freshening, has produced 39 pounds fat. This is a very good record of production over such a long period of time, her 24th month being the first month that she has not been on the honor roll.


U. S. MOTORS

The 40° Irrigation Type

Built in the West to meet Western needs . . .



If a pump is driven by a U. S. Motor then power efficiency is permanently assured. The fact that these motors cost less to operate is due to their scientific construction. They have greatest ventilation area, permitting cool operation at all times.

U. S. ELECTRICAL MFG. CO.

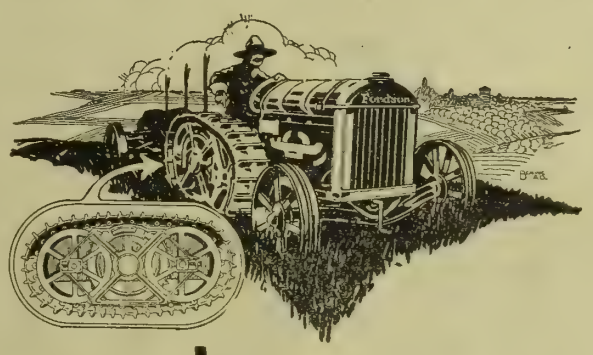
Largest motor builders in the west since 1906

Our Electrical Engineers are ready to serve you.

LOS ANGELES

Branch Office and Warehouse at Stockton

See Both of Them at the State Fair




H. P. TRACKS for Fordsons—

They complete the Fordson, give it greatly increased power and multiply its ability many times. A Fordson with H. P. Tracks will negotiate hilly ground, impossible with its regular wheel equipment. It will also pull in sandy soil or in deep soft spots.

H. P. Tracks are simple in operation and so sturdy in construction that they will outlast the Fordson itself. They readily replace its regular wheel equipment.

H. P. 40 for Heavier Tractor Service

A step ahead in tractor construction is the H. P. "40"—the design of C. A. Henneuse, an eminent tractor engineer. After many months of experimenting and refinement, we are now ready to market them on a quantity basis. The H. P. "40" is the most powerful tractor of its size ever built. See it at the State Fair.

Pacific Tractor & Machinery Co.

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North Sacramento, California

Stifel's Indigo Cloth
Standard for over 75 years
STIFEL REGISTERED

No work that you farmers do is too rough for clothes made out of Stifel's Indigo Cloth.

All Overalls, Jumpers and Work Clothes made of *this* cloth last longer, wash better and keep their "looks."

See that you get it. Look for this boot shaped trade mark stamped on the back of the cloth.

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*Garments sold by dealers everywhere—*
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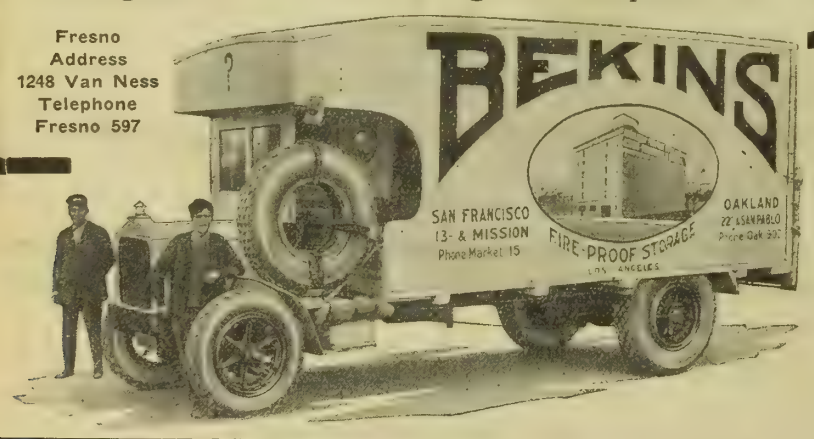

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# Household Department

### THE QUEST

The Little Road to Happiness,
Men seek, it far and wide
For whosoe'er shall journey there
He shall be satisfied.

It leads by cool and quiet ways,
Such as we walk in dreams,
With cloudless skies, whose starry eyes
Are mirrored in still dreams.

Some lose it in the market place
Who barter youth for gain,
And gilded vice with loaded dice
Shall throw for it in vain.

O Little Road to Happiness—
You seemed so far away,
I never knew that it was you
I journeyed by each day.

My restless heart went far afield
On many a weary quest;
But now I know the path you show
To Love and Home and Rest.—Ida C. Morris.

## HOUSEHOLD QUERIES

### Green Through Silver Gray

I want to paint two rooms a grass green and have it show dimly through a silver gray top finish. Can you tell me how this trick is done?—Subscriber, Rohnerville.

This question was referred to the service department of a reliable paint manufacturer which answers:

"To obtain a silver gray with a green background we recommend first experimenting with a smooth piece of wood before attempting to finish any of the rooms in order to obtain the exact shade desired. First paint the surface with any good prepared paint and with the shade desired. Allow the paint to dry for twenty-four hours. It is necessary for the final coat to use a material called glazing or blending liquid since this material is transparent and any shade desired can be mixed with it. We would recommend using a gray mixed paint and adding a small percentage of glazing and blending liquid to this gray paint. Paint this gray finish directly over the green and while still wet make a small pad from cheesecloth, or a sponge will do very well, and stipple the whole painted surface. This stippling effect will allow the green to show through the gray and we believe is the finish desired."

### Making Old House Comfortable

For some years I've enjoyed the Cultivator and received much help from it. Now I'm asking for more help. We have moved into an old house and do not want to spend very much money fixing it up, so I'd like to know how other women have made over old floors, etc. These floors are so worn and uneven that I don't want to put down linoleum. I've read some place about using roofing paper on a floor. Would like t hear from some one who has used it, and how, and was it satisfactory, and what did it cost? The walls are lined with rough lumber. What would be the cheapest way to treat them? We want to do all the work ourselves. I'd like to know all that anyone else can say about making over an old run-down house in the country without any hired help and at little expense.—Subscriber, Woodland.

One of the Cultivator staff made over a very rough floor of an attic which was remodeled into living quarters, by patching and padding with leftovers of wall board used to cover the rough walls. This was covered with linoleum and is wearing well though it has been rented to changing tenants for a couple of years. To finish the rough lumber walls the service department of W. P. Fuller & Company suggests:

"The most economical finish that we know of that will produce a satisfactory, artistic finish is the application of an oil stain. These oil stains come in various shades such as browns, greens or grays and are a very satisfactory finish."

### Floor Finish for Hard Wear

Please advise me the best way to finish the floor as we are using rugs—to paint it or to stain? Which would last the longest or make the hardest surface and what kind of paint or stain should we use?—Subscriber, Palermo.

W. P. Fuller & Company answers: "There are several ways to finish a floor and all are satisfactory. A floor that is stained with an oil stain to a light oak, dark oak or walnut shade can be waxed with a good grade of floor wax, and periodical refinishing with wax makes the simplest finish that can be applied to a floor. The floors, if treated every two or three weeks, will remain in good condition and are very satisfactory. To preserve the grain of the wood and still have a high gloss finish to the floor there are many colored floor varnishes on the market which stain the floor and finish it in one operation. Two coats of one of these colored floor varnishes make a very satisfactory finish which can be washed and which resists heel marks and abrasion very well. The best finish that can be obtained on a floor in order to preserve the natural grain of the wood is by the application of, first, a coat of oil stain and, second, if an open grained wood such as oak is used, a coat of paste wood to match the wood. Third, a coat of high grade floor finish, which should be followed by either one or two coats of the same varnish. This is the best finish that can be obtained on a floor and lasts the longest of all finishes. Fourth, of course, all floor paint hides the grain of the wood and may be objectionable on this account. There are many grades of paint, which are especially made for floor use, and one of these should be used. Floor paints are made from glossy varnish combined with a hard drying pigment, which produces a finish that stands hard wearing. Floor paints are made in many shades and it is a matter of taste entirely as to color that should be used."

### Who Has a Tile Drain Board?

May I, through this department, ask this question of some one who has had experience with a tile drainboard? Will some subscriber who has had two or four years experience with a tile drainboard around kitchen sink please tell me if it wears well under ordinary wear or does it in time as the cement between tile wears out, get grease and dirt into the cracks and look dark and untidy?—Subscriber, El Monte.

### Floor Oil

I have been unable to find out the exact formula for one of the best floor oils I have ever seen. Applied hot with a brush on a new pine floor, it remained for eight years without being renewed on a kitchen and bedroom floor, in good condition, occasionally wiping floor with a little warm water and kerosene. The ingredients are boiled linseed oil, turpentine, beeswax and rosin. Can you find out right proportions for me?—Subscriber, Santa Cruz.

An expert answers for us: "The formula you mentioned for floor oils does not seem to be practical to us as it is very unusual to add a rosin to wax, turpentine and boiled linseed oil. Such a floor oil would be sticky and altogether unsatisfactory, we believe. The best finish that we know of, if something in the nature of an oil is used, is to purchase a high grade varnish and thin it about half and half with turpentine and apply this combination. If this process is used a good hard drying and penetrating floor oil will result, which will not catch dirt and dust and will add years in life to any floor to which it is applied."

### Uses for Sweet Lavender

Having seen so many questions answered in your paper I hope you will be able to answer mine. I have several plants of lavender and will consider it a favor if you will tell me how small articles are made of the flowers and stems; also the time when they should be cut and how to preserve the flowers as they are sold for sachets, etc? We consider your paper the best all around paper that we have taken. Thanking you for the help I am sure you will give me.—Subscriber, San Luis Obispo.

Just as the flowers come into bloom is the best time to cut stems for use. If flowers only are to be used,

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cut when bloom is open. If stems are to be woven into sachets, holders, etc., cut and weave while fresh, then dry in shady place. For curing blossoms, cut off blossom heads, spread on papers or cloths to dry in shady place as you would rose leaves. Very little curing is required. When dry rub blossoms loose from stalks or for many uses blossom heads may be used as they are. One of the most delightful uses I know for lavender blossoms is to fill small pillow—size of a baby's pillow—with the blossom heads, cover with gay cretonne or silk—I prefer natural linen—and place among pillows on the couch. The fragrance is exceedingly grateful to the tired one who drops down for a moment's rest. Fragrance is barely noticeable unless you beat the pillow, then the sweet, clean perfume fills the air—the fragrance may be kept in this way almost a lifetime. When recovering feather pillows used at a beach house, it seemed to me that in spite of sunning and airing a musty odor lingered. Perhaps it was imagination, but a few blossoms dropped among the feathers corrected that. Small sachets for bureau drawers, linen closets, wardrobes, dress hangers, etc., are made in the usual way, with cotton batting covering if soft even surface is desired, or merely placed in tight cotton slips. A very satisfactory sachet is made by cutting stems of even length, weaving together center third into cylinder shape with narrow ribbon, preferably lavender in color. Take cotton batting sufficient to fill woven part of cylinder, fill center of cotton with lavender blossoms, place cotton roll in cylinder, drawing up ribbon at ends to close and tying tightly. These lavender "sticks" are very attractive gifts. By using the lavender stems as warp and ribbon or yarn as woof, simple bags or pockets or baskets may easily be evolved.

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### Caramel Pudding—Boiled Salad Dressing

I have been a subscriber of your paper for a long time and find many helps in it. Now I would like to ask for some recipes from the household department. Can you give me some recipes for boiled salad dressings and caramel pudding through the Cultivator columns?—Subscriber, Cupertino.

Caramel Pudding—Here is a very good caramel rice pudding: Cook 1 cup rice, 6 cups milk in double boiler 2 hours, add 1 teaspoon salt, 2 eggs slightly beaten and grated rind of one-half orange. Put 1 cup sugar in clean agate ware frying pan and stir continually until sugar becomes golden brown syrup. Pour this hot liquid into hot pudding mold, coating whole inner surface. Add rice mixture, cover and cook in oven in pan of water 20 minutes. Remove from oven, let stand 5 minutes, turn on serving dish and serve with soft custard.

Soft Custard.—Scald 2 cups milk in double boiler. Mix together 4 egg yolks, one-third cup sugar, one-quarter teaspoon salt; add scalded milk to them; return to double boiler and cook until mixture is of smooth creamy consistency. Strain into cold dish and add flavoring when cold. Should custard begin to curdle set immediately in dish of cold water and beat briskly with whisk or egg beater. Soft custard may be made with whole eggs but it is not so velvety.

Caramel Apple Pudding—Melt 1 cup sugar in 4 tablespoons water, 1 tablespoon butter, stirring constantly till brown. Coat pudding dish as above. Mix in bowl 3 cups apple sauce, 1 cup brown sugar, 2 cups bread crumbs, nutmeg or cinnamon to taste. Pour mixture in pudding dish, bake in slow oven 40 minutes, turn on platter and serve with caramel sauce.

Caramel Sauce.—Cook until caramelled 1 cup brown sugar, 4 tablespoons water, 1 tablespoon butter, then add 1½ cups water. Bring to boil and add 4 tablespoons cornstarch dissolved in 5 tablespoons water. Stir till mixture thickens, cook 5 minutes, add 1 teaspoon vanilla.

Boiled Salad Dressing.—Beat slightly 3 eggs, add gradually 1 tablespoon oil, 1 tablespoon salt, ½ tablespoon mustard; when smooth add ¾ cup vinegar, then 1¼ cups milk. Cook in double boiler, stirring constantly until it thickens.

Cream Dressing—Melt ¼ cup butter, add 1 teaspoon each salt, mustard, paprika, 3 egg yolks, 2 tablespoons flour, ¼ cup vinegar; cook until thick. Add 1 cup thick sweet or sour cream. Beat well and chill before using.

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### Gettysburg Address

Would you kindly publish in your next issue of the Cultivator the following: The complete poem of "Hiawatha" and "Lincoln's Gettysburg Address?"—Subscriber, Elk Grove.

It is impossible to print in the Cultivator so long a poem as Hiawatha. Has not your county a circulating library? If it has, request to Sacramento wil bring this to you.

**Gettysburg Address**

Forescore and seven years ago our fathers brought forth on this continent a new nation, conceived in liberty and dedicated to the proposition that all men are created equal.

Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great bat-

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**3960. Girls' Dress.**—Cut in 4 sizes: 8, 10, 12 and 14 years. A 12 year size requires 3 yards of 38 inch material. Price 10 cents.

**3751. Ladies' Apron.**—Cut in one size medium and requires 1½ yards of 27 inch material. Price 10 cents.

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Send 12c in silver or stamps for our Up To Date Fall and Winter 1922 Catalogue. This is even better than the Spring and Summer number. It will have 8 colored plates., the same as the last catalogue, but a great many of the other pages will be arranged in plate form, so that the Fall and Winter Catalogue will be more like a fashion book than a pattern catalogue.. It will also include points for the needle and hints for the home dressmaker.

**PATTERN DEPARTMENT**
California Cultivator Los Angeles

tle field of that war. We have come to dedicate a portion of that field as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this.

But, in a large sense, we cannot dedicate—we can not consecrate—we can not hallow—this ground. The brave men, living and dead, who struggled here, have consecrated it far above our poor power to add or detract. The world will little note nor long remember what we say here, but it can never forget what they did here. It is for us, the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us—that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion—that we here highly resolve that these dead shall not have died in vain—that this nation, under God, shall have a new birth of freedom—and that government of the people, by the people, for the people, shall not perish from the earth.

### Pepper Hash

Please publish a recipe for pepper hash in the Cultivator. I have lost mine. I've had some fine recipes from the Cultivator. — Subscriber, Chowchilla.

One quart chopped cabbage or chayotes, 1 pint chopped white onion, 1 pint chopped sweet red pepper, 1 pint chopped sweet green pepper, 4 tablespoons salt, 4 tablespoons mustard seed 2 tablespoons celery seed, (crushed), ¾ cup sugar, 1 quart vinegar. Soak pepper in brine (1 cup salt to 1 gallon water) for 24 hours. Freshen in clear cold water for one or two hours. Drain well. Remove seeds and coarse white sections. Chop separately, and measure the chopped cabbage, peppers and onions before mixing. Add spices, sugar and vinegar. Let stand over night covered in a crock or enameled vessel. This is eaten fresh as a relish or may be canned as follows for keeping: Pack in small sterilized jars. When ready to pack drain vinegar off in order that the jar may be well packed. Pack relish in jars, pressing it carefully; then pour over it the vinegar which was drained off. Paddle the jar thoroughly to get every bubble out and allow the vinegar to displace all air spaces. Garnish each jar with two quarter-inch pointed strips of red pepper three inches long. Place these strips vertically on opposite sides of the seams of the jar; cap, clamp and boil ten minutes.

## HINTS FROM HOUSEKEEPERS

### Sliced Sweet Pickles—Ice Cream Candy

Sweet Pickles—Wash and slice rather thick 1 dozen medium cucumbers (do not peel), slice two or three onions, sprinkle well with salt and let stand two or three hours or all night, then drain and rinse. Bring to a boil 1 pint vinegar, 1 cup sugar and 1 teaspoon mixed whole spice. Put in cucumber and boil five minutes, then seal.

Ice Cream Candy—Three cups sugar, 1 cup karo or similar syrup, ½ cup water, boil until it forms a hard ball in water, then turn into two stiffly beaten egg whites and beat well. Add vanilla and 1 cup nuts and turn on buttered platter.—Riverside, Subscriber.

### Green Tomatoes—Bleaching Flour Sacks

Now green tomatoes are in I will give some recipes. Green tomato pie is good. Peel, slice and chop fine the tomatoes, let drain, then put on first crust one heaping tablespoon flour in bottom, then fill with tomatoes, one small cup sugar, 1 good tablespoon vinegar and spices to suit. Allspice is very good. Put on top crust and bake in slow oven.

Green Tomato Preserves—Peel, cut in quarters, sprinkle little salt on and set away till morning, then drain and cook for about ½ hour, then put in sugar as for any other preserve. A lemon cut up fine will help, if desired. Cook till thick.

Bleaching Flour Sacks—I saw where someone asked as to getting stains out of flour sacks some time ago. Now I use in my wash water one small tablespoon borax to a pail of water and plenty of washing powder and soap. I take some of this good suds and after washing the sacks in cold water I put them in a pail to soak until next week. Then wash and boil and it takes the stain out, and the borax bleaches the clothes so nicely.

Your recipes are very good in the paper so I am glad to write a few also.—Mrs. R. S. Vliex, Orange.

### Chopped Pepper Pickle

One large cabbage, 1½ dozen large green peppers, remove seeds from half, 6 large onions. Chop all fine and add one half cup salt. Let stand over night. Drain or squeeze dry. Add 2 cups sugar, 2 teaspoons celery seed, half cup white mustard seed. Cover with cold vinegar. Stir often the first day and add more vinegar if needed. This is fine and keeps well. Needs no cooking.—Subscriber, Bell.

Equal parts linseed oil, turpentine and vinegar make a good home-made furniture polish.

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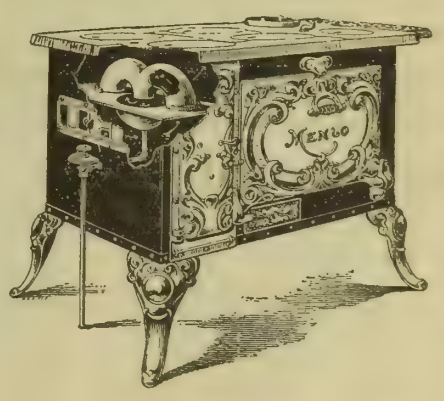


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### "LIKE BEGETS LIKE"

Criticism is sometimes directed toward the breeders of registered cattle that they are exhibiting a type of cattle not desired by the producer of market beef. Possibly this may be true in a very few instances, however, the demand for any particular breed of cattle would rapidly wane if it did not satisfy the requirements of the average farmer or stockman, the packer and the consumer.

To breed cattle which will produce the greatest amount of high quality beef in the shortest possible time at the least cost is the ideal the constructive beef cattle breeder has in mind. The ability of the Hereford to "carry on" and the fact that the Hereford breeders of today have not deviated from the ideals of the founders of the breed whose work began nearly two centuries ago has never been more forcily illustrated than at the recent National Western Live Stock Show at Denver.

The grand champion steer of the show was a pure bred Hereford calf bred and exhibited by W. N. W. Blayney. This calf just a few days over a year old weighed 930 pounds and when butchered dressed out 66.66 per cent marketable beef, confirming the judges' opinion of the steer as shown on the hoof.

John Clay, the veteran cattleman, after viewing the carcass wrote for his publication, Live Stock Markets, as follows: "Great interest was taken in seeing how the Blayney champion would kill out. He verified his standing as a grand bullock, one of the best ever, by being awarded the first ribbon on the hooks. Hanging up he showed a smooth excellent carcass. No waste and considering his age handled well."

When later on in the show the sire of this calf was adjudged first prize aged Hereford bull, then grand champion Hereford bull, we see that through his heritage the calf came by his honors quite naturally.

The bull must be an excellent animal as an individual to win the purple ribbon, indicative of the grand championship of the breed, at a show of that character and the fact that he has reproduced himself in kind sufficient to win in competition with all breeds is very staunch evidence that present day Hereford breeders have very closely approached the ideal in their pure bred herds.

Farmers and stockmen from this demonstration can clearly see the value of good registered sires in their herds for the more economical production of beef for the market and at the same time study the type of sire which begets the most profitable steers. Furthermore this lesson is very valuable since its brings to the eye of the breeder of registered cattle the close correlation between the breeder and the butcher.

"Like begets like" is one of the fundamental laws of animal breeding and this grand champion steer sired by the grand champion bull is one of the finest examples of this law ever witnessed at any great livestock show and is a credit to the breeders and the pure bred live stock industry in general.

### AYRSHIRES INCREASING IN POPULARITY

The Southwestern Ayrshire Breeders Association which is composed of breeders of the "bonnie red and white coo" in California, Nevada and Arizona is taking a census of all Ayrshires in that territory. A large number of the breeders have already sent in their blanks properly filled out but there are still a number in breeders' hands. The secretary requests that these blanks be sent in at once so that the results can be tabulated and published. If breeders desire more copies of census blanks they may be had from the secretary by addressing Geo. W. Fry, The Redwoods Ayrshire Farm, La Honda.

The largest herd of Ayrshires in California, according to data now available is that owned by Capt. Harry Gantz at Buellton. This herd consists of 95 purebred animals and 140 grades. The second largest is that of the Le Baron Estate Company at Valley Ford. This is under the management of J. A. Glass and numbers 66 head of purebreds only. Elmer H. Joerger of Foothill Farm, Clarksville, has a herd of 17 purebreds and 80 grades. Secretary M. J. Hughes of the Penobscot Farm whose property is located at Cool near Auburn has turned in a report showing a herd of 55 purebreds.

The demand for Ayrshires (both bulls and cows) is picking up as evidenced by inquiries received at the secretary's office. One of the farm bureau centers of the state has adopted the Ayrshire as its official cow and all the members have agreed to purchase nothing but this breed. This will absorb the biggest part of the females for sale. There are two notable things about Ayrshires. Once a man has gotten together a herd he is loath to part with them and nearly every Ayrshire owner is his own herdsman. Perhaps this is why he loves his breed so much; he has an opportunity to study the individuals closely and learn their many good points.

Several new Ayrshire herds will be seen on the show circuit this fall. Half a dozen new breeders have indicated their intention of going out for the fall shows, and this will add zest and enthusiasm to the show ring competitions which have been heretofore confined to two or three herds. We can count on the J. Henry Meyer herd,


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Backed by Producing and Transmitting Dams. HIS Dam, De Kol of Valley Mead 2nd, and HIS Sire's Dam, Miss Valley Mead De Kol Walker, have made a tota of FIVE RECORDS—Averaging 1038 lbs Butter in 7 days. For HIS SONS from A. R. O. Dams, write or see us:

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the Wyndham herd from Redding, the Morabel herd from Valley Ford, Faye's Eldorado herd from Grafton and one or two others. With all these men showing the classes should be well filled and every place in the money closely contested.

### HOG PRODUCTION IN CALIFORNIA

In view of the fact that California is noted for climate, oranges, lemons, walnuts, boulevards and the widest variety of commercial luxuries known anywhere in the world, the topic of agriculture in general, hog growing in particular, is generally not given much consideration. The Middle West having risen to such heights in the production of hogs and hominy has more or less stolen our thunder along these lines. While it is true that California produces less than one-third of the pork she consumes the quality is equal if not superior to any produced anywhere. It is but recently that this could be said of our pork. In the past too many hogs have been grown as "just hogs." The discouraging but conscientious work of the pure bred enthusiast is beginning to tell, and the packers are unanimous in their statement that the quality of pork we produce is far superior to that grown five years ago. A prominent packer was recently asked what were the reasons for the improvement in our pork and he mentioned three things, viz., more scientific feeding, the system of grading as practiced by our various farm bureau units, and last but not least the infusion of pure bred blood into our herds. Now that we have adopted methods of producing a high grade product the future of the hog in California is entirely up to us. The natural advantages in this state for producing economical pork are greater than anywhere else in the world. We have water, land, mild climate and an unlimited variety of necessary feeds. It is no credit to us to say that we can grow as good a hog as they can grow in the East. With our favorable conditions we should be able to outdistance any other state in hog production, and we can easily do this if we will give careful attention to feeding, breeding and selling. It is not difficult at the present time to make real good profit on hogs even where all the feed has to be purchased, providing the hogs are pure bred. It is not necessary that they be registered or show animals, but if we wish to avoid a loss we must stay away from the scrub.—Geo. A. Stingle.

### HOW DOES DAIRYING LOOK TO YOU?

There is a diversity of opinion with reference to milking the lowly cow. Some dairymen view this job as drudgery, others as a harvest time when the returns of their labor are collected, and they can check up on their feeding investigations and the quality of their livestock. It all depends on whether the milking barn is a sweat shop or a laboratory, whether the dairyman is a drudge or a scientist, whether the dairy herd is an eyesore or a pride, whether the herd sire is a purebred and one to be proud of, or a scrub and an abomination. In one case dairying is a gamble, while in the other it is an interesting and profitable business.

If the dairyman is a scientist his barn is a laboratory or manufacturing plant where every cow is a unit that must show efficiency or be eliminated. The science of dairying comes in the study of effects of feeds on production of cows and in noting the results of certain ways of milking and handling the cows to determine the best methods for economical production, also in the breeding and developing of heifers that are more efficient than their dams and in handling the product so that it will be a pure and safe food.

The business side of dairying includes the keeping of production records of each cow and her heifers and cost of production records to check up on the efficiency of the animal as well as on the food. From the knowledge gained by such records, the business dairyman knows the value of his serd sire. He knows whether it pays to grow or buy certain feeds, and how to improve the efficiency of his herd and to keep down overhead expenses. It also includes the marketing of the products to get maximum returns and the buying and selling of livestock.

There is no permanent place in dairying for the man who will not apply scientific and business principles to his herd of cows. Of all branches of agriculture, dairying is the most complex and exacting. It requires a high degree of skill, patience and application. Yet no other branch of agriculture can give greater satisfaction and profit, if properly managed.—J. E. Dorman, dairy division, U. S. D. A.

### MEDITATIONS OF A SCRUB BULL

They call me a scrub bull; yet I have a pedigree. I was sired by a scrub, dam'd by a scrub and am treated like a scrub, and I sometimes think that I am owned by a scrub. My tribe outnumbers purebred bulls four to one. Just why I should exist is a mystery even to me. Yet, I am not responsible for it. I was brought into the world without my consent and I shall probably leave it against my will. In the meantime I am getting the most vicious publicity, principally through the farm press. They say I am a renegade and an abomination and should be exterminated. Dairymen passing my owner's farm look at me with contempt; even the cows show me no respect. My own daughters seem to hold a grudge against me, saying that I am responsible for their low production. I cannot argue the point, for it is true. But what can I do? My owner must think a lot of me personally or he would not continue to support me. knowing that I can never improve the quality of his herd or be a source of profit to him. These cow testing associations are certainly showing me up, and I can see the handwriting on the wall. My tribe is doomed! Under the keen competition and low prices of good purebred bulls there will soon be no place on the farm for me. So goodbye. I may be gone but not forgotten, for I have retarded the development of the dairy industry for many years.—J. E. Dorman, U. S. D. A.

### PUREBRED AND THOROUGHBRED

In discussions with reference to the blood lines of certain cattle it is not unusual to hear the animals referred to as "thoroughbreds." The California department of agriculture calls attention to the fact that the word thoroughbred is the name of an English breed of horses and is in no wise applicable to blooded or pedigreed animals in general. All animals of pure strains are know as purebreds, including the Thoroughbred. It is therefore correct to speak of a purebred Thoroughbred when referring to a particular breed of horses, and in such instance the name of the breed is regarded as a proper noun and is capitalized. As a further example a pedigreed Holstein cow, a Berkshire hog or an Airedale dog is purebred but never a Thoroughbred.

### THE FIGHT AGAINST TUBERCULOSIS

At a recent meeting in Chicago of packers and representatives of livestock exchanges an agreement was reached with the Big Five packers and many small packers wherein they agree to pay ten cents a hundred above the market price for hogs free from tuberculosis and which come from farms where neither hogs nor cattle are affected with the disease.

The news is of particular interest to California as this state already has in operation a free area plan for eradicating tuberculosis from several counties and also the accredited herd plan which is receiving favorable consideration in various sections of the state. With the accomplishment of the desired results through the plans now in operation, the work of eradicating tuberculosis from swine will become comparatively easy since a large number of hogs become infected either directly or indirectly through cattle having the disease. The packers who entered the agreement are to be commended for the action they have taken in offering the farmer further encouragement in eradicating a disease which was seriously threatening the destruction of the livestock industry in this country.


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Is a scientific combination of roots, herbs and sodas. It sweetens the stomach, purifies the blood, regulates the bowels, liver and kidneys, removes the worms, strengthens the nerve centers and aids digestion.

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| 5 Gal. Can | $ 7.50 | 30 Gal. Drum | $37.50 |
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# Prince Aaggie of Berylwood

The highest yearly record bull in service for his 7 nearest dams in the world.

His 7 nearest dams with his dam's heifer record average 1122 lbs. butter, his dam freshened last December dropping twin heifers—she made 37 lbs. butter in her second month—she should finish this year with over 1200 lbs. butter, adding greatly to his already high average.

We have decided to take him on the fair circuit. He will be at Stockton, Sacramento, Tulare, Ventura, Riverside and Pomona—arrangement could be made at the above mentioned fairs for service to select cows. Be sure to see him.

**BERYLWOOD STOCK FARM**

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## Livestock News Notes

### LIVESTOCK SALE CALENDAR

**Holsteins**

September 21, Dispersal, E. Maracini, Dos Palos.

September 28, Dispersal, Carl Ray, Lankershim.

October 26,, Draft C. W. Anderson, Burbank.

November 16, Dispersal, Arthur & Maxfield Holstein Co., Hanford.

W. J. Higdon has a number of daughters of King Korndyke Pontiac 20th on test this year, and they promise to be all that he expects of them. A three year old will finish shortly with over 1000 pounds butter for a year, and a number of two year olds will have between 700 and 800 pounds butter in 305 days.

The district around Pomona and Ontario will be well represented at the state fair. Harry H. Cook will take 15 head of Financial Interest Jerseys; the Italian Vineyard Company will show 15 Guernseys and about 30 Berkshires, and George Junior Republic will show a fine string of Holsteins, including Dichter Spofford Korndyke Lad 5 who was grand champion last year. Chester A. Johns of Ontario will also take a carload of dandy Berkshires.

The dairy interests of the state will be interested to learn that the directors of the California and Southwestern States Ice Cream Manufacturers Association have voted to hold their annual convention at Fresno during the Pacific Slope Dairy Products Show, November 13-18. It is practically assured that the California Creamery Operators Association, California Dairy Council, California Milk Dealers Association, and California Butter, Cheese and Ice Cream Makers Association will also meet in Fresno.

Juliana Colantha Johanna, a junior three year old daughter of Colantha Aaggie Sir Johanna, owned by Charles Harrington, Compton, has completed a 365 day record of 800.11 pounds butter from 16,671.3 pounds milk. Mr. Harrington has one of the best herds of yearly record females in the state, with records ranging up to over 1,000 pounds of butter, and others now on test and going strong.

Rosamaines Novena Netherland, calving at 2 years, 3 months, has completed a 365 day record of 845.76 pounds butter from 20,593.3 pounds milk in the Sierra Vista Stock Ranch herd at Perris. She is a daughter of Rosamaines Pontiac Netherland, the good proven son of King Pontiac Netherland Segis 3d, and is out of a daughter of Prince Aralia Walker, whose dam is Aralia De Kol 3d, an 1,100 pound daughter of Aralia De Kol. This adds one more to California's rapidly growing list of 20,000 pound two year olds.

Glenwood Stock Farm, Riverside, in which A. J. Stalder, Charles Dundas and others are associated, has been equipped with buildings and corrals of the most practical character, laid out on a unit plan that can be made to accommodate 500 head of registered Holstein milk cows. The present herd numbers well over 100 head, of which quite a percentage are heifers under milking age, among them about 25 young daughters of the great proven sire, King Pontiac Netherland Segis 3d. While no attempt has been made to erect expensive buildings for show purposes, yet no expense has been spared to secure permanency and the highest degree of sanitation, as the herd will be called upon to furnish in volume the highest quality of milk yet available to the consumers of the city of Riverside.

Three of the high record cows in Bridgford Holstein Company herd at Patterson, have recently repeated with records above 30 pounds butter in seven days. The famous Adirondac Wietske Dairy Maid, calving this time at 10 years, two months, dropped a husky pair of bull calves, and on official test made 31.06 pounds butter from 717.5 pounds milk, although it was not expected to run her on test at all following the recent completion of her second record above 1,000 pounds butterfat in one year. Lyons Prilly of Donnybrook, calving at 6 years, increased her former butter record, making 31.48 pounds butter from 543.5 pounds milk in seven days. Nattalene Walker, holder of the world's milk record in the seven day division of the junior three year old class, calving at six years, also increased her previous butter record, making 34.63 pounds butter from 694.3 pounds milk, thus gaining to her credit three records above 30 pounds, two of which are above 34 pounds.

Segis Pontiac Charlotte De Kol, owned by F. F. Pellissier, Whittier, has completed an official record of 20.19 pounds butter from 513.8 pounds milk in seven days as a senior two year old. She is a daughter of Segis Pontiac De Kol Burke.

Juliana Canary Mercedes, calving at three years, twelve days, has completed a yearly record of 1,018.35 pounds butter from 26,078.9 pounds milk. She is sired by Prince Juliana Walker, son of Prince Gelsche Walker out of a daughter of Juliana King of Riverside, second dam, a daughter of the great

### STOCK AT THE STATE FAIR

Livestock men are in possession of the strip through the center of the grounds from the fat pens at the north end with Guernseys, Jerseys, beef classes, swine, sheep and goats, and past the main buildings with Holsteins, and horses and ponies at the extreme southern end.

They're worth a million. They're beauties and an inspiration to farmer and breeder.


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**FISK RED-TOP CLINCHER TIRE**

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**Time to Re-tire? (Buy Fisk)**

A BIG, husky lumber jack stepped into the store of a western dealer and asked the manager if he could exchange for Red-Top the tires which come on a car he was going to buy, he to pay the difference in price.

He said the Red-Tops on the car he was driving were two years old—that they had not had a puncture yet, and that "nobody could ever talk him into any other kind of tire if he could possibly get "Red-Tops."

Where the going is rough or the loads heavy, there is no other tire in existence which wins as many friends as the Red-Top, whose extra ply of fabric and heavy red tread put it in a class by itself.

*There's a Fisk Tire of extra value in every size, for car, truck or speed wagon*

foundation cow, De Kol of Valley Mead. This latest 1,000-pound California heifer is owned by Sierra Vista Stock Ranch, Perris, which is the property of the famous author, Peter B. Kyne.

### ORANGE COUNTY FAIR

Thursday, September 28, will be a day of particular interest to livestock owners and breeders at the Orange County Fair, Santa Ana, for on that day the livestock department will stage several events for the entertainment and inspection of fair crowds, including a load pulling contest, and a one night horse show.

Plans for the livestock features were made by the livestock committee headed by E. G. Stinson of Orange, Chas. F. Heil, Floyd Scott, and heads of the farm bureau. It was decided to hold the competitive load moving contest on Thursday afternoon, September 28. Cash and ribbon prizes will be awarded the best four horse or mule team and best two horse or mule team moving heaviest load on stoneboat from standing start. The livestock department has never before been featured as it will be at this year's fair, and with the cooperation of breeders it is expected this department will make a splendid showing.

### FAIR AT DELHI

The people living on the Delhi state land settlement are to have a fair September 16 at which time visitors will be given an opportunity to see the good stock owned by settlers and the crops grown the present season. A drive over the settlement will also be arranged. A number of members of the California Development Association are planning to visit the fair and the association itself has generously given $100 to be distributed in prizes as follows:

For the best farm, $15.00 and $5.00; vineyard, $15.00 and $5.00; orchard, $15.00 and $5.00; dairy herd, $15.00 and $5.00; farm laborers' allotment, $15.00 and $5.00.

The Delhi settlement is the home of some fine dairy herds. During the present state cow testing competition, the Delhi herds have topped the list for five out of seven months that the competition has been going on. Recently breeders have been paying high prices for some of the young stock of the settlers.

### PUREBRED BREEDERS PICNIC

The Southern California Purebred Livestock Association held a mid-summer picnic at the Santa Monica dairy of H. Michel. There was general discussion of matters pertaining to building up the livestock industry and an address by Prof. Gordon H. True of California University. Prof. True referred to the importance and magnitude of the livestock industry and said that without the livestock industry agriculture would practically cease. One point made to show the importance of the industry was in a reference to the history of agricultural and other events as they have occurred on this Pacific slope. Prof. True referred to the discovery of gold and its effect upon a country's advancement and to the fact that California's hillsides have been thoroughly mined in order to secure their gold. Later the valleys were "mined" in order to produce wheat, and for years there was shipped from the Golden Gate the wonderful fertility of California's valley land. Many of these lands once so rich are today practically worthless because of the "mining" methods used in producing wheat. Now some of those acres are being reclaimed or built back into productive soils again by the introduction of livestock. Of course Prof. True showed wherein the livestock industry is made more productive through use of highest quality of purebreds and elimination of the scrub. Better marketing methods was touched upon for Prof. True realizes that without proper marketing facilities highest grade producers are of little value.

The association passed resolutions endorsing a suggestion made by Prof. True that the state legislature be asked to provide funds for the employment of six additional livestock extension specialists, three of whom should specialize on beef production, two on dairy production and one to give his entire time to the swine industry. The committee having to do with the livestock survey of Los Angeles and Riverside and Orange Counties presented progress report.


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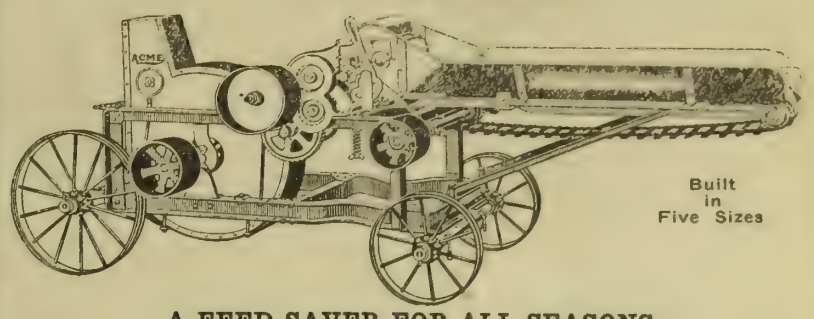

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A FEED SAVER FOR ALL SEASONS
What Some of Our Customers Say:
"Have found machine quite satisfactory for every purpose I have used it for. Have used it two years for chopping hay and filling the silo."—E. D. Rowe.
"Our No. 17 Acme has filled 16 silos and is as good as new."—P. N. Ebsen.
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Herd Sire
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JERSEYS
A Jersey herd in which individuality is combined with high production. Many of our animals are imported and are show ring winners with high records.
Visit our exhibition at Sacramento and Pomona and see the type of our animals.
A Rare Opportunity to Improve Your Herd at Prices You Can Afford to Pay
Three Fine Youngsters---Each a Bargain
1. Signal's Perfection, 4 months old, out of our first prize-winning Register of Merit cows and sired by Jap's Perfection Owl. A splendid individual—one that will raise the butterfat production in your herd.
2. Another beauty sired by Gamboge's Majesty Falcon, my great herd sire, and out of one of the best producing cows in my herd, with a daily milk production of 40 pounds.
3. Out of Queen Wayno—a wonderfully fine cow of better than 40 pounds production daily.
Entire herd tuberculin tested and clean
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*Welcome You*
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Guernsey Cattle and Berkshire Hogs
at the State Fair, Tulare, Hanford, Fresno, Ventura, Riverside and San Francisco
Good individuals of both breeds for sale at all times
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## Singly or in Groups
## ANY 50 HEAD of Registered Holstein Cattle in Our Herd

*You Pick Them Out: We Will Sell Them*

This offer is made without reservation and includes every one of our State Champion and World's Record cows, among them:

KIATTA PONTIAC PRIDE (world's record junior 4 year old for 365 day milk production), 1,134 lbs. butter, 31,491.6 lbs. milk in 365 days. 34.46 lbs. butter, 747.4 lbs. milk in 7 days, and two of her daughters.

IRENE SEGIS PONTIAC, at 4 years, 1,008 lbs. butter, 23,301.7 lbs. milk in 365 days. At 5 years, 33.03 lbs. butter, 76 lbs. milk in 7 days. Now making the largest combined milk and butter record ever made in our herd; has 551 lbs. butter, 14,094.3 lbs. milk in 136 days, averaging over 103 lbs. milk and 4 lbs. butter per day. A sister to Kiatta, both being sired by a son of a 1,470 lb. yearly record cow.

LOIS BERYL PRIDE. California State Champion and fourth highest in the world for seven days milk in the senior 4 year old class. 837.4 lbs. milk, 29.03 lbs. butter in 7 days. She is running in long time test and has to her credit over 500 lbs. butter in 169 days. Another sister to Kiatta.

FANNIE PONTIAC BUTTER GIRL PRIDE, California State Champion for seven day milk production in the junior 4 year old class. 751 lbs. milk in 7 days. She is running sensationally in long time test and has to her credit 20,700 lbs. milk and 720 lbs. butter in 228 days.

SEVERAL SISTERS to the above that have made good seven-day records and have made or are now making year records up to 1,100 lbs. butter.

JOHANNA PRINCESS MOOIE 2d at 3 years, 1,172 lbs. butter, 25,596.5 lbs. milk in 365 days (world's combined milk and butter record when made—still 2d highest in the world for butter). She has two three-year-old daughters with 28.87 lbs. butter and 30.03 lbs. butter in 7 days.
Sisters to Johanna Princess Mooie 2d.

THELMA HARTOG SUNLAND DE KOL 4th. 32.08 lbs. butter, 728 lbs. milk in 7 days. 1,134 lbs. butter, 27,000 lbs. milk in 365 days.

DAUGHTERS AND GRAND-DAGHTERS of Laurameka, 1,326 lbs. butter, 29,899 lbs. milk in 365 days; ROXIE PAULINE BURKE HENGERVELD, 1,188 lbs. butter, 25,175 lbs. milk in 365 days; JOHANNA PRINCESS MOOIE 2d, 1,172 lbs. butter, 25,596.5 lbs. milk in 365 days; KIATTA PONTIAC PRIDE, 1,134 lbs. butter, 31,491.6 lbs. milk in 365 days; THELMA HARTOG SUNLAND DE KOL 4th, 1,134 lbs. butter, 27,000 lbs. milk in 365 days, and a number of cows now running sensationally in long-time test.

LAST YEAR we made some of the largest records in the United States.
THIS YEAR we are going stronger than ever.
The test strings will be kept in test until sold.

THIS OFFERS A WONDERFUL OPPORTUNITY TO TAKE OVER THE TEST COWS AND COMPLETE SOME OF THE LARGEST RECORDS EVER MADE IN CALIFORNIA.

## PALO ALTO STOCK FARM

PALO ALTO E. N. Brown, Manager CALIFORNIA

## Meadhart Holstein Herd

We are trying to have nothing but the greatest in Holstein type and production and experts tell us we are succeeding.

Visit our show herd at Stockton, Sacramento, Tulare, Hanford, Fresno, Ventura, Riverside and Pomona.

Lankershim Calif. Fred Hartsook RANCH We Will Welcome You

## BIGGEST POSSIBLE PRIZE LIST THIS YEAR'S

AGRICULTURE LIVE STOCK

# Ventura County Fair

## OCTOBER 4-8, INC.
### Ventura, Calif.

Ventura County is Practically a Virgin Field for Purebred Livestock
Our Exhibitors Last Year Made Many Sales at the Fair and Afterwards
Average Daily Attendance 10,000, Mostly Farmers
W. G. Wilde, Secy. Ventura, Cal.

Your appreciation of the California Cultivator can be shown best by writing to and buying from Cultivator advertisers.

# Finding a Market for Purebred Livestock

By Bruce S. Bennett

UNDOUBTEDLY the greatest problem facing the breeder of pure bred livestock is that of finding a market for his product. The manufacturer or merchants faces the same problem. The same methods used by a manufacturer will in a general way apply to the breeder. In the majority of cases, no matter what the article, a market or demand must be created. Just what method is best for any particular breeder depends largely on local conditions and the means at his command.

There is only one way any business that depends on selling for its success can be made profitable, and that is by advertising. By advertising, we do not mean a mere announcement in some paper that you have such and such for sale, but advertising taken in its broader meaning. Advertising for the breeder may mean any one of several things, among the more successful being showing at fairs, advertising in the farm press, your local paper, circulars and private sale catalogs and public sales. The more of these used the greater the volume of business. But, this should be backed up by personal solicitation.

A good mailing list is one of the strongest links in the chain of business building. These lists should be made up of the names of the farmers in your own county and the counties surrounding you. These are not hard to get, and can be added to month by month until they cover the entire state or several states. Advertising in the farm press will give you a large number of names for this list, and by personal work and inquiry more can be added to it.

It would not be a very hard undertaking to secure the name of every farmer wihtin a radius of 100 miles of your farm that would likely become interested in what you are breeding. This list should be used at least four times a year in some way, if only by a friendly letter, and when you have anything for sale a good sale catalog will nearly always help you secure a customer.

The trouble, however, does not lie in the means or methods at hand, but the unwillingness of the breeder to do these things that are vital for his success.

What would you think if you went into a store and the merchant or one of his clerks told you they did not have time to wait on you this morning? How long would that merchant last if he pursued such a policy? Ninety-nine out of every hundred breeders will tell you they haven't time to do these things. Do you suppose that is why only one in a hundred that starts makes a success? Isn't a business worth having, worth working for?

A few minutes each day will keep up a mailing list. A few minutes when in town spent with the editor of your local paper will keep your name before your local prospects. During the season when you are not too busy spend a day or so now and then visiting in your neighborhood or county, meeting new farmers and leaving a circular or card, an invitation to visit your farm and see the kind of animals you are breeding. These things, combined with your general publicity in the farm papers, will put you in touch with possible customers. It is then up to you as to whether or not the sale is made.

Another very satisfactory method is that of public sales. In the minds of many breeders the public sale is not only the quickest, but the surest method of finding a market.

It has many advantages, among them being a quick turnover of your surplus stock. Once or twice a year, depending upon the extent of your operations, you can clear your farm of all salable stuff, get your money all at one time, and eliminate a lot of the detail necessary in a direct mail order business.

To my mind this is one of the most successful methods that can be used. By judicious advertising in the farm press and showing at the fairs you get your name prominently before the people, and when your public sale is announced they are willing to accept your offering. It also tends to instill confidence in you as a breeder when you are willing to let the public be the appraiser.

One should not expect too much from his first sale, and if the offering is up to standard each succeeding sale should be better than the last. We have some excellent examples in this state of what public sales, rightly managed, will do for the breeder and the breed.

Farm products do not grow without proper cultivation, and neither will a breeder's business. California offers unlimited opportunities to the breeder who will work with his brains as well as with his hands. The manufacturer when he wants business goes after it. I remember reading in Frank Hastings book "Recollections of a Ranchman" about a Scotchman who worked for the Armour Packing Co. Mr. Armour was telling him what he must do to to increase sales. He replied, "Impossible, Mr. Armour, impossible, but we'll do it." The business is here, will you go and get it?

# Scientific Hog Breeding

When the majority of farmers and breeders start in the pure bred hog business they buy a bunch of sows of a good type and a boar of a family popular at the time, and let nature take its course. Sometimes, very often in fact, these animals nick well and produce good pigs. If it were not for this happy coincidence progress in the hog business would be slight, because few men give real study to mating and rely principally on culling to raise the standard of their herds.

There is one man in California who stands out as a hog breeder much as Burbank does as a plant breeder, and that is Francis J. Underhill of Santa Barbara. Mr. Underhill brought to the hog business the experience of years of breeding and showing horses and cattle. He is a thorough enthusiast along livestock lines, and his work cannot be overlooked.

When he first figured on becoming a hog raiser he was undecided as to which breed to adopt, and after considerable correspondence with close friends among the big packers he adopted the Hampshire, because they generally favored that breed, although pointing out that it had many faults, among which was poor feet and bone, and the fact that many excellent animals had to be discarded because they were not perfectly belted.

Producing livestock with a distinguishing characteristic, such as the belt on the Hampshire or polled Hereford cattle is a difficult task, as they have not been bred long enough to get away from frequent throwbacks to the original animals.

Mr. Underhill assembled the best sows he could get along certain blood lines which to his mind were the best, procured the boars he wanted and began his experiments. He traced back all of the great animals of the breed, noted the matings which produced them, and followed a similar course.

He is now getting the third generation of animals of his own breeding, and they prove that his ideas are sound. He can prophesy almost to a certainty that certain sows mated to certain boars will produce the proper type of hog belted perfectly. He also knows that these same sows bred to other boars will fail to do this, and as a check on his theories he has mated them as he knew they should not be mated in order to prove his point.

This has been expensive to him, as invariably the litters have not turned out well, but it has been valuable as a check upon his methods.

The Underhill Hampshires are not yet what he wants them to be, but they are a wonderful improvement over the hog he started with. They are extremely high backed and good sided, and have real feet and bone, and come uniformly belted.

Because he has been engaged in ex-

**The cream of cream separator prosperity goes to De Laval users**

There was never greater need than right now for the best separator, one which skims cleanest, has greatest capacity, turns easiest, requires the least care, and produces the most perfect product. In all these respects the De Laval has no equal. Take nothing for granted, simply let it be demonstrated to you. See the local De Laval agent or address the nearest general office.

**De Laval Pacific Company**
61 Beale Street San Francisco, Cal.

**DISPERSAL REGISTERED HEREFORDS**

30 Bulls—25 Females

**Diamond Bar Ranch**
Spadra, Calif.

**Tuesday, Sept. 26, at 1 p.m.**

The foundation of this herd came from the noted Gov. Packard herd in Arizona, a herd composed of the breed's most famous blood lines.

Most of the bulls in the offering are rugged, range raised fellows, ready for heavy range service.

The females include bred cows, cows with calves at foot, and bred and open heifers.

GUARANTEED BREEDERS—
TUBERCULIN TESTED
Catalog on request

Management
CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
211 Ochsner Bldg., Sacramento, Cal.
Auctioneer: Col. Ben A. Rhoades, Los Angeles

**BURR FARM**

26th and Downey Road
Los Angeles RFD 2, Box 120

**Bulls For Sale From Year Record Dams**

CALL OR WRITE

**GUERNSEY COWS**

produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

**ROSEMOOR FARM**
W. H. Dupee, Owner Riverside, Calif.

When Writing Advertisers Please Mention Cultivator.


perimentation previous to this year the Underhill herd has not been shown, but he thinks he has achieved sufficient success to take out a herd this fall and it will be at the principal fairs.

Along with his work in developing type he has worked on easy feeding, and his March pigs will be shown at the state fair weighing 200 pounds at an average age of five months and 20 days, and not fat.

### LIVESTOCK AT RIVERSIDE

Each year a marked increase is noted in both the number and grade of livestock at the Southern California fair, but this year the indications are that all previous records will be broken. The present barns must be enlarged and more constructed to hold the stock that is being prepared to make the big show. Secretary Van Pelt is preparing to break into the big stock circuit by a special train to and from the fair which will bring exhibits in the big beef breeds which have never before reached that section. A great show of dairy stock is in prospect and each of the leading breeds will make a much bigger showing than ever before, and those who are well acquainted with the situation say that the largest showing of Holsteins, Guernseys, Jerseys and Ayrshires that has ever been made in the state will be shown at Riverside this fall.

### BE A BOOSTER

Why does one community excel another in the production and sale of purebred livestock? In that community they are all boosters. Once in awhile you find a breeder who thinks that if he was the only breeder in that section he would have a big business. Find a place where there is no competition and you will find a place where there is no business. When a purchaser arrives at the farm and cannot find just what he wants drive or direct him to some of your neighbors where he will find it. He leaves with a pleasant thought for your community and is a booster for you. You are boosting your community and being boosted. Be a Booster.

The news columns of the dairy and farm journals have recently been filled with accounts of worlds records being broken in dairy producion. In the opinion of many breeders the time is not far distant when there will be a new classification in Advanced Registry, one that will give the owner of the herd a broader basis for measuring the productivity of his herd as a whole than is now afforded. Why not an official classification for the whole herd?

### BRANT HEIFER ESTABLISHES WORLD'S RECORD

Clarabelle of the Rancho, a junior three year old Guernsey heifer owned by the Brant Rancho at Owensmouth, has just completed a year's record of 725.14 pounds butterfat from 11,890.6 pounds milk, which gives her first place in the E E division by a considerable margin. Her paternal sister, Lucky Girl of the Rancho, also recently completed a record of 670.03 pounds fat from 14,913.9 pounds milk, and thus ranks third in the same class. Both heifers carried calves for 265 days of their lactation periods.

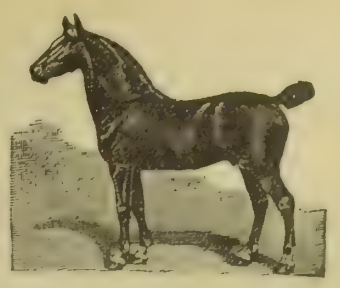
The sire of these young cows is Brookmead's White Face and their performance marks him as one of the greatest transmitting young bulls of the breed.

### MINNESOTA CREAMERIES HAVE TRAFFIC EXPERT

Cooperative creameries of Minnesota today have their own traffic expert on duty in New York.

The Minnesota Cooperative Creameries Association, Inc., has employed Hubert I. Stack, experienced traffic manager, as head of its eastern traffic department. He will take charge of the distribution of Minnesota's cooperative creamery butter shipments on the New York market. The state association is beginning to ship butter from Minnesota to itself in New York, so that as the direct representative of the dairy farmers it can check up on all freight bills and attend to all claims for overcharge, loss, damage, incorrect grading, and every other phase of terminal marketing where the individual producer stands a chance to lose money.


***Keeping Your Horse In Perfect Condition***



NO horse with a Spavin, Splint, Ringbone, Curb, Bony Growth, Capped Hock, Wind Puff, Strained Tendon or Sweeny can compete with his physically perfect mates, either in achievements or endurance. Splendid looking horses—otherwise sound—often fail because of some blemish that could be quickly removed with

**Gombault's Caustic Balsam**

Whether you are the owner of race-horses or work-horses, you can prolong their usefulness by the use of this time-tested remedy.

Every stable should have GOMBAULT'S CAUSTIC BALSAM always on hand.

Supersedes all Cautery or Firing. Never leaves a scar or discoloration of hair.

***A Reliable Liniment for External Human Use***

Has no equal as a Liniment and counter-irritant for HUMAN USE. For treatment of Inflamatory and Muscular Rheumatism, Sore Throat and Chest Colds, Growths and Stiff Joints.

GOMBAULT'S CAUSTIC BALSAM if applied immediately to Burns, Bruises or Cuts, is a perfect antiseptic—soothing and healing. An absolutely safe external remedy for human and veterinary uses. Its fame is Nation-Wide.

Every bottle of Caustic Balsam will give satisfaction.

Sold by druggists, or sent by parcel post on receipt of price. $1.50 per bottle. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., *Cleveland, Ohio*

**WE WELCOME VISITORS TO SEE OUR Guernsey Cattle and Berkshire Hogs**

At the State Fair, Riverside and Pomona

Make our exhibits your headquarters.

We love our livestock and like to show it.

**ITALIAN VINEYARD COMPANY**

ALEX M. WILSON, Supt. Guasti, Cal.

**THE A.R.O. SALE**

37 Registered Holstein Females

**Carl Ray's Raynora Ranch, Lankershim, Cal.**

**Thursday, September 28, at 10 A.M.**

This will be a complete dispersal of Mr. Ray's milking herd of registered Holsteins, the sale list containing the largest percentage of females with official records ever offered in a California sale.

33 OF THE 37 COWS AND HEIFERS HAVE OFFICIAL RECORDS

There are five cows and heifers in the sale with official records above 30 pounds of butter in 7 days, and a large percentage of the balance have records from 20 to over 29 lbs. A number now making good yearly records.

GUARANTEED BREEDERS, TUBERCULIN TESTED, SUBJECT TO RETEST

Write for catalog to

CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
211 Ochsner Bldg., Sacramento, Calif.
Auctioneers: RHOADES & RHOADES, Los Angeles.

Your appreciation of the California Cultivator can be shown best by writing to and buying from Cultivator advertisers.

### THE STATE FAIR FROM AN EDUCATIONAL STANDPOINT

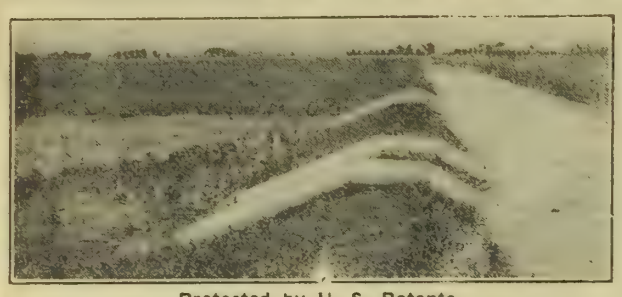
(Continued from Page 219)

teresting to pass from one to another noting the various animals, groomed to the highest state of perfection, and to realize what may be done through careful handling of high grade stock. This in itself is an educational inspiration of no small value, for who can see the mammoth hogs, deep coated sheep, the massive bulls and cows, the splendid poultry, the great Belgian, Shire and Coach horses without determining to improve his own stock?

In the manufacturers' building will be found the latest and most improved methods of conducting the home and making it easier for the housewife to pursue her daily duties. Washing machines of various models, sewing machines with the latest attachments, wall beds, oil burners, stoves and ranges with all modern conveniences, and many other accessories present an ever increasing spectacle of household convenience and economy.

There are, of course, countless other educational features which go to make the fair amazingly beneficial to one who will give a portion of his time to learning something of the improvements which have been made and of which he can make profitable use. As one passes from building to building and down the various aisles his eye will be attracted to various exhibits in which he will be intensely interested.

The fair means much to one who goes with the purpose of gaining from it all he can in an intellectual way.

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1923?

It is time to investigate the merits of
IRRIGATING SIPHONS
Money saved.
Water saved.
Ditches easily cultivated.

Light, Portable Siphons, that take the "gate" out of Irrigation.
Write today for our Booklet, "Prepare Your Ditches for Siphons."

Please give full address and location.

IRRIGATING SIPHON CO., WOODLAND, CALIFORNIA


### WHAT YOU WILL SEE AT THE STATE FAIR

IF YOU are fond of races, and nearly everyone is, you can certainly have your fill at the state fair, for every afternoon on the great track you will see ponies, cowboys and Indians, bare-back riders, trick horses and other features which keep the big crowd of ten to fifteen thousand on the very tip-toe of expectancy and interest. Starting with the sulky races, the show continues throughout the afternoon and closes with some spectacular event, which gives a one hundred per cent thrill to everyone who is fortunate enough to be within sight of the great arena. Before the war the great climax was reached when two locomotives, each going from 30 to 35 miles an hour, met head on in a wreck that sent each of the moguls to the scrap heap with whistles blowing and steam spouting from dozens of places that had been broken open by the great crash. But the war put a stop to this tremendous waste of steam energy and since that time the big event has been a leap from an aeroplane several thousand feet in the air.

#### Agricultural Products

The main agricultural and horticultural building is crowded with exhibits from nearly every county in California. Beautiful designs in fruit, archways of decorations, miniature houses constructed of fruit, and piles of fruit in various designs meet the eye at every turn. The very air is permeated with the fragrance of the finest products of California's soil. Cooling beverages, made from the juices of these splendid fruits, may be had in abundance. The fish and game commission has a life exhibit of the different kinds of fish taken from our many streams and splendid set pieces of the wild animals which inhabit our forests. The great gallery is filled with supplementary exhibits of various kinds.

#### "Power on the Farm"

The tractor and implement tent, known as the section of "Power on the Farm," contains many different tractors, plows, harrows, subsoilers and other agricultural implements which are worked in conjunction with the tractors. A complete guide to all these exhibits may be had for the asking, and the attendants are always glad to explain whatever points may be under consideration. This tent contains over 60,000 square feet, and every inch of space is occupied with an exhibit which cannot fail to arouse keen interest on the part of all of the visitors. To the man who is contemplating the purchase of a tractor this exhibit offers an opportunity of studyinig the various makes and determining which is best suited to his requirements. The big pump tent, which adjoins the main tractor tent, contains pumps of many sizes and they are all busy.

Adjoining the tractor tent are half a dozen large barns in which are housed some of the greatest horses that California is producing at the present time. From the lithe race horse, which every afternoon tears madly around the track at a record-making pace, to the big Belgian draft horses, every quality of equine beauty and utility is represented.

The dairy barns are typical of the best in equipment and service. Cows of all dairy breeds are exhibited.

#### Manufactures

The manufacturers building always attracts a great deal of attention. Household equipment from the parlor to the kitchen is shown to best advantage and the modern improvements which have been inaugurated within the past several years are adequately displayed and fully explained.

#### Poultry Show

A splendid poultry exhibit is always one of the main features of the fair. In a large building occupying over 1,000 square feet are assembled representatives of every breed of poultry and pigeons in California. This complete exhibit brings together those competitors who have studied methods of producing better poultry, and they vie with each other in keen competition over the many prizes which are awarded by the state fair management. The state game commission


horse profits

No. 6 of a Series — Published Monthly in the Interests of Better Horses and Better Harness — Louis Lichtenberger, Editor

# It Pays to Select Good Harness

The amount of work a horse will deliver depends largely upon the harness it wears. You can't expect your horses to give their full quota of efficiency if their harness does not fit right. Superior Brand Harness has the custom-made fit. It is produced in adjustable sizes for every horse's need. Every whit of leather used must first pass exacting tests for texture, tensile strength and pliability. Every friction seam has been eliminated and all parts are fashioned to satisfactorily fit the contour of the horse. Special insulated linen sewing cord is used—the kind that will withstand moisture and sweat. Superior Brand Harness may cost a little more but it's worth the difference.

## Headquarters For Saddlery and Miscellaneous Equipment

In addition to our complete line of harness we produce saddles of every description. These are constructed on special formed trees and are guaranteed not to hurt the horse's back. The Superior Line also includes:

| | |
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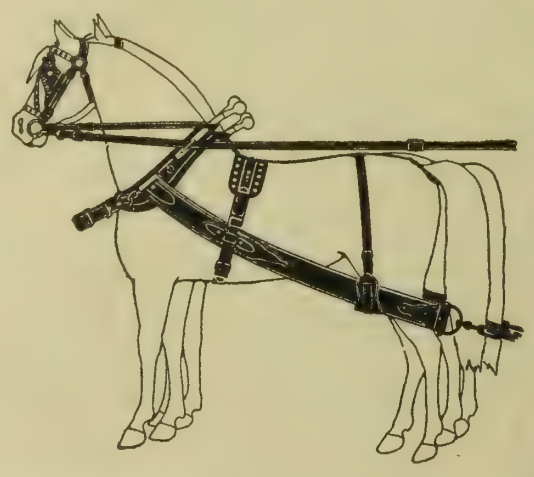
| Bridles | Cartridge belts |
| Chaps | Saddle strings |
| Saddle bags | Latigoes |
| Saddle Pockets | Hat Bands |
| Leather cuffs | Cinchas |
| Spurs and spur leathers | Riattas |
| Rifle scabbards | Stirrups |
| Pistol holsters | Saddle Blankets |



## Style 338—Team Harness

A sturdy set that the heaviest draft horse can not strain. Doubly reinforced thruout and finished custom-built style. The finest work set that money can produce. Ask your dealer to show you this Superior model or request detailed information direct.

SUPERIOR

WRITE FOR FREE BOOKLET "HORSE PROFITS"

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MAKERS OF FINE HARNESS SINCE 1900

# Classified Liners

**The direct selling method from producer to consumer, and a clearing house for California's prosperous farmers. Weekly liner rates: Each insertion 4½ cents per word. No ads accepted for less than ten words. Cash with order. Mail all classified copy to Los Angeles Office.**

## POULTRY

**Profitable Poultry News**—Capacity 200,000 Chicks—off every week of year. Now booking delivery every fall, winter, spring month. Why? First half each week's delivery booked ahead at substantially reduced price; further, it's impossible to supply demand for our 180-290 egg Leghorns, Reds, Rocks, Anconas, Minorcas, Wyandottes, Orpingtons, Brahmas, Ducks, Turkeys. For quarter century imported, trapnested, selected for vigor, growth, beauty, eggs. Large, rapidly growing chicks reasonable now for fryers, roasters. Write Profitable Poultry, 13 North Fair Oaks, Pasadena.

### BABY CHICKS

**Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.**

**Write for prices.**

**FANCIERS' EXCHANGE**

**640 So. Main St. Los Angeles**

**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

**Certified White Leghorn Baby Chicks.** Booking orders now for Summer and Fall delivery. Safe arrival, live vigorous chicks guaranteed. No money in advance; pay on delivery. Established 1898. Sonoma County Farm Bureau Accredited Hatchery. MUST HATCH INCUBATOR CO., 438 Seventh Street, Petaluma, California.

### BABY CHICKS

**White Leghorns, Anconas, R. I. Reds.**
Order now for Fall and Spring delivery

**THREE MONTH OLD PULLETS**
All selected—no culls

**"QUALITY SUPREME"**

**ORANGE COUNTY HATCHERY**
Santa Ana, California

**The Archibald Hatchery** will supply through September and October White and Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons and Wyandottes. Our folder may interest you. B. W. Archibald, Soquel, Santa Cruz County, California.

**Baby Chicks** from my pure-bred flock of S. C. White Leghorns, carefully bred and selected for laying and standard qualities good, vigorous fall chicks at reasonable prices. Write for particulars. J. R. Heinrich Poultry Yards, Arroyo Grande, Calif.

**Baby Chicks—Reds, Rocks, Anconas, and White Leghorns.** Hatches every week after August 1st. Write at once for price list. Place your order at once, as we have several thousand now sold to old customers. Est. 1915. Hargett & Son, Route 2, Box C, Compton, California.

**White Leghorn Baby Chicks.** From free range Hoganized stock. Breeding flocks inspected by Sonoma County Farm Bureau accredited hatchery inspector. Full count and safe arrival guaranteed. For price write to the Lafranchi's Hatchery, Petaluma, California.

**Fall Chicks—Hatches every week.** White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. Stubbe Poultry Ranch and Hatchery, P. O. Box 67-E, Palo Alto, California.

**Union District Hatchery** is booking orders for the fall chick. Chicks from the best tested layers at right prices. White Leghorns, Rhode Island Reds, and Barred Rocks. F. & L. Downing, Los Gatos, California.

**Watch Us Grow—We are now booking orders for fall chicks.** Brown and White Leghorns, Rhode Island Reds, Barred Rocks and Anconas. Ohlen's Hatchery, Campbell, Calif.

**Fall Chicks Pay—Order now for September and October delivery.** White, Brown, Buff Leghorns, B. Rocks, Reds, Anconas, B. Minorcas. McDonald Poultry Ranch, Rt. 1 Box 246, San Jose, California.

**White Leghorn Baby Chix for summer and fall months from stock Accredited by Sonoma County Farm Bureau. We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.**

**Booking Orders Now for Fall** and Spring delivery. Order now, prompt delivery. Rhode Island Reds and White Leghorns. All orders given prompt attention. Oroville Hatchery, Irene Uren, Prop., Oroville, California.

**Eastman's Bred-to-Lay** Hoganized and Trapnested Barred Rocks. September chicks. Fairmead Paultry Farm, Fairmead, California.

**White Plymouth Rocks** April hatched cockerels $2.50 each or $25.00 per dozen. Cocks $3.00 each. Mrs. B. M. Jesch, Fallon, Nevada.

**Pit Games—Old and young trios. R. H. Crane, Santa Rosa.**

## POULTRY

**Slightly Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

## TURKEYS

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

**For Sale**—2 Bourbon Red Toms $15. 3 large rabbit does $2.50 each. Rasdall, Shawmut, California.

## FARM LAND FOR SALE

SUTTER BASIN LANDS

In the heart of the Sacramento Valley, rich, deep "river bottom" soil, with a complete irrigation system is offered to good farmers. Any crop you may want to grow will find a good home here. Most liberal terms.

SUTTER BASIN COMPANY,
304 California Fruit Bldg.,
Sacramento, California.

**For Sale by Owner**—100 acres of the best apple and pear land in the Tehachapi Valley. This is watered by gravity spring creek water and is fine sandy loam. A real opportunity at $200.00 per acre. Has been in trees and alfalfa and proved good. Come at once if you want something good. Address J. B. McConaha, Monalith, California.

**For Sale**—Five acre home in prunes, olives, fruit and alfalfa. Modern 8 room house, phone, bath room and screen porch. Electric pumping plant and two wells. Plenty of water. One-fourth mile from city limits. Also ten acres of grain land. Owner, Mrs. E. Winnie, Corning, California.

**For Sale**—97 Acre Prune and Olive Orchard interplanted with seedless grapes, bearing. Modern Bungalow and pumping plant for irrigation. Located near Woodland on paved highway. Price $30,000—terms if desired. Call on or write Wm. Gould, Woodland, Yolo County, California.

**Paradise, The Orchard Home Place**—Water, electricity, telephone, good roads, healthful climate, reasonable prices. Box C. Publicity Committee, Paradise, California.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## GOVERNMENT LAND

**Attention:** Million acres Government land for farming, grazing, timber. Near R. R. Plenty water. Send for folder. Rally, 1111 So. Alvarado, Los Angeles, California.

## MACHINERY

**For Sale Reservoirs, Grain Bins**—We have several big redwood tanks. Cheapest thing money will buy. Tanks, 2,000 bushel capacity, $68; 6,000 bushels, about 3,500 sacks, $125. Cement reservoirs crack. Quakes don't hurt wood tanks. 12,000 bushel capacity, $195 on cars. L. A. make, new galv. tanks, 10 sizes, 175 to 2,000 gals. at $45.25; 1,000, $35.25. Also rebuilt tanks. Pumps at lowest prewar prices. Windmills, tanks, pumps, cylinders, pump rod 3, 4, 6 in., irrigating pipe rebuilt, new, for less. Demmitt, 120 N. Main St., L. A.

**For Sale**—New DeLaval Separator No. 15 with belt power attachment, used only three months. H. H. Sisson, Willits, California.

**Merry Garden Tractor For Sale**—Used but little. Plenty of tools. Price reasonable. Address Salisbury, Route 11, box 142 Los Angeles.

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**Two and one-half miles west of Davis, Calif. on Highway, C. Harold Hopkins, Woodland, California.**

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**For Sale**—500 EWES bred for early lambing to Shropshire bucks. Delivery any time. Price, $9.00 per head. No broken months. Address Route A, Box 227, Redlands, California. Phone Suburban 9152.

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**Carolina Strawberry Plants for Fall Planting**—the most prolific and best berry. Gives crop the first year. Postpaid $1.50 per hundred. Write for prices on larger quantities. G. M. Hawley, El Cajon, Rd. No. 2.

**D. Lotus Seed**—Manchurian stock for Japanese persimmons. Let me include your needs in my 1923 importation from Manchuria. Fred W. Kelsey, Nurseryman & Orchardist, El Monte, California.

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**Jersey Show Bull Calf For Sale.** Born November 29, 1921. Sire traces 6 times to Financial Count in 5 generations. Dam Register of Merit cow with 489 pounds butter on two milkings a day. Strong in Noble of Oakland and Financial blood. A splendid individual and priced to sell. Grant A. Brown, El Monte, Calif.

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys — Grape Wild Farms — Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Registered Guernsey Bull Calves for Sale** from A. R. Dams and Sires. This herd passed the State Tuberculin test on July 10th, 1922, making one of the longest continuous T. B. free records of any Guernsey Herd on the Coast. James A. Brown, Capitola, California.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**SHORTHORNS STRALOCH FARM**
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**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Registered Holstein Bull** sired by King Pontiac Segis 3rd. Will sell cheap or trade for good cow. J. P. Kelly, San Bernardino.

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**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

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**Herefords—"Veramont Stock Farm,"** H. M. Barngrover, Prop., Stockton, California.

**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

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**Competent Dairyman and Farmer**—35 years, married, no children, wants to take charge of place or work as first helper. Knowledge of thoroughbred stock and testing records, best references. Send particulars to L. Morel, P. O. Box 705, Modesto, Calif.

**Wanted: Men With Spare Time to represent established California compan selling standard material to ranchers in ten southern counties. Good pay. Address W. S. H., care California Cultivator, Los Angeles.**

**Wanted Throughout California, men with autos to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call. J. H. Yetter, 317 Central Ave. Los Angeles.**

**Wanted to Buy** dried apricots and peaches. Please mail samples to W. A. Collins, Box 397, packing house at Santa Fe Depot, Santa Ana, California.

**We Are in the Market** for several thousand first class citrus trees on sour roots. Dortons Southwest Nurseries, Harlingen, Texas.

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**I Want Farms for cash buyers. Will deal with owners only. R. A. McNown, 370 Wilkinson Bldg., Omaha, Nebr**

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**Smoked Salmon**—5 pound box, $1.25; salt salmon bellies, 5 pounds $1.25, delivered by mail. Coffin Fish Co., Seattle, Washington.

**Hemstitching and Picoting Attachment; fits all sewing machines. Price $2.00.** Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Kentucky Homespun Smoking Tobacco.** Ages in bulk. Mellow and sweet. 10 lbs., $1.50; 20 lbs., $2.75. Tobacco Growers Union, Lynnville, Kentucky.

**Leaf Tobacco**—good for smoking or to use in hen nests. Fifteen cents pound—express paid on 10 pounds or more. Grant, P. O. Box 466, Fresno, California.

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**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

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## TREES

**For Sale—Grafted walnut trees, also citrus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.**

**For Sale—Grafted Walnut Trees for season of 1923.** Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**For Sale**—"Victory" Avocado Buds at $10.00 per hundred. Come by appointment or bring budder. A. B. Phelps, Horn Avenue, Sherman, Calif.

**For Sale**—Hachiya Persimmon Trees, grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**1000 to 1500 Avocado Seedlings** for lining out. Address Wagner's Nursery, Pasadena.

**1000 Avocado Seedlings.** L. A. Tuttle Nurseries, Route 1, Pasadena.

**Beeman Tractor Cheap — Young man learn trade. Cash Nursery, Sebastopol.**

## HORTICULTURAL PRINTING

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has a splendid exhibit of quail, partridge and other game birds. The turkey section contains some exceptional birds of prime quality and great size.

### Livestock

The entire north section of the big grounds is devoted to the display of livestock. Notwithstanding the fact that there are many hundreds of pens to contain the livestock that is sent in, this department is always taxed to the limit of its capacity to accommodate the prize animals which find their way to the state fair. This department, embracing beef cattle, sheep, hogs and milk goats, gives one an opportunity to spend at least a day viewing the splendid specimens of livestock that California has been able to produce.

### Playgrounds and Lunch Rooms

A children's playground is equipped with all the paraphernalia commonly enjoyed by the children and this has always been the scene of intense juvenile activities.

There are plenty of lunch rooms on the grounds, plenty of novelties to buy, plenty of parking space for automobiles, and plenty of amusement for everybody.

### Rooms for Everybody

The chamber of commerce of Sacramento has listed available rooms, and while accommodations cannot always be secured at the hotels, ample sleeping accommodations may be had in hundreds of private homes throughout all sections of the city.

California's fair for 1922 will probably be the greatest exposition of agricultural achievements ever held, and those who are fortunate enough to have the opportunity of visiting this great exposition will truly not be disappointed, judging from reports of entries and special features to be enjoyed.

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Says Sam: By and large, I'd rather have hayseed in my hair than soot.

# Walnut Curing

By C. V. Newman, San Joaquin Fruit Company, before Walnut Growers' Institute.

PRODUCING, picking, curing, packing and marketing are the five big operations in the walnut business, and the ultimate success of the industry depends upon the proper coordination of them all.

Under normal conditions when the kernel of the walnut is fully developed and contains the maximum of oil the husk breaks open and we say the walnut is ripe. Now a ripe walnut contains a certain amount of moisture and the careful removal of this moisture constitutes the curing of the walnut, the subject of this discussion. There are four methods of curing walnuts, sun curing in trays, bin curing with heat, house curing with movable trays, and house curing with movable trays and forced currents of hot and cold air.

Fully 95 per cent of California's walnuts are cured in the sun in trays. Walnuts are spread out, stirred daily and, depending on weather and the condition in which they come from the field, are cured ready for processing with four to twelve days. During moderate sunny weather walnuts are cured in trays quickly and with little loss from shrinkage, cracking or mold. During foggy or rainy weather the trays can be covered or stacked, but the process of curing is delayed, the drying yard becomes congested, and the walnuts may mold. One of the greatest losses to the industry as a whole from this method of curing comes from the fact that during bad weather deliveries to the packing plant are cut off, shipments East are delayed, packing houses run on half time, and this means a general rush and probable loss at the end of the season.

A few attempts have been made, even as much as 20 years ago, to cure walnuts in bins by use of heated air. The number cured in this manner however is insignificant, probably because of the difficulty in obtaining uniform cure. Frequent turning of walnuts seems to be necessary if one is to cure them thoroughly in the shortest time with the minimum of loss from over drying or mold.

The third method of curing is that which is carried on within a covered drying shed. Many clever ideas have been worked out by different men to cure their walnuts in houses, and still less than 5 per cent of the crop is handled in this way. The hope of every designer of a house is to lower the cost of operation, to economize drying space, to save shrinkage, and to avoid the extremes of weather so detrimental to proper curing. Most houses are equipped with conveying belts or elevators so that the walnuts can be moved from the receiving platform to the drying trays and then back when cured to the sacking bin. Trays are so arranged that they can be turned daily, and thus in favorable weather walnuts can be cured within about four to eight days with a shrinkage of about six to seven per cent.

One of the best curing houses on the market today is the Sidwell dryer with which most of the growers are familiar. In this dryer the walnuts can be easily turned and well cured, and while the first cost is rather high the operation is economical. All's well in fair weather with this house, as it is with other enclosed dryers, but when the walnuts come in after a rain—and that's when they do come in—and the clouds and fog hang around for a week, and the house is full of wet nuts, then the grower says to his neighbor, "We would be all right yet if we could just get some sunshine or a little east wind within another day or so." It would therefore seem that, if during rainy weather a grower could mechanically produce just the right amount of east wind at the right time, he would make a hit, and this brings us to the fourth method of curing walnuts.

This system of curing is the same as the one already described except that there is added the use of hot or cold air currents. The Limoneira Company built a Sidwell curing plant in 1919 and in 1921 installed two large bins with a capacity of about 1500 cubic feet or, roughly, 15 tons. They connected with these bins a seven-inch blower with a 10-horsepower motor, speed 1700 r. p. m., and having a capacity for displacing 3000 cubic feet of air per minute. The object of the bins is to give added capacity to the plant and with the use of the air currents to give the walnuts a preliminary drying before putting them in the trays. Although the results have not been entirely satisfactory the bins and air currents have made it possible to shorten the curing process in bad weather. There is no doubt that this plant could be made more efficient if another blower were installed which would direct a strong current of air right through the trays.

The San Joaquin Fruit Company built a dryer in 1919, in which the walnuts were stirred and cured by allowing them to move down a short distance each day by gravity on sloping trays. With this method it is very difficult to keep green and dry walnuts separate, and on the whole the process is slow and unsatisfactory. A heavy crop of walnuts was harvested and cured fairly well the first season, but most of the success was due to good curing weather which prevailed in the fall of 1919. Bad weather would have caused much damage.

In the summer of 1920 this company installed a small crude oil burner and a blower to force the heated air to the drying shed. A bin was built which would hold 10 tons of walnuts, or a day's pick, and during bad weather the walnuts were put in this bin and hot air at about 85 to 90 degrees forced in at the bottom for about 18 hours, when the bin was emptied and the process repeated with green nuts. In this manner the outside moisture was driven off and the curing process in the trays was made shorter.

With these improvements the house capacity still was not sufficient under adverse weather conditions. So in 1921 in cooperation with Fern Bishop of Santa Ana the San Joaquin Fruit Company remodeled the old bin, put in another one and added to the equipment a big exhauster fan, which was connected with the hot air furnace and with distributing pipes in the bins. In addition to the furnace and blower for the bins a series of 24-30 inch fans were put back within the house so that a current of air could be forced over the trays when desired. This equipment was put in for emergency weather but was used a part of the time during the whole season. And now while the house is not a perfect curing plant still conditions have been much improved. The greatest drawback is the gravity trays, which make it difficult to stir the walnuts properly.

In discussing the subject with well informed men in this business it appears that everyone is agreed that the ideal way to cure walnuts is to dry them in a house; have the house so that it can be closed if desired to keep out either east wind or fog, the house to be so arranged that the walnuts can be continuously or frequently stirred and with a furnace and fans


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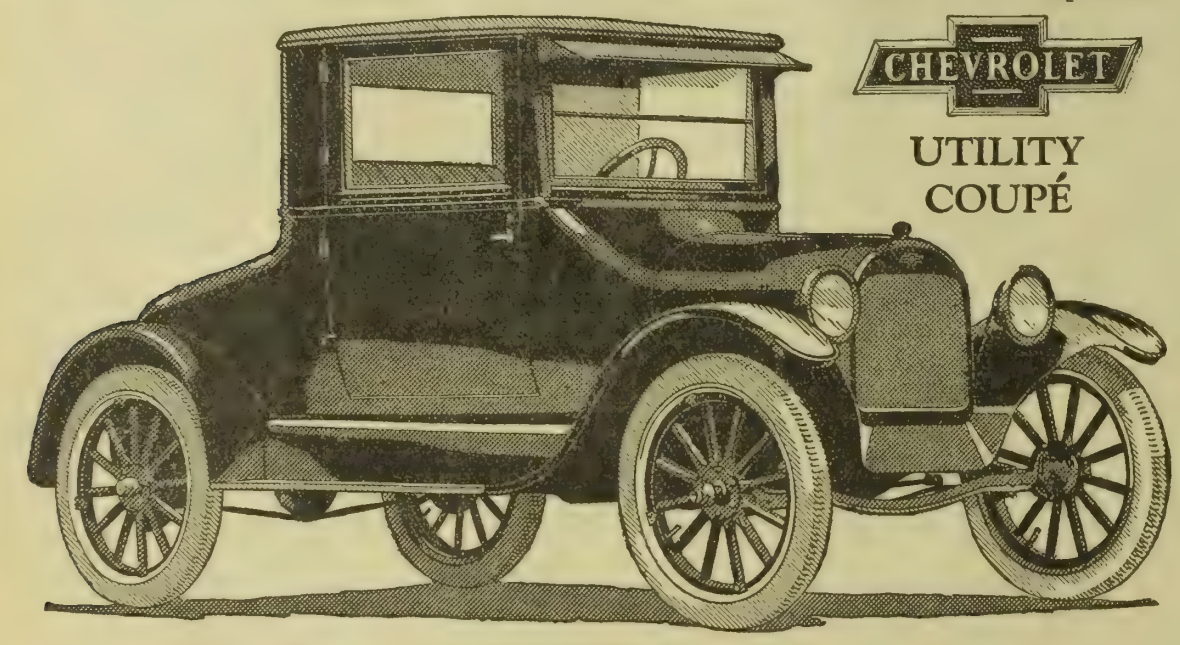

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to be able to have full control of drying conditions in all kinds of weather. In principle I believe such a house is logical; however, it remains to work out the details in practice on an economical and efficient basis.

Mr. Bishop has a plan for curing house that combines many important features for the control of temperature and humidity and includes a simple device for continuously stirring the walnuts. Briefly this plan consists of a series of revolving cylinders constructed of hardware cloth and made to hold approximately 500 pounds each. The cylinders, or "squirrel cages" as he calls it, would be arranged in batteries of eight to ten in an enclosed room. Heated air can be forced in at the bottom of these rooms, and as the cylinders slowly turn, walnuts can be cured uniformly in the minimum of time. In fact, Mr. Bishop declares that he has taken green walnuts and cured them in these cylinders in 19 hours at a temperature of 84 degrees and that the same walnuts 60 days later do not show any signs of becoming rancid or moldy. Walnuts handled in the above way will probably stand a temperature of from 85 to 90 degrees for 25 hours or 95 to 100 degrees for six to 12 hours without cracking the shell or starting the oil. An east wind or a hot sun will crack a walnut in six hours if exposed and not turned. The same walnut will stand higher heat a longer time if continuously stirred, and will therefore cure faster and better. It looks then as though this system of curing has the good features of sunshine and east wind without the bad effects.

The advantages of a house in which drying conditions can be mechanically controlled are these: First, the more rapidly a walnut can be cured the less space required to handle a crop; second, rapid curing prevents mold; third, it means a constant supply of cured walnuts to the packing house, which insures steady shipments and early successful returns to the grower.

I believe the subject is worthy of considerable study and support on the part of the field department of the Walnut Growers Association. I believe that the efforts of individual companies and growers should be investigated and encouraged, and further, that at least one curing plant be installed at some association house at the expense of the Walnut Growers Association, to be operated one year experimentally under close supervision; at the end of one year, if successful, to be taken over by this local association; if a failure, to be charged to the growers at large. The question has come up many times, should associations build houses and cure as well as process all walnuts? The plan has many advantages, but I believe that the time to make such a move is after some process has been perfected and accepted by the Walnut Growers Association.

In conclusion I will say that in the preparation of their product for market the walnut growers' methods are crude. In comparison with the progress made in the dehydration of vegetables and fruits, and in comparison with the changes made in the care of citrus fruit, the walnut grower has done very little. The importance of the walnut industry is based on the actual food value of the product. For this reason the industry was begun on a firm economical foundation and its success is worthy of the best efforts of any man. Under the able management of the association walnut growing is becoming one of the most certain of farming operations, and even during this last year of business depression a crop of 18,000 tons was sold at a price above that of any like commodity. To maintain this standard it's up to the grower to deliver quality goods. The surest way to do this is for the farmer to grow the best walnut he knows how and then in cooperation with the field department to study and put into practice the best known method for the rapid curing of walnuts under all weather conditions.

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According to a report of the Sun Maid Raisin Growers, 40,310 acres have been planted to grapes in California since the first of this year. There is now a grand total of 400,443 acres of vineyards in this state. Fresno County has more than half the total state acreage, or 215,715 acres.


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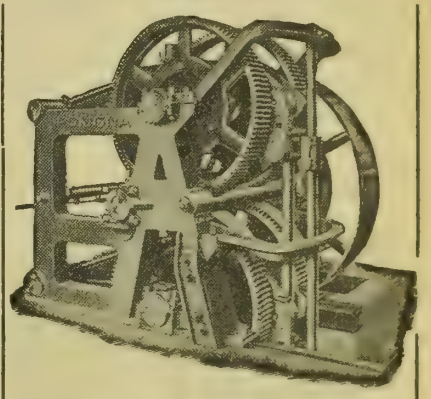

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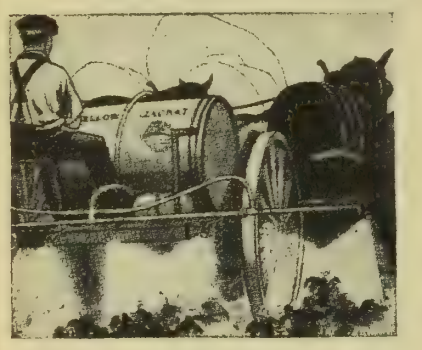

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## Los Angeles Markets

Los Angeles, August 30, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 43 cents.

Prices extras past week:

| | | | | | |
|---|---|---|---|---|---|
| August | 24 | 25 | 26 | 28 | 29 |
| | 45 | .... | 45 | 45 | 43 |

### CHEESE

Brokers' prices:
California flats, 20@22.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 37; case count, 33; pullets, 30.

Prices extras past week:

| | | | | | |
|---|---|---|---|---|---|
| August | 24 | 25 | 26 | 28 | 29 |
| | 36 | .... | 37 | 37 | 37 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 17; colored, 30; broilers, 30; roasters, 32; old roosters, 14; fryers, 30; ducks, old, 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 11@14; old, 8.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock August 29, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement slow, market dull. New Stock: best, locals, sacked 1.25@1.50, mostly, 1.35; poorer, low as 1.00 sack; Northern, Rivers, 95@2.00 cwt. Sweets, local lb., 4@5 lb.; Northerns, 4@4½.

Onions: Demand and movement slow, market dull. Stocktons: Yellows, $1.40@1.65; Whites, $1.65@1.80. Locals: Whites, 50@60; Spanish, $1.10@1.25 lug. Garlic, Mexican best, 7@8 lb.; Northern, 6@7.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock August 29, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: San Pedro: Kentucky Wonders, 6@7½; Limas, 3@4.

Bunched Vegetables: Per dozen bunches; Turnips, beets, parsnips, 30@35. Parsley and radishes, 15; spinach, 25.

Cabbage: Market steady, quality generally good. Field cr., best mostly 2.00@2.25.

Cucumbers: Local, lug, 40@60.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, best, 3.00@3.50; poorer, 2.50@2.75.

Corn: Green, local, best, lug, 75.

Eggplant: Local, 4.

Lettuce: Market steady. Locals: Ordinary, leafy, 90@1.00 cr. 3.50.

Okra: Lb., best, small, 6@7.

Peas: Best, Northern, lb. few best, 10@12; poorer, low as 6.

Peppers: Locals: Bells mostly, 3@4; Chilis, 3@4 lb.; Cherry, 7; Fla. Gems, 6.

Squash: Market steady. Locals: Summer, lugs, 40@60; Italian, lugs, 65@70.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs best, pink 85@1.00; ripe, 65@75.

### FRESH FRUIT

These are actual prices obtained August 29 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc, as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Gravensteins, loose, 3 cents packed, fancy, 1.50@1.75; B grade, 1.15@1.25 per box. Crabapples, Locals, 85@1.00 per lug. Northern, 4½ per lb.

Cantaloupes: Market weak. Locals: Tip Tops, best, 50@65; poorer low as 25 crate.

Grapes: Demand slow, market steady. Northern: Thompson Seedless, per lb., 3@3½; Malagas, 5; Muscats, 4; Tokay, 7@8; Black Hamburg, 6@7; Rose of Peru, 5.

Nectarines: Northern, 5@6.

Peaches: Market steady. Locals and Northern, freestone and cling, all varieties, 1@3 per lb.; mostly, 2.

Pears: Demand moderate, market steady. Northern: Bartletts, mostly 3½@4½.

Plums: Demand and movement slow, market steady. Per lb.: Satsumas, 2½. Other varieties, 1@3 per lb. according to quality. Northerns: Various varieties 3@4 lb.

Watermelons: Local Klondike, best, 1.00@1.25 cwt.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 18.00@20.00 |
| Barley | 15.00@17.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@20.00 |
| No. 1 Alfalfa | 15.00@17.00 |
| Standard Alfalfa | 11.00@13.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 18.00@20.00 |
| No. 1 Dairy | 14.00@15.00 |
| No. 1 Alfalfa | 12.00 |
| Wheat Straw | 6.00@8.00 |
| Barley Straw | 4.00@6.00 |

### GRAIN

Prices L. A. Grain Exchange, August 22:

Barley: 100 ton lots September Del., 1.25@1.37½.

California Farm Bureau Exchange grain department, Los Angeles, August 28:

Barley. Less barley has been exported this season than for any season during the past ten years. Values have held remarkably well for a purely domestic consumption. While the price received by the farmer is very low, it is much better than would have been obtained had the farmers not organized the exchange. The Imperial Valley has been and is receiving top premiums for its barley, to which it is entitled on account of its peculiar location. The Imperial County farmers are a unit in endorsing the good work the exchange has done this year for them.

Owing to the fact that most exchange farmers have been holding back their shipments from San Joaquin and Salinas Valleys, the supply coming to Los Angeles has not exceeded the demand and prices here have been from 5 to 10 cents over San Francisco. This is due to the fact that the big bulk of the barley crop in California is in the northern counties this year and Southern California has not produced enough for its own consumption. Unless an export demand asserts itself soon, however, supplies that are still in the field in the northern counties must be moved, and it is quite likely that a temporary excess of shipments may occur at any time and reduce prices accordingly. We are, however, of the opinion that the Los Angeles market will maintain a premium over the San Francisco market for the reasons named above, and for the further reason that the exchange is better represented in counties tributary to Los Angeles.

Present values in Los Angeles are from $1.27½ to $1.32½ for good barley. This is a very bad market for smutty or off grade barley as it is discounted more heavily than in San Francisco. Such barley should, wherever possible, be used for local consumption or ship to nearby points as the freight is just as much on smutty or trashy barley as on good barley and the price to the farmer is correspondingly lower the further it is shipped.

Oats. These are in an uncertain position. Feed oats are in particularly light demand as white Utah. Idaho oats will soon be available and eastern white oats are availble at from $1.55 to $1.60 for feed. Texas red oats for seed can be had at around $2.00 to $2.10 sacked, delivered California points.

## San Francisco Markets

San Francisco, August 29, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 44 |
| Prime Firsts | 40 |

Prices Extras last week:

| | | | | | |
|---|---|---|---|---|---|
| August | 23 | 24 | 25 | 26 | 28 |
| | 43 | 43 | 43 | .... | 43 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 27 |
| California Flats, fancy | 19@22 |
| Oregon Trips | 23½ |
| Oregon Young America | 27 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 38 |
| Extra Firsts | 37½ |
| Extra Firsts | 37½ |
| Extra Pullets | 28½ |
| Undersized Pullets | 16½ |

Prices Extras last week:

| | | | | | |
|---|---|---|---|---|---|
| August | 23 | 24 | 25 | 26 | 28 |
| | 37½ | 38½ | 40 | .... | 39½ |

### LIVESTOCK

The Western Meat Company quotes:

Steers: First quality, 6½@7 per lb.; second quality, 5¼@6 per lb.; cows and heifers No. 1 4¼@4¾; second quality, 4@4¼; bulls, 2@3 per lb.

Calves: Light weight, 8@9 per lb.; heavy, 5@7 per lb.

Sheep: Wethers, 6½@7 per lb.; ewes and stags 3@4 per lb.

Lambs: 10½@11½ per lb.

Hogs: hard, fat, grain-fed, weighing 125 to 200 lbs. 12½ per lb.; 200 to 250 lbs., 11½ per lb. 250 to 300 lbs., 10½ per lb.; light sows, 10½ per lb.; heavy, 9½ per lb.

California Farm Bureau Marketing Association reports:

| No. Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Hanford, August 14** | | | |
| 89 | 173 | .... | 11.00 |
| 1 car, 1 consignor, $1,696.20 | | | |
| **Hanford, August 15** | | | |
| 6 | 161 | .... | 11.25 |
| 39 | 175 | .... | 11.25 |
| 45 hogs | | | |
| ½ car, 2 consignors, $898.15. | | | |
| **Tulare, August 22** | | | |
| 41 | 125 | .... | 11.20 |
| 63 | 137 | .... | 11.20 |
| 94 | 174 | .... | 10.95 |
| 84 | 179 | .... | 10.85 |
| 26 | 160 | 70 | 10.85 |
| 101 | 159 | .... | 10.10 |
| 14 | 226 | 60 | 10.00 |
| 41 | 231 | 100 | 10.00 |
| 12 | 337 | 210 | 7.50 |
| 1 | 260 | 20 | 7.50 |
| 477 hogs | | | |
| 6 cars, 46 consignors, $8,586.15. | | | |
| **Visalia, August 23** | | | |
| 63 | 170 | 50 | 11.00 |
| 21 | 159 | 20 | 10.50 |
| 6 | 291 | 50 | 8.50 |
| 90 hogs | | | |
| 1 car, 10 consignors, $1,666.75. | | | |
| **Hanford, August 24** | | | |
| 90 | 187 | .... | 11.30 |
| 55 | 121 | .... | 11.10 |
| 39 | 175 | .... | 11.05 |
| 25 | 174 | 70 | 10.80 |
| 100 | 156 | .... | 10.50 |
| 95 | 163 | .... | 10.45 |
| 12 | 250 | .... | 10.05 |

| | | | |
|---|---|---|---|
| 11 | 298 | 150 | 8.05 |

427 hogs
4½ cars, 28 consignors, $7,772.24.

**McFarland, August 25**

| | | | |
|---|---|---|---|
| 92 | 169 | .... | 10.75 |
| 59 | 158 | .... | 10.65 |
| 2 | 215 | .... | 10.15 |
| 2 | 120 | .... | 10.00 |
| 10 | 276 | 20 | 9.15 |
| 7 | 331 | 120 | 8.15 |
| 2 | 520 | .... | 3.00 |

174 hogs
2 cars, 16 consignors, $3,191.98
Totals: 1,302 hogs, 103 consignors, 15 cars, $23,811.47.

### POTATOES AND ONIONS

**Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.**

Potatoes: New, 1½@2 per lb.
Sweets: Merced, new stock, 3½@4 lb.
Onions: Gr. 1.25@1.50; Stockton Red, 1.25@1.40; Yellow, 1.25@1.35.
Garlic: Lb., 3@5.

### VEGETABLES

**Prices furnished by state department of agriculture, division of markets:**

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock August 8, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Beans: Ky. Wonder, Blue Lake and Wax, 4@5 lb.; Italian, 6@7; Lima, 6@7.
Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches.
Cabbage: River, 2 per lb.
Cauliflower: Doz., 75@1.00.
Celery: Local, 2.50@3.00 cr.
Corn: Green, 12@15 doz.; 1.25@1.50 sk.
Cucumbers: Lug, 40@75.
Eggplant: 3@4 per lb.
Lettuce: Local, best, 1.50@2.00 cr.
Peppers: Cal. Bells, 50@85 lug; Chilis, 4@6 lb.
Rhubarb: Box,, 1.00@1.25.
Sacked Vegetables: Carrots, 75@1.00; turnips, 75@1.00; beets, 1.00@1.25.
Spinach: Lb., 3@4.
Squash: Summer, 65@85 lug; Italian,
Tomatoes: River, 50@75 lug; Peninsula, 75@1.00 lug; Plum tomatoes, best, 25@30 berry dr.

### FRESH FRUIT

**Apples** New crop, green, 75@1.25 lug box. White Astrachans, 1@1.50; Gravensteins, fancy 3½@4 tier, 1.50@2.00; Alexanders, 4@4½ tier, 1@1.50 box. Red June fancy, 1.50@2.50; Crabapples, 50@1.00 lug.
Avocados: 4.00@7.00 doz.; poorer, 75@1.50.
Bananas: Best Eastern and Hawaiian, 5@6 lb.
Blackberries: Dr., 20@25.
Cantaloupes: Turlock standard, 75@1.25; Pony, 75@1.00; flats, 35@50; Pink meats, 1.00@1.25 standard crate; Honey Dew and Casabas, flats, 50@1.00; Persian, 75@1.25 cr.; 1@1½ lb.
Figs: Black, double layer box, 1.25@1.50; Calimyrnas, 75@90 cr.
Grapes: Thompson seedless, 1.00@1.10 crate, large lug, 1.50@1.75; Malagas, Muscat and Tokays, 1.35@1.75 crate, lugs, 2@2.50.
Huckleberries: lb. 20.
Nectarines: 1.00@1.50 cr.
Pineapples: 5.50@6.00 per doz.
Peaches: 50@85 crate; basket, 50@1.00; 75@1.00 L. A. lug; large, 1.00@1.50.
Pears: Bartlett, 1.75@2.00; box, No. 2, 1.00@1.50.
**Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.**
Plums: Best, 85@1.00 cr.; other, 50@75 cr.; lug, 1.00@1.25.
Raspberries: 45@55 dr.; few, 60.
Strawberries: Local, dr., 45@50.
Watermelons: So., 1 lb.; No. 2, less.

### CITRUS

**Grapefruit: Southern Cal., fancy, spec. pack, 7.00@7.50; choice, 6.00@6.50.**
Lemons: Spec. pack, 6.75@7.00; choice, 5.50@6.25; Lemonettes, 2.00@3.00.
Oranges: Valencias, fan boxes, 126-216s, 10.00@11.00; 250-288s, 9.00@9.50; smaller, 8.00@8.50; choice, 6@9.00.

### HONEY

Northern California: Demand and movement light. New crop reported to be of fair size but not yet on market in sufficient quantity to stabilize prices. Prices f. o. b. San Francisco in carlots range per pound—water white sage, 9½; white sage 9; light amber sage, 7½@8; light amber alfalfa, 6@6½. Hawaiian honey quoted per pound f. o. b. San Francisco, water white 6½; light amber, 5½; dark amber, 5¼; honey dew honey, 3¾.

### BEANS

California Bean Growers f. o. b. Cal. c. r. c.

| | |
|---|---|
| Large Whites | 5.30 |
| Small Whites | 6.00 |
| Pinks | 5.10 |
| Mexican Reds | 4.15 |
| Red Kidney | 7.50 |
| Cranberries | 5.75 |
| Bayos | 5.00 |
| Blackeyes | 4.00 |
| Henderson Bush Limas | 8.00 |

### HAY AND FEEDSTUFF

A. W. Scott Co. says under date of August 26:

The San Francisco hay market has shown but little life during the week and closes dull and weak. Receipts have exceeded the demand and concessions have been made to keep the surplus moving. General demand has little life and buyers have been picking and choosing about as they liked and with all conditions in their favor.

Export and coast shipments have held steady but with all orders lighter and volume much reduced; scarcity of freight space is partly the cause. Government and overseas shipment has discontinued for the moment which has somewhat slowed down export activity. Interior trading has been quiet but moving in fair quantities and with little price change. A few fair sized crops have been sold but at generally weaker figures than have been maintained. Alfalfa closes a little stronger in price. Producers have cashed their cuttings and feel more independent in holding for better figures.

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@17.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 14.00@16.00 |
| Wild Oat and Barley | 10.00@12.00 |
| Alfalfa Hay | 13.00@16.00 |
| Stock Hay | 9.00@11.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 27.00@28.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 30.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 55.00@60.00 |
| Alfalfa Meal | 23.00@24.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |

### GRAIN

Prices S. F. Grain Exchange, August 21, f. o. b. S. F. warehouse and storage charges paid.

Barley Feed. 1.15@1.20; shipping, 1.25@1.35.
Wheat Mill, 1.80@1.85; Feed, 1.75@1.85.
Oats: 1.60@1.75.
Corn: White Egyptian, nominal; colored milo, 1.80@1.95; No. 2 bulk, 1.80@1.99; No. 2 Eastern yellow, 1.51@1.57.

### SNAPPY NOTES

Mr. Spellmeyer's notes on the livestock market may be found on page 235.

## Citrus Markets

Los Angeles, August 30, 1922.

There are nearly 3,000 cars of Valencias yet to go and prices are holding up in excellent shape, ranging around $8.00 or $9.00 f. o. b.

Next season's output will be greater than anticipated. Shipments will probably not begin in northern sections until November, but Valencias will carry until that time. Output of oranges and grapefruit will be about 40,000 cars; lemons, 11,000 cars. Fruits will run to large sizes.

Hot weather has aided in cleaning up on lemons. Market strong with quotations above $6.00 on fancy stock.

**Citrus Shipments**

Shipments of citrus fruits to date since November 1, 1921. Southern California: Oranges, 21,298 cars; lemons, 8,944; total, 30,242. To same date last season: Oranges, 35,870; lemons, 10,047; total 45,917. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,603 cars; lemons, 185; total, 6,788. From Northern California to date this season: Oranges, 372; lemons, 8; total 380. To same date last season; Oranges, 305; lemons, 5; total 310.

### WEATHER REPORT

San Francisco, August 26

| Stations | Rainfall Week | Rainfall Season | Rainfall Norm. | Temp. Max. | Temp. Min. |
|---|---|---|---|---|---|
| Eureka | 0 | 03 | .16 | 64 | 50 |
| Red Bluff | .26 | 30 | 0 | 94 | 54 |
| Sacramento | 0 | T | 0 | 94 | 52 |
| San Francisco | 0 | T | .01 | 78 | 52 |
| San Jose | 0 | T | .03 | 86 | 48 |
| Fresno | 0 | T | 0 | 98 | 54 |
| San Luis Obispo | 0 | T | 03 | 86 | 48 |
| Los Angeles | 0 | T | 0 | 92 | 58 |
| San Diego | 0 | T | 0 | 84 | 62 |


**"ALL DEAD ABOVE THE EARS"**

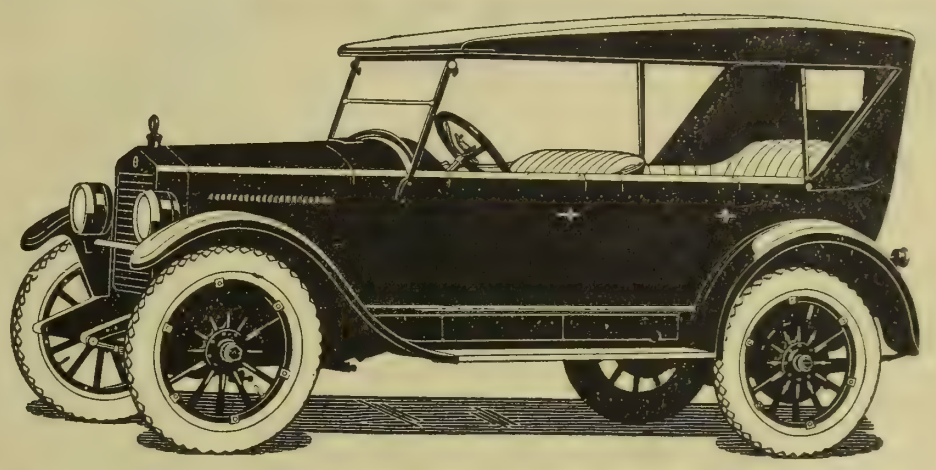
is the only possible explanation as to why the man who has money doesn't buy ranches or cattle at their present prices.

A. L. SPELLMEYER

Ranches, Feeders, Beef and Carlot Dairy Cows

320 American Bank Bldg Los Angeles, Calif.

# $1095



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## A Roomier Open Car—A Greater Chassis

You can have no appreciation of what this price buys until you examine and drive it.

To all that made Essex such a wonderful value in the past are added refinements and comforts never before offered in a car of its price class. Roomier seating, wider doors and greater riding ease, contribute something new in personal comfort.

smoothness is even more pronounced. You will instantly note its greater beauty. Its care and attention are easier, cleaner, more convenient.

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Back of the new Essex is all we learned in building 70,000 earlier Essex cars. Finer precision standards have resulted and Essex

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Lubricated with an oil can—no messy grease cups.
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Old owners tell you of a car so enduringly designed and built that its performance improves for thousands of miles.

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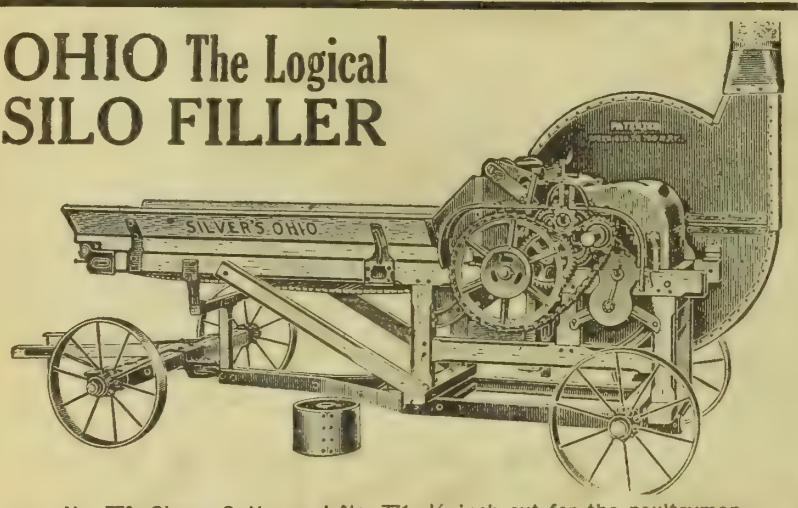
# OHIO The Logical SILO FILLER

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**NEW BRITAIN TRACTOR** 6 H. P. 2 cyl. motor. Pulls 9 in. plow, 4ft. harrow.
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Write for catalog giving full description and prices.

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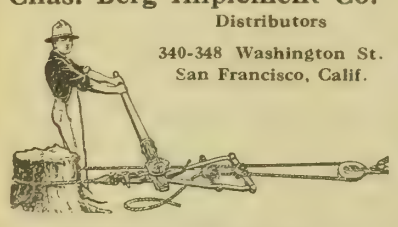

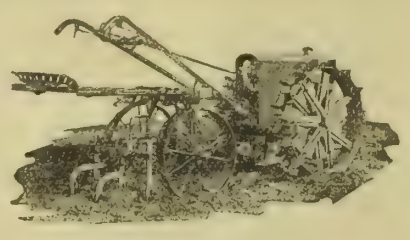

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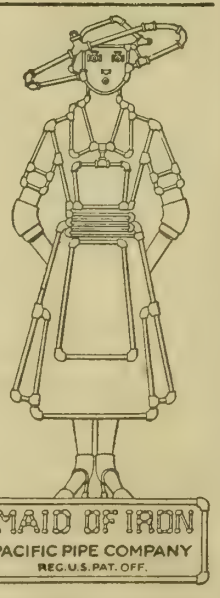



When Writing Advertisers Please Mention the Cultivator.

# New Type of Grain Binder

This year's harvest has witnessed the satisfactory testing of a new type of grain binder. The ordinary binder gets its power from the main wheel and therefore can be used with horses or any other power. This new binder is for operation by tractor only because the binder receives all the power to operate its mechanism from the tractor.

There is no question that future development in farm machine design will be largely along the lines of developing machines which will receive their power through a power take-off attachment on the tractor rather than through traction or driving wheels of the machine itself. Frank McKiske, of Illinois, has used one in the present harvest with remarkable success. His 17 year old son, with the new power driven binder and 8-16 tractor had no trouble in harvesting 30 to 35 acres a day, operating both the tractor and the binder, as all the binder control levers were easily within his reach from the binder seat.

The power driven binder is a combination of the perfected grain binder and the modern farm tractor. The tractor pulls the binder as is the common practice, but instead of the binder mechanism being run by the binder main wheel, it is driven by a revolving shaft from the tractor. The power that cuts, harvests, and binds the grain comes steadily from the tractor engine regardless of the condition of the ground. This arrangement enables the binder to be run at a more uniform rate of speed. This direct positive drive prevents slippage and choking where conditions are bad. It cuts the grain clean. The steady flow of power from the tractor to the binder makes it possible to cut a wider swath than with the ordinary binder. It also enables the grain to be cut in wet spots and to handle down and lodged grain with more certainty.

Next year will witness a much more general use of this type of binder by wheat growers. Practically doubling the capacity of one man at harvest time is no small accomplishment. Fifteen to 20 acres is what the horse driven binder ordinarily harvests in a day, while the new power driven binder easily handles 30 to 35. Those who have felt that the grain binder was standardized and not subject to improvement have a surpise in store for them when they see the new power driven binder at work.

Will Reap and Bind 35 Acres Daily.

Agricultural implement makers meet the needs of the day. This binder, operated by tractor, has been handled by a woman operator and by school boy and 35 acres handled daily.

# The Eelworm and Potatoes

By W. V. Shear, California Department of Agriculture

THE tender tissues of the potato make an ideal environment for the eelworm. The worms occupy the outer layer of the potato to a depth of about one-quarter of an inch. When the worms are present in large numbers in the tuber, the surface of the potato is covered more or less with small elevations or pimples. Usually the skin of the potato covering these pimples is not broken. When one has had considerable experience in handling such potatoes, the presence of the infestation can almost certainly be determined by simply running the fingers over the surface of the tuber. However, a few of the parasites may be present in tubers without any outward manifestation.

Each tiny spot in cross section of an infested potato represents a small brownish cyst inside of which the parasite may be found. If the cyst happens to contain a female nematode, several hundred eggs may also be contained within it. The whole tuber often contains a great many thousands of these worms. When they are present in large numbers the tuber shrivels prematurely and decays more quickly than uninfested stock. Evidently such infested potatoes can hardly be called edible although they are sold in our markets in considerable quantities. Since in small tubers the worms penetrate almost to the center of the potatoes, the potatoes are practically a total loss as the portion of the tubers containing these worms is usually pared away before cooking. In large potatoes, the loss is often as great as 50 per cent.

Considered then merely as an economic problem for the grower and consumer, the grower loses because of a considerably decreased yield and because he must accept a much lower price for these wormy potatoes than he would receive for clean stock. The consumers lose through waste in paring, if they understand the nature of the disease and do not care to eat potatoes and worms at the same time. Many of these potatoes are said to be sold to the cheaper classes of hotels and restaurants where they may be used as mashed potatoes and the identity of the tiny inhabitants of the tubers becomes lost in the mixture.

The most serious phase of the problem, however, arises through the distribution of these diseased potatoes. In this respect California is in a rather peculiar situation. Throughout most of the state the farmers do not grow enough potatoes for their own use. They usually have a small patch, the product of which lasts but a short time. Even if they grow them in large quantity for market purposes, the lack of proper storage facilities prevents their holding over a sufficient stock for home use throughout the year. Therefore, during a considerable portion of the year, they purchase their potatoes in the open market. Evidently, then, if a large potato producing section of the state or adjoining states ships potatoes infested with eelworms throughout the state, there is great danger of valuable farming lands becoming infested through the unrestricted distribution of potatoes carrying this pest. The housewife when preparing these potatoes for the table pares them and throws the refuse out to the stock or on the manure pile in the corral and from there they are spread over the fields. If any of the potatoes used on the ranches therefore are infested with eelworms, a portion of the worms at least are very liable to be spread over the ranches of the state. When we consider how serious this pest is on many of our agricultural crops such as tomatoes, cantaloupes, lettuce, beans, peas, etc., when the soil once becomes infested, the injury which may arise through the shipment of infested potatoes can be somewhat appreciated. There has come to the writer's knowledge an instance where a farmer discovered eelworms in the potatoes he grew on his ranch and investigation showed pretty conclusively that the only way the infestation could have been brought about was through the fact that he had been getting potato

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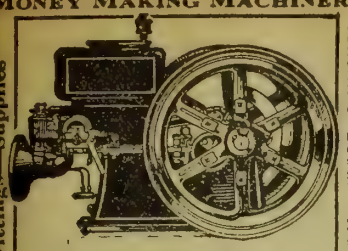

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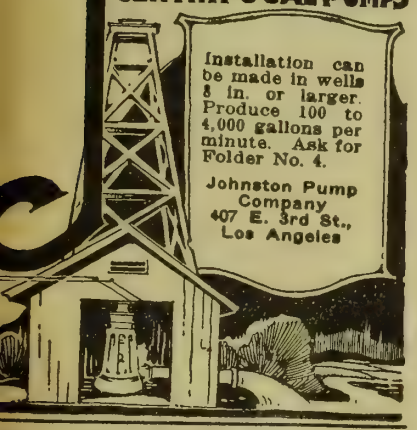
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parings and other garbage from a hotel in a nearby town for his cows. In this way he unwittingly stocked his land with a serious pest.

Not only is there danger of clean land becoming infested through potato parings, but ranchers often use so-called table potatoes for seed purposes and in this way the eelworm is actually planted in the ground.

The eelworm is not yet generally distributed over the State of California. Probably it is not found at all in many counties or only in very restricted areas. It is highly important then, that potatoes affected with this disease be rigidly prevented from distribution. The easiest way to prevent their distribution is to prevent the production of potatoes infested with these worms. This means planting only disease free seed on disease free land.

## EXHIBITS AT VENTURA

The Ventura County Fair will be held at Seaside Park, Ventura, October 4-8 inclusive. There will be a great array of orchard and farm products. Expectation is running high among the growers of California, as Ventura has broadcasted the announcement that especial attention is to be given to the exhibition of orchard and farm products and that the premiums offered for prize displays will be greater than ever before.

Citrus fruits and other orchard products will share honors with a wealth of farm displays, and competition among the exhibitors will undoubtedly be keener than ever before in the history of Ventura fairs.

Other features of the "million dollar exposition," as the 1922 Ventura County Fair is termed, will be the harness and running races, cat, dog and horse shows, daily band concerts, the women's department with its own concerts and program and a score of other attractions. Then there will be an automobile exhibit, polo matches, and a livestock exhibit. Additional pens and box stalls are now being constructed at Seaside Park to house the overflow entries.

In anticipation of record breaking crowds at this year's exposition the Ventura fair officials are expending ten thousand dollars upon the construction of added seating capacity both in the grandstand section and in the bleachers.—V.

## LOS ANGELES COUNTY FAIR

A high standard of excellence will be set by the Los Angeles county fair at Pomona, October 17-21. The plans now being carried out in the construction of the grounds in a 40 acre tract adjoining Ganesha Park provide for permanent quarters.

The exhibits will cover a wide scope in every department and will be housed by a group of eight buildings and an array of big tents. The main tent, 130 by 530 feet, will contain the agricultural, manufacturers', and auto show. Interesting demonstrations will take place daily. In preparation for the races, directed by W. S. Newton of the Pomona chamber of commerce, a grandstand and a half mile track are being constructed, and 400 foot stables will be put up for the horses. An elaborate horse show will be held the last four nights of the fair and managed by Tom Managan. Extremely generous lists of cash prizes are offered for the races and horse show. It is said that a novel contrast will be afforded in an auto race in which only cars dating from 1910 or earlier may be entered.

A big showing will be made in blooded livestock, and assurances have been received of full lists of horses, beef and dairy cattle, swine, goats, sheep, rabbits, cavies and poultry. The California Junior Republic will exhibit a herd of Holstein cattle including many of the prize winners entered at the state fair. Last year this herd won 14 out of 16 possible prizes against 114 animals entered by 22 different exhibitors. Jerseys from Harry Cook's ranch at Chino and Guernsey cattle and Berkshire swine owned by the Italian Vineyard Company will also be shown. The complete herd of Duroc-Jerseys will be sent from the Charnock Ranch at Hemet. The Citrus Milk Goat Association, represented by L. C. Buhl of Upland and Mrs. W. S. True of La Verne, has announced an exhibit of 250 goats in prospect.—G.

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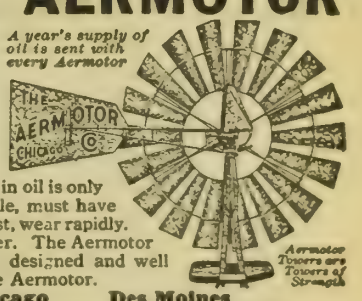


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# Poultry Queries

(Conducted by Jean A. Koethen)

### Charcoal for Chickens

What is the purpose of charcoal in the diet of chickens? Should my four and six months old pullets have all they will eat?—Subscriber, Bardsdale.

Charcoal is supposed to sweeten the contents of the crop and assist digestion. Theoretically it may be a good thing to keep it before perfectly healthy chickens; in practice I wonder how often that is done. Chickens with grit and shell before them, plenty of grain feed and a carefully balanced ration have no more need of charcoal than a healthy child has need of dyspepsia tablets, and I have never understood why it is so generally included in the mash. When there are symptoms of indigestion it is a good thing to mix a little in the mash, but healthy chickens under normal conditions ought not to need it.

### Dropsy

One of my hens, apparently healthy and laying, has a large bag between her legs. Can it have any connection with the occasional laying of bloody eggs?—Subscriber, Turlock.

If the whole abdomen is distended the hen probably has dropsy. If the bag is outside the abdomen it is a tumor of some sort. As the hen is three years old it would be better to kill her than attempt treatment, but as long as she seems well and is laying why not leave her alone? Blood spots in eggs are the result of slight hemorrhages in the oviduct, especially in hens that are laying heavily.

### Wild Turkey Toms

What are the advantages of using wild turkey toms, and where can such toms be procured?—Subscriber, Paso Robles.

An intermixture of wild blood is believed by many breeders to increase the vigor of domestic stock, which in very many cases has been diminished by inbreeding. This is not necessarily the case, but it is so when no care has been taken to prevent the mating of related birds. On the other hand, the wild tom, while he may be more hardy, is smaller, and the offspring will be smaller than the offspring of a tom of standard size. I have not at present the name of any breeder of wild or half wild stock, but such stock has been advertised in the columns of the Cultivator occasionally and will doubtless be advertised again.

### Low Egg Prices

What is the reason for such low prices of eggs at this season? Some say it is the railroad strike; some say it is our lack of foreign trade; and some blame the Chinese eggs. I am in the chicken business and would like to know if there is any hope of better prices.—Subscriber.

I took this query to the secretary of the Poultry Producers of Southern California, who ought to know the answer if anyone does. He says prices cannot reach their former level as long as there are so many eggs in storage all over the country. In Los Angeles there are 100,000 more cases in storage than there were at this time last year. And the reason there are so many eggs in storage is that production last year, not only in California, but throughout the Middle West was at least 25 per cent greater than the production of the year before, and the production that year was almost as much in excess of that of the previous year. Middle West farmers last year because of a doubtful outlook for other crops, paid more attention to their henneries than they ever did before. The winter was mild, and all the hens kept on laying instead of stopping for a while as they do in a hard winter. Consequently the country is overstocked with eggs, and we must learn to use more of them ourselves or find a better foreign market. Probably, the Chinese eggs are somewhat to blame. A campaign of education in the great value of eggs as an article of diet is something every egg producer should boost. However, prices have been a little better the last week, and the secretary of the Poultry Producers hopes for a stronger market soon. A cold winter in the Middle West, in conjunction with the educational campaign which is under way will do a good deal to restore prices, though they will probably never again reach the level of 1919.

### Rhode Island Whites

I should like to know something about the R. I. Whites. An article I read about them two years ago gave me the impression that they were a very good breed, but I do not see them advertised in the Cultivator. I have Reds, but find their broodiness a great drawback. Please tell me also about White Wyandottes. Are they hardy and profitable?—Subscriber, Tulare.

The R. I. Whites are an excellent breed but I cannot learn that they are better in any respect than the Reds. If they were they would certanly be more popular than they are, for they have been on the market a number of years. The fact is, there is very little difference between the three American breeds, Rocks, R. I. Reds (including R. I. Whites) and Wyandottes. Weight, habits and production are all about the same. What difference there is is a difference between strains and not between breeds. They are all hardy, good mothers, good layers when they are not too broody, and excellent for the table. The more profitable strains are those which have had the tendency to broodiness partly bred out of them. You can easily breed a strain of Reds that are almost nonsitters if you will take the trouble. Begin right now to band every hen that goes broody. When she goes broody a second time band her again. Keep this up till you know how many times every hen in your flock has gone broody, say between now and the first of January. Then look over your flock and for your breeding pen take the hens that have not been banded at all if there are any; if not, then those that have gone broody but once. All your chicks next spring will then be the offspring of the hens that are least inclined to broodiness. Should you have but one hen that has not been banded, set her eggs by themselves and mark the chicks, for your breeding cockerels should be her sons. The daughters of these hens may still be quite broody, but next year's pullets, daughters of the sons of the best hens will show the effects of selection. A hen, you know, transmits both her virtues and her vices through the male line, and the only way to improve your stock is to use for sires the sons of the right kind of hen.

### Winter Greens

What is best to plant for green feed for the months of December, January and February? How and when should it be planted and how much space is needed for greens for 500 chickens?—Subscriber, Earlimart.

Barley is more generally used for green feed during the winter than any other kind of green, probably because it is a little less trouble. Half an acre, well watered, shoud supply 500 hens. Plant as soon as rain falls, or earlier, if you can sprinkle. Barley will grow any time if only it has water, but

### POULTRYMAN'S CALENDAR—SEPTEMBER, OUR SECOND SPRING

Californians are fortunate in that, if they fail in spring with any one of many crops, they may try again in the fall. Lettuce, chard, kale and other greens may be planted in September, also carrots and a good many vegetables. If the pullet crop is not what it should be chicks may be hatched in September, and the pullets will be ready to lay in March.

The pullets that are now maturing are the poultryman's greatest care in September. They are in the laying houses, many of them beginning to lay, and must all be in laying condition by the end of October. Keep them from laying too soon by feeding a ration rich in corn and other carbohydrates and low in animal protein. Bran and bone meal is the mash mixture recommended by Prof. Dougherty to prevent too early maturity—95 per cent bran to 5 per cent bone meal. When the pullets are 6 months of age, and before if they can no longer be held back, they should have a regular laying ration.

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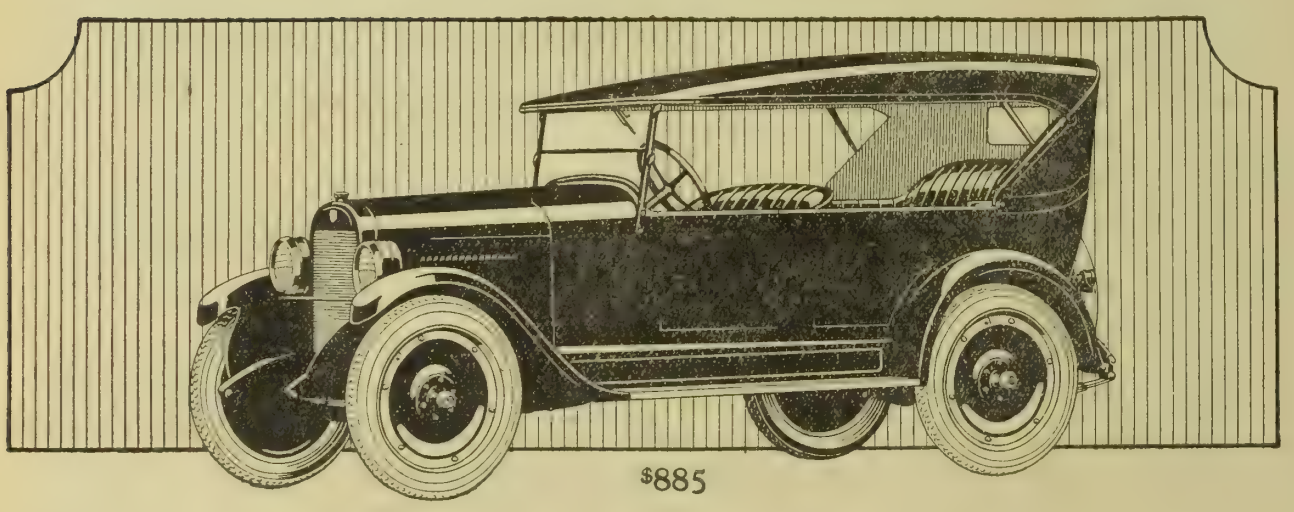

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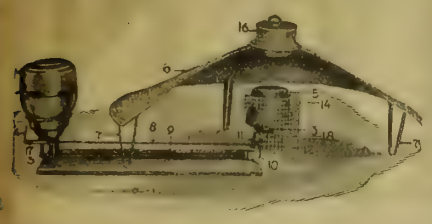

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poultrymen generaly plant in October. Seed heavily on well fertilized soil, and give all possible moisture. Do not cut till it has nearly reached normal height, then cut fresh every morning and run through a clover cutter. You can give a patch three cuttings before it stops growing. Some poultry men plant their vacant runs to barley, then after it has attained its growth and has been cut three times they turn the hens in to eat up the roots. If you depend entirely on barley you will need several different patches planted at different times so that there may always be a fresh supply, but you can supplement the barley with a kale patch. Kale is a great drinker and a gross feeder, but when it is properly fed and watered a surprising amount of green can be produced on a very small piece of ground. If kale seed is planted in boxes now I think the plants will be ready for transplanting before cold weather though I have never planted except in early spring. Set them four feet apart on level ground and pile on chicken manure. Water every three or four weeks unless there is abundant rain. The more water and the more manure, the bigger will your plants grow. When they are three or four feet high you can begin taking off the lower leaves for your hens. It may be you can buy plants now. If you can it would be worth while.

### Caponizing

Please give address where caponizing tools may be purchased. Why is not caponizing more generally done on this coast? It seems to be so successful in the Middle West.—Subscriber, Corning.

Large poultry supply houses have them. The only trouble about capons on this coast is that so little caponizing is done there is no market. This, at least, is the explanation given me by a woman who had done a good deal with capons. When the public wants capons and there are none it contents itself with turkey or chicken and forgets that there is such a thing as a capon. Then when some enterprising poultryman tries to find a market for capons there is none. If a good many

See Market Pages 250 and 251

people should unite in a capon club and raise so many that the public had to take notice I suppose a good market would soon be developed, but it is hard and unprofitable to be a pioneer.

### SOUTHERN CALIFORNIA EGG LAYING CONTEST

The average production in July for all birds was 62.42 per cent, this being less than five per cent under the June production. The birds consumed on an average 3.18 pounds grain, 3.25 pounds mash and 2.21 pounds green feed.

#### Highest Pens in July

George C. England, 243¼; Bonnie Brae Farm, 234½; Bellows Egg Ranch, 231¼; Chas. Hudson & Son, 229¼; R. C. Gibson, 227¾; J. L. Miller, 226½; H. M. Stone, 226¼; W. H. Young, 224¼; J. D. Zimmerman, 223⅝; M. L. Frick, 223½.

#### Highest Birds in July

England, 30; W. A. Evans, 29; Frick, 28; Gibson, 28; M. & M. Ranch, R. I. R., 28; Bellows, 27; Flinian & Furstenfeld, 27; M. A. Schofield, 27; Mrs. Mary Eads, 27; Bonnie Brae, 27.

#### Highest Birds to Date

E. E. Eisenberg, 229; England, 223; B. S. Smallwood, 221; Schofield, 217; Frick, 215; E. E. Rogers, 214; England, 213; Geo. B. Wilken, 211; England, 211; Gibson, 209.

Poultry at Ventura County fair, October 4-8, will be judged by R. P. Krum of Stafford, Kansas, who is also to judge at Boston, Chicago, Kansas City, Cleveland and other big eastern shows.


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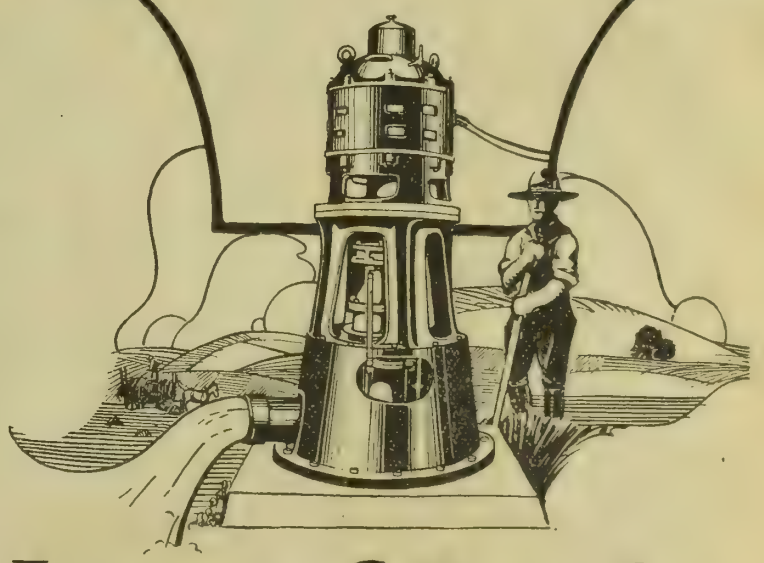

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## Saturday, Sept. 9, 1922

### OUR ADVERTISERS RELIABLE

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## EDITORIALETTES

The time was when human beings carried water to irrigate crops. Later they improvised great water wheels operated also by human power. Still later came the treadmill, the windmill, the steam engine, the gasoline engine, and now—simplest and the easiest managed of all—the electric motor. The satisfactory "head" one of these motors is delivering for twentieth century California irrigators is shown in the illustration on the cover. The beauty of the electric motor lies in the almost entire absence of oversight requirement. California stands at the head of all sections of the world in rural use of electric power.

* * *

The lower portion of the illustration on the cover calls equally emphatic attention to the convenience, efficiency and economy of time made possible through use of electricity in the home. Both the electric range and water heater are in action. California's hydro-electric possibilities will be developed until many a rural home will be enabled to make complete electrical installations.

* * *

What makes deciduous trees gum? If any of the readers of the California Cultivator has the answer we will be glad to pass it on to the rest of the subscribers. Mr. Nidever comes with one answer and Mr. Wood comments upon it, on pages 261 and 263, of this issue. We will be glad to hear from others who think still differently.

* * *

In the issue of the California Cultivator of August 30, 1919 we referred to the fact that a great scandal had involved to an extent, the Holstein-Friesian Association of America. We added "No business is so dependent on the integrity of the individuals engaged as the pure bred livestock industry. The very emphatic and right stand taken by the officers of the association is a forceful declaration that the business will be kept clean at all costs. Such a stand will establish confidence." The occasion for that item was the alleged falsification of records of certain Holsteins owned by a breeder in New York state. It was said that the breeder was entirely innocent and that any falsification was secured directly by an employe who had charge of the testing. The association proceeded at once to do the honorable thing and clear its records of all advanced registry certificates which had been secured through the fraud. The owner of the stock took the matter into the courts in the effort to prevent the association from canceling the certificates. The association has won in several decisions but the matter is still tied up with injunction.

### JACK KLEIN WIRES EARLY WINNINGS AT STATE FAIR

In the Holsteins Hartsook wins senior and grand champion cow and senior champion bull; Berylwood, junior and grand champion bull; R. A. Condee of George Jr. Republic, junior champion cow. In Berkshires Italian Vineyard wins junior, senior and grand champion female; Humphrey, all boar championships. Caledonia wins all Shorthorn championships. Harry H. Cook and F. R. Bain take many Jersey blues; Thorp gets champion cow; Waterloo Jersey Farm, champion cow.

## AT THE FAIR

Members of the Cultivator staff are at Sacramento this week getting together facts for making report to our readers. This report, with photographs, will give an idea of the fruits cereals and general farm products, the livestock industry, farm equipment, manufactures, and the fair in general. California is first in production per farm and well up to the front of all the states of the Union in total agricultural production. It is well that our state fair should be the great success which it has been. Regarding it George C. Roeding, former president, writes:

"Nothing gives stronger evidence of progress in California's rural industries nor more forcibly reveals the trend of our intellectual and industrial life and activities than the sixty-eighth annual California State Fair, which was auspiciously opened this morning.

"In scope and wide interest it certainly presents some features that are pivotal in their nature, and others in the way of improvements that show a development and an appreciation of what an institutional affair like the present really reveals.

"Many people are of the opinion that an exposition is merely a display of farm and orchard products, implements and appliances typifying the progress made, resources enjoyed and advantages offered of the certain geographical area in which the soil products and educational advantages take their origin. This is the narrow and more or less mercenary view; in a much broader sense a well conducted state exposition is an educational institution, informative on every branch of an enlightened agricultural and horticultural practice, on the advances and improvements made in the arts and manufactures, and on the educational and intellectual life of the inhabitants of the state."

Reports are that attendance is fine, the weather is fair and the exhibits of the finest.

## OLIVES AT A PROFIT

Articles by Mr. Drew, president of the newly organized California Olive Growers, and Mr. Ludwig, a grower-packer of Oroville, have called attention to the situation facing the California olive producer, and today the olive producer is scratching his head and wondering how he is going to "get by" with costs of producing his olive crop. This discussion has been wonderfully interesting and has not been ended for again we have from Mr. Ludwig the following:

Your article in the issue of August 26th, "Olives at a Profit" shows that you have not taken the trouble to get a grocer's viewpoint, who is doing a legitimate grocery business in country towns as well as in the large cities, for a grocer has to handle articles where he has no margin at all, consequently in order to get by, he has to make it up on other goods; stating the grocer's profit in percentage on certain goods is very misleading, as in many instances where the price is low the profit percentage is high, while in higher priced articles the grocer's profit percentage is rather low compared with the former and olives so far have not become a staple article like canned milk or other canned fruits, but the grocers still have to be induced to carry a line of canned olives, consequently the grocer has to be taken care of.

You further state that I have taken good care of the packer, which shows that you have not consulted a legitimate olive packer who was willing to enlighten you as to the correct and complete cost of canned olives including overhead expenses, for I may state that I have not considered in my figures any profit for the packer, and all the overhead expenses, as manager's salary, depreciation, interest, insurance, etc., have been based on Mr. Drew's pack of 450 tons of olives as stated in a former issue, and if you will take into consideration the value of a plant of that capacity, you will find that the depreciation, etc., reduced to a tonnage basis, will approximately correspond with my figures, and unless I am shown in detail (for this is a matter of facts and figures only) where I am wrong I am positive the grower gets very little, if anything for his olives, and as far as Mr. Drew's statement is concerned, that his growers would still get $100 for their medium olives, I positively state that it cannot be done. I am not only a grower but also a packer, being a member of a cooperative association, just the same as Mr. Drew is, and in my figures I have allowed for the better and longer experience which Mr. Drew's organization may have had in the packing game.

I fully realize that it will be very difficult for you to obtain the exact figures from Mr. Drew, for it would require a financial statement of their affairs to prove the figures, but you no doubt could obtain a confidential cost sheet from some olive packer, who is in a public spirited frame of mind, and which would give you something for comparison. The writer desires nothing better than that public spirited growers will do a bit of pencil work and determine to support the right kind of cooperation.—E. Ludwig.

Yes, but the trouble is we do not get the producer's viewpoint. The grocers are looking altogether too well after the comfort of the consumer. This is shown first by the enormous number of grocers established in and around every community. Any thickly settled community near a large city has groceries so thickly established that one cannot throw a stone without breaking a grocer's window. It takes immense profits to support this great array of institutions. Immense profit to grocers means loss to producer and consumer. True cooperation means a study of these marketing problems and reduction of these middlemen costs. It must be done or the olive industry must cease in California. The Cultivator is hoping the olive industry will live forever. Again, if the packing is so managed that a packer's overhead of $60 or $70 per ton has got to be unloaded onto the shoulders of the producer, that of itself will drive the industry from the state. We are not appealing for injustice to the packer. If he is going to stay in the business he must live. But if he is content to continue his business at costs which the business will not pay for there can be but one result.

The trouble is that in transportation, marketing, packing we have always begun at the wrong end and figured up profits for packer, middleman, distributor, transportation, then finally backed up to the grower and said, "Here's what we have got to have, what are you going to do about it?"

## FLORIDA-CALIFORNIA

We recently commented on Florida and California citrus conditions and production. Especially did we refer to California's grapefruit possibilities which many in Florida did not appreciate, further, to the immense field in Florida where oranges might be produced, a fact not fully appreciated by many California growers. Especially did we comment on California's standardization of one or two varieties and the large number of varieties shipped from Florida. Editor Wright of the Florida Grower corrects and gives the Florida viewpoint as follows:

"Editorial was very fair. Of course you will always have the summer grapefruit market. I do not think that even our Marsh Seedless compare with our other varieties. I doubt if California will ever be able to send (market) many grapefruit to the East through the winter in competition with Florida, Isle of Pines and Porto Rico grapefruit. You were not quite fair to the Temple as it has never yet been marketed in quantity; there has never been a carload of it shipped and of course it has not had opportunity to make a place for itself, but it will I firmly believe. Also it will be a few years yet before we reach the production in oranges that California has attained. I think you ship something like 20,000,000 boxes. Our shipments of oranges alone will hardly reach 8,000,000. However if you had given me time to have taken you down the Ridge section south of Haines City I think I could have convinced you that the time is not far distant when we will be shipping 20,000,000 boxes.

"Most of our early shipments are Parson Brown and seedlings. We have comparatively few genuine Parson Browns, very few Lue Gim Gongs. I have read of the Surprise Navel but never saw one and doubt if there are a hundred cars a year and our Rubies are few and far between. The bulk of our orange shipments today are Seedlings, Pineapples and Valencias; of course quite a few tangerines."

# California Cultivator

Vol. LIX, No. 11 Los Angeles, September 9, 1922 One Dollar Yearly


# Electricity on the Farms in California

## By H. C. Rice, Southern California Edison Company

ELECTRICITY, more than any other single agency, is making the farm life of California more nearly ideal. California farmers were quick to take advantage of electric service for pumping, feed cutting, running milking machines and the lighting of their homes and barns. In fact, it is a matter of record that more electricity is used on the farms in California than is used by all of the farmers in all of the states of the Union put together.

This wonderful, invisible servant, after having worked wonders in cutting the farmer's labor, is now entering the realm of Mrs. Farmer in earnest. The dishes are washed in an electric dish washer; the clothes are washed and ironed electrically; when preparing a meal the utensil is set in the oven or on the cooking unit of her electric range, the switch is turned and the food is cooked. There is no fire to tend; no coal or wood to bring in; no ashes to carry out; no matches to strike; no burner to light; no dust; no dirt; no gas or oil smell; no overheated room; no greasy walls and curtains; no fuss; no bother; and if she has an automatic range her food is cooked while she attends the club or is visiting her less fortunate sister in the city.

Why, then, doesn't every home cook by electricity? It is because the house wife and her husband are frightened away by the mistaken belief that it costs too much, but anyone who approaches the subject with a desire to make a comparison between the monthly cost of using an electric range and of using a coal, wood or gas range, and then adds up the many advantages of cooking electrically, will decide that it will pay them to put in the electric.

Why do people buy electric vacuum cleaners which cost $50 when brooms can be bought for $1.00? Why do men buy typewriters for $100 when pen and ink ony cost 10 cents? How can they sell electric fans at $15 to $30 when palm leaf fans are given away? It isn't the price of the thing that counts, it's the value of the service that goes with it. The automobile manufacturer doesn't sell an engine and four wheels with seats on top. He sells quick, comfortable transportation, and the man who buys never stops to compare what it would cost to purchase and drive a horse and buggy.

The advantages of cooking by electricity are many and very definite. It is easy to list them to see what they are worth:

### Reliable Heat

Cooking electrically produces better food, because good cooking ceases to be the result of good guessing. On the electric range there are a certain number of cooking places, heating units, on which you stand the utensils containing the food. Each unit is controlled by a switch which gives three degrees of heat; full, medium, and low. Medium heat is just one-half as hot as full heat. Low heat is just one-quarter as hot as full heat. These different degrees of heat are absolute. They never vary or fluctuate. They are the same today, tomorrow, or next week, and for every meal. Your heat and your cooking is, therefore, under absolute control. It doesn't need watching; it needs timing—that is all. And the time it takes to do the same amount and kind of cooking is always the same. Poor coal, a sooty flue, a dirty stove, a windy day, or unusual humidity never slows down your cooking and makes the dinner late. Your oven and top never get too hot and burn. Naturally, the result of all this is better food. The oven of the electric range is heavily insulated and operates on the fireless cooker principle. This prevents much food waste and conserves the juice and flavor of the meat and baked dishes.

Yesterday good cooking was the product of good guesswork, favorable conditions, and the utmost care in stirring, basting, and shifting the food. Cakes fell, roasts were over or under done, and bread was a success or a disappointment according to whether the fire was good or bad. But today the electric range gives the housewife a piece of scientific equipment that puts the results of her cooking entirely under her control, and, in a word, this means better food. This is the greatest benefit from electric cooking.

### Simple and Easy

Cooking electrically makes cooking easier. There is no fire to prepare and watch, for any desired degree of heat can be secured by the turn of a switch. There is no fuel to order, store, or worry about, neither coal nor wood to carry, no matches to buy, find and scratch, no flue to operate, and no ashes to dump and carry out. It relieves the cook of the most exacting, confining and exasperating of her duties, and also of one of the most wearying, if there is coal to carry.

### Absolutely Clean

Cooking electrically is cleaner, because the heat of an electric range is developed in the wires of the cooking units. These wires may be either enclosed or exposed to view. There is no flame and no combustion; therefore, there are no fumes, no smoke, no sooty pots, no discolored walls. There is no coal dirt, no ash dust falling in the food and being breathed continually, and the air is not exhausted and deadened.

### A Cool Kitchen

Cooking electrically is cooler, for the electric range is a cooking device and applies its heat directly to the cooking. Coal and gas ranges throw off much of their heat into the room, and in summer the advantage of the electric range is appreciated. The kitchen stays cool, and the cook is not tired out with weariness from the hot room. The refrigerator may stand in the kitchen without loss of ice.

### No Danger

Cooking electrically is safe. There is no flame. There is no danger of fire, explosion or asphyxiation. Liquids may boil over without accident. Children may play near the range without risk.

### Economical

Cooking electrically has economic advantages. It brings a great saving of food, through eliminating spoilage, and through the conservation effected by the insulated fireless cooker oven. It saves much time and work and worry because things do not need watching and pots are not discolored and, therefore, do not need to be scoured continually. It cuts down the kitchen drudgery and makes it easier to keep a maid or to do the work without a maid.

All this, of course, has a money value. It pays to have better cooking and better food, because it requires less food to give the same amount of nourishment. It saves money to reduce the food wasted in spoilage and in inefficient ovens. The ease, cleanliness and coolness of electric cooking all save money by reducing the time and labor consumed in cooking. The housewife's time has a productive value and is worth money, just as the servant's time costs money. Consider the scouring of pots, for instance. Ten pots and skillets are used a day, we will say. Is it worth a cent a time not to have that pot discolored on the outside every time it is used? If so, the electric range saves three dollars worth of pot scouring every month.

The advantages of cooking by electricity are, therefore, in money, in the quality of food, in time, labor, and trouble saved, in cleanliness, coolness and healthfulness, in convenience and comfort, and in the opportunity gained for more rest and recreation. The cost of these benefits and the extent to which any woman will enjoy them will depend very largely on her recognition of the fact that cooking electrically means more than just cooking on an electric range.

### Care and Judgment Count

What it will cost her is largely a matter under her own control, dependent on the extent to which she is willing to revise cooking habits or persists in doing things the old way instead of the electric way. If she turns on the heat before it is needed, and does not turn it off immediately after the cooking is done, it costs more money. If she wishes to boil a vegetable and, when the boiling has commenced, neglects to turn the switch to "low," which is sufficient to maintain the boiling, it costs more money. If she heats a lot of water three or four times, when once would be sufficient to answer for all, it costs more money. It is in the power of the cook to make electric cooking economical or expensive.

It is hard to get right down to dollars and cents because the cost of cooking by electricity depends on so many things—the rate for current, the number in the family, the character of the cooking, and, then, the care used by the operator, as I have said. The thing to do is to take the average figure for the average family, and base your own estimate on that.

There are approximately 4,000 electric ranges in use on the farms in Southern California at the present time, and one company having over 3000 ranges finds that its average income per range per month for the year 1921 was $4.58. This, based on the average size of 4.2 persons per family, would make approximately $1 per month per person for the cost of electricity for cooking. This exact figure cannot be used for estimating the cost for a larger or smaller family, because another person more or less will slightly increase or decrease the bill. The character of the cooking is also a big factor in the monthly bill. If breads and pastries are baked constantly and soup stocks are frequently made, it means more cooking than if much bread is bought and there are few stock soups. But the same consideration applies to the cost of cooking by any other fuel also. Care and judgment save expense and the lack of it runs up the bill.

The farm homes of California are second to none in the world. There is only one other spot on this globe that even remotely compares with California as to climate or scenery, namely, the Riviera in southern France and Italy. A visit to that famed spot and a close inspection of the living conditions of the farmers there will only strengthen our love for our own state, where, with the tremendous hydroelectric development programs of our virile western companies, hundreds of miles of copper wires are being strung from the mountains to the sea, bringing that master servant of all time, "electricity," to our very finger tips, at the touch of a button.

## MEETING OF SHEEPMEN

A meeting of the sheepmen of the northeastern portion of California, comprising Modoc County and part of Lassen County has been called by President George E. Williams of the Modoc Wool Growers Association, for Friday, September 29, at Alturas, Modoc County. The meeting has been arranged for the purpose of forming a branch association of the California Wool Growers Association.

This section, more or less isolated from the central part of California, has been at the mercy of the buyers. A considerable number of the wool growers on account of not being posted as to market conditions contracted their wool and lambs last spring at prices much below the prevailing prices received later in the year. The sheep ranges are going very fast and regulation is required for grazing. Sheep scabies in Lassen County has caused the state department of agriculture to issue a proclamation that no sheep shall be moved from that county except upon authorization of either the state or federal governments

In order to talk over these various questions several of the directors of the California Wool Growers Association have been invited to attend the meeting, among whom are F. A. Ellenwood, president; Frank Bullard, treasurer; A. T. Spencer, chairman of the transportation committee; G. N. Merritt, chairman of the legislative committee, and W. P. Wing, secretary. The college of agriculture will have a representative present. The state department of agriculture will be represented by Dr. C. P. Iverson, chief of the department of animal industry, and the California crop reporting service by E. E. Kaufman. Following this meeting tentative arrangements have been made to hold a meeting of the Lassen County sheepmen at Susanville.—W. P. Wing, Secretary.

# Agricultural News Notes of the Pacific Coast

## Northern California

The prune harvest is well under way.

Sugar beet harvest has begun in Sutter Basin.

The dove season opened, September 1 for the entire state.

Antioch claims the first carload shipment of Flaming Tokays.

A course in horticulture has been added to the curriculum of the Placer union high school.

The sixth annual reunion of Placer County will be held at Mosswood Park, September 10.

Sonoma-Marin Counties have three big cooperative creameries, at Bodega, Pt. Reyes and Petaluma.

Mendocino County supervisors have appropriated $1500 to cover expenses of an assistant farm adviser.

The Santa Rosa chamber of commerce is raising funds to aid in the egg tariff fight in Washington.

Members of the state water resources board will be in Chico, September 25. Board is making tour of Northern California.

The Western Pacific railroad has filed protest against construction of the state highway at the north fork of the Feather River.

Reforestation in a systematic way is being carried on by the Fruit Growers Supply Company on its 85,000 acres of properties in Lassen County.

An active demand is reported for feeder lambs in Tehama County, inquiries coming from as far away as Imperial and Los Angeles Counties.

Sonoma and Mendocino Counties hop growers are said to be short of pickers. They are hoping for influx of pickers after the apple picking season.

Dredging of Oakland harbor from the mouth to San Leandro Bay will commence about November 1 under direction of United States army engineers.

Farm Adviser Harrison of Yuba County has been active in introducing new grasses on the ranges in that county. Hubam especially is reported to be thriving.

More than half of the money spent annually for fruit in the United States is paid to Californians, says Vice-President Peltier of the California National Bank of Sacramento.

At a largely attended meeting of the Glenn County unit of the American Farm Bureau Federation a committtee was appointed to investigate feasibility of establishing county library.

The railroad commission has restored freight rates on paddy rice to a basis of 25 per cent in excess of grain rates and ordered reparation to the shippers in excess of this ratio.

The big new packinig plant of the California Prune and Apricot Growers at Colusa will be ready for operation the middle of September. There will be no carton packing at this plant, prunes being put up in 25 and 50 pound boxes.

Glenn County farm bureau meetings: Directors, Willows, September 9; Codora, 11; Orland, 12; Plaza, 15; Capay, 20; Glenn, 22; Grapevine, 27. Farm home department meetings: County committee meeting, September 9; Jacinto, 13; Ord, 14; Westside, 21; Lake, 27.

## Central California

Tulare County fair begins September 13.

The Merced-Los Banos highway is open for travel.

Pixley, Tulare County, will have a municipal water system.

A number of moving picture films have been made of Don Pedro dam.

An industrial exposition will be staged in Modesto, September 30-October 7.

An appropriation of $1,000 for survey of flood control was made by Merced city trustees.

A 9,000 acre tract north of Merced will be headquarters for a large seed growing concern.

The new Sun Maid Raisin Growers plants at Dinuba and Yuba City are ready for operation.

The Merced County farm bureau will place an exhibit at the Delhi community fair, September 14.

The annual picnic of the Merced County farm bureau will be held on the Merced River, October 14.

George A. Williamson of Terra Bella reports a price of 6 cents a pound on the tree for his Kadota figs.

A basic price of $3 a ton has been set by prune growers of Tulare County for picking, for dry yard work $3 a day.

The mountain apple crop in the Milo district of Tulare County is lighter than last year because of heavy spring frosts.

Terra Bella peach growers are getting $60 per ton for their Tuscans from the California Canning Peach Growers.

Tulare County shipped 61 carloads of cantaloupes during the 1922 season. Many truck shipments were made in addition.

An exhibit of tobacco leaf and manufactured tobacco products was sent from Crows Landing to the state fair at Sacramento.

President Giffen of the Sun Maid Raisin Growers is urging growers of Muscats not to sell fresh grapes for less than $30 or $35.

Tulare County is harvesting its prune crop. The yield is estimated at ten per cent less than last year owing to heavy drop.

An active warfare against puncture vine has been started by the Tulare County farm bureau, county supervisors and city governments.

A survey of Merced County to determine amount of damage done by larvae of sphinx moth is planned by Horticultural Commissioner Welty.

The Merced-Stanislaus Sweet Potato Growers Association has renewed its activities. M. D. Vierra is president. The association will extend its marketing activities.

Out of state shipment of Bellflowers started from Watsonville district, August 28; local shipments. September 3, by agreement of the state standardization bureau and the apple shippers.

Peach growers of Winton, Merced County, forced to dry an unusually large percentage of their fruit because of the strike, have been unable to obtain sufficient trays. They let the fruit dry on trays for a few days then remove to strips of heavy paper to finish.

## Southern California

Cotton gins in the Imperial Valley are running double shifts.

Fumigation is about over in the Redlands and Highland districts.

A big good roads celebration was held at Julian, San Diego County, August 26.

The southern branch of the University of California at Los Angeles opened September 5.

The Upland district of San Bernardino County expects an 80 to 90 per cent crop of lemons.

Orange County supervisors have declined to make appropriation for home demonstration agent.

The Fontana section of Riverside County expects to ship out approximately 1000 cars of grapes.

Fire started by lightning in the San Jacinto mountains has kept a force of 100 fire fighters busy this week.

El Chivar Ranch of Redlands has sent many of its milk goats to the state fair at Sacramento this week.

Orders for frost fighting equipment are being placed and many orchards will be fully equipped by November 1.

Olive groves will produce rather under normal crop but growers are reporting exceptionally large fine fruit.

The annual picnic of the Pioneer Society of the Pomona Valley will be held in Ganesha Park, September 30.

The Citrus Belt Milk Goat Association held its annual picnic and election at Ganesha Park, Pomona, August 19.

Walnut growers of Southern California met last Saturday at Santa Barbara in their annual Walnut Field Day.

The farm adviser's office of Santa Barbara County is in its new quarters at 117 East Anapaum Street, Santa Barbara.

A series of 12 soil moisture meetings in Los Angeles County begins September 11. Dates will be announced by farm adviser.

Horticultural Commissioner Coy of San Bernardino County estimates that county's Navel crop at 55 per cent of normal, Valencias at 70.

The sugar factory at Anaheim is operating. The beet crop is expected to be about one-third less than last year because of less acreage.

Fumigation of citrus groves in the Riverside district is progressing at the rate of 100 acres a night says Horticultural Commissioner Bottel.

Grape Day, or the annual grape festival, held for many years on Admission Day, is being held this year, Saturday of this week at Escondido.

A mass meeting of apple growers of Yucaipa Valley was held at Yucaipa, August 21 to plan for the Apple Festival, November 9-12. David Coey was named general chairman.

Packing houses are running on tag end of the Valencia crop. There are now less than 2,000 cars to go and probably the entire output will be cleaned up soon after November 1.

Based upon estimates returned by shippers of the California fruit growers on August 1, California will ship during the season November 1, 1922, to October 31, 1923, approximately 51,340 carloads of oranges, lemons and grapefruit.

## The Coast and General

Cotton picking has begun in Arizona.

Price for packing pears in the Yakima Valley of Washington, 5 cents a box.

Washington cherry growers made several shipments to Eastern markets via the Panama Canal.

Apple shippers of the Hood River Valley, Oregon, are already suffering from shortage of cars.

A heavy shower in the lower Yuma Valley caused considerable damage to alfalfa seed and cotton.

Light showers in range districts of Arizona and New Mexico have kept pastures in good condition.

Because of unusually warm weather cotton picking in Arizona will start a week earlier than anticipated.

Southeastern Idaho fair at Blackfoot, September 19-22. This will be one of the largest district fairs this year.

The Truckee River route from Truckee to Reno was endorsed by a big mass meeting at Reno last week.

Ravages of red spider made it necessary to begin the hop harvest at Silverton, Oregon, before hops were fully matured.

The Northwest Fruit Exposition will be held at Seattle, November 11-19, instead of October 28 to November 5 as first planned.

Favorable stock conditions are reported in northwestern New Mexico, but only fair in the southwestern portion of that state.

The Arizona Pima Cotton Growers' Association reports receiving gratifying support from growers, bankers and the farm bureau.

Because of crop shortage the Eugene Fruit Growers' Association, Oregon, received only 430,000 pounds this year, against 1,300,000 last season.

A shipment of 3,000 head of steers, mostly yearlings, was recently made from Mohave County, Arizona, to Coconino County, at five cents a pound.

Cattle raisers of Graham and Cochise Counties met in semi-annual ctnference at Wilcox, Arizona, September 3 and 4, to discuss marketing problems.

Salt River Valley of Arizona reports yams sizing up rapidly though hot weather and heavy irrigation are developing excessive vine growth which may reduce yield.

Egg, butter and poultry dealers in Kansas City have made formal complaint to the Interstate Commerce Commission against the service given country shippers by the American Express Company.

The maximum freight rate on fresh fruits and vegetables in mixed carlead lot from Los Angeles to Tucson has been cut by the Interstate Commerce Commission from $1.19½ per 100 pounds to 86½ cents.

Cotton pickers below the line in Mexico will receive from 80 to 85 cents per 100 pounds for picking cotton this year. An estimated yield of between 80,000 and 100,000 bales has been set for cotton ranches below the line.

The lettuce growers of the Rillito and the Postvale districts around Tucson are beginning early to organize for an effective and profitable crop. Most of them are members of the Pima Produce Growers' Association, which will build two packing plants.

# Gumming of Deciduous Fruit Trees

In the Cultivator of July 29 on page 104 Leonard Coates refers to the gumming of deciduous trees. Again in the issue of August 12, page 153, Dr. Snowden referred to deeply covering the root crown as a cause of gumming with citrus, and in that article he asked the Cultivator to initiate a symposium on the subject. The first to respond is C. A. Nidever of Paso Robles. Mr. Nidever now sends his conclusions.

By C. A. Nidever

When a fruit tree throws out gum it indicates a bad condition somewhere. It may be in the root or branch, a dry soil or a wet soil, sunburn or a borer. In fact, it may be anything, for gumming is merely a symptom, not a disease. The gum that oozes out is thickened sap. It is thrown out by nature because it is sour or wrong otherwise. In contact with the air it thickens and forms white or amber colored gum.

A slight gumming of a tree is no cause for alarm. Young prune trees gum on a slight provocation. Almonds hardly ever gum. Apricots gum easily and especially if frozen back.

The main cause of gumming is climatic conditions. There are other causes such as bacterial and fungus diseases but they are rare when compared with climatic causes. The past winter was ideal for conditions causing gumming. The ground was cold and waterlogged from January to April. There are certain water plants that thrive in such conditions—such as the cranberry which grows only in a bog, but a cold wet soil means death to a California fruit tree if continued long enough.

A tree is fed by very small rootlets, called root hairs, which grow out from the roots near the tip ends. These root hairs are so small that a microscope is used to examine them properly. These small root hairs twine among and clasp the fine soil particles and extract plant food from them, which is carried to the tree through the sap. These root hairs are the mouths of the roots.

Under a cold waterlogged condition of the soil, such as California had last winter for three months, many of these root hairs are killed, consequently the tree cannot properly feed the leaves and fruit that set on when the growing season started. The trees then put out gum, turn yellow and many of them die. Some of the trees live through the summer before they die and some recover. It all depends how badly they were hurt. There is very little that can be done for a tree in that condition. Even if they recover it is doubtful if they are worth nursing along. As a rule a sick tree is like a sick chicken—the best cure is the axe.

It is very doubtful if there is any connection between gumming and the depth of the root crown. There is nothing in plant physiology that supports such a theory. When a seed is planted, that which grows down is the root. There is no fundamental difference in the two. Whether the plant sets lower or higher in the ground makes no difference as a rule.

When a graft is made with two stocks that have an affinity for each other a complete union is made and the two stocks are as one. After they are well knit it makes no difference whether the union is above or below ground. In fact, some trees, such as the apple and pear, will send down roots from the stock above the crown if it is set deeply enough in the ground.

Young trees from the nursery should not have the union covered through a wet cold winter for two years at least after setting. It is a shock to a tree to transplant it, and to leave a portion that has been growing above ground in the nursery lie under a cold wet soil through the winter sometimes rots the bark. After a tree gets well under way, say two years, there is no danger in covering the union as it would be in the ordinary tillage necessary to maintain proper soil conditions.

Some seven year old prune trees under observation that have been in fine growing shape up to this year show about 30 trees in a ten acre field that are in all stages of dieback. Some are entirely yellow and some are already dead. All show signs of heavy gumming. In some places only half the tree is dead. Some of the root crowns are above the ground while others are below.

Prune trees 36 years old and still in a vigorous growing condition had crowns in all stages from a foot under ground to as much above ground.

The sudden death of a tree from sour sap is easily distinguished from the lingering death from a wet, cold soil. In sour sap the tree lives or dies and has it over with, but in the case of a wet, cold soil the tree turns yellow and sometimes drags through the summer and even matures a crop. The bark and cambium appear dead. Sometimes the cambium builds up again under the dead bark which can be observed by cutting into the bark. Such a tree might be worth keeping and should not be destroyed until the fall when it can be judged better whether it will make a tree or not.

When the root stock does not die a tree can be built up rapidly by grafting at the ground. The large root system already established will build up a tree much faster than a tree just out of the nursery. The Myrobolan plum root is very hardy and seldom dies.

A reasonable percentage of dieback this year should not be discouraging. The cold wet weather of last winter is a rare occurrence.

Sour sap was not so plentiful last spring as dieback from a water logged ground. Sour sap is caused mainly from growing weather starting off early and then a sudden change back to cold weather again. The sap starts to flow and is checked by the cold weather. The tree puts out buds as usual in the spring and then dies. Sour sap affects the whole tree or any part of it. The whole side of the tree may die or just one branch. A sour sapped tree dies early, rarely gets past the blooming stage. With dieback from a cold, wet soil the tree lingers at all stages through the summer.

Many trees that died back this spring were actually frozen last winter. Brown rot was blamed for a lot of blighted apricot buds and limbs that died from cold. One man was told that he had brown rot in his apricot trees. He insisted that it was winter kill and sent samples to the university. They ran a culture for brown rot but failed to find any. Their verdict was winter kill. The two look very much alike. Heavy gumming is a symptom of all the troubles enumerated above. Gumming, or gumnosis as it is sometimes called, is a warning that there is something wrong with the tree just as a headache in a man is a sign of eye strain or a disordered stomach.

A tree gets 96 per cent of its solid substance from the air. The remaining 4 per cent mineral matter, combined with the sap circulating system, which all come from the soil through the roots, are very important factors in the health of the tree. Any condition of the soil that retards the proper functioning of the roots will soon show signs in the distress of the tree above ground.

The available plant food in the average soil is usually less than 1 per cent by weight. In other words, all the plant food in 100 feet square could be put in one corner one foot square. The roots of a plant must forage over the whole 100 feet to get the food. The physical condition of the soil must be right for the plant to work properly. There are many conditions necessary to plant growth, but heat and moisture are the main governing conditions. When these two go wrong you can look for trouble. In the dieback this spring we can see the effect of wrong conditions last winter.

Continuation of comment on page 263.

# Some Native Shrubs and Trees

By Leonard Coates

Low growing and drouth resisting shrubs should be a very prominent feature in California decorative gardening whether on the town lot or massed on large acreages. Many that are especially useful, though but little known under cultivation, are native to California, some deciduous, some evergreen. Most of them, particularly the natives, are difficult to propagate by seed, and of very slow growth for several years. The seed is hard to get. Many trips into the hills and canyons are necessary; first, to locate the shrubs in bloom, and afterwards to collect the seed just at the proper time. If a day late, or if a squirrel gets a few hours start, the work is lost. Many of the native shrubs and trees seed themselves on burnt over land, but one great difficulty the collector has to contend with is the lack of fertility of seed, which is somewhat disheartening after he has located the plants in bloom, his later trip being fruitless.

A simpler and quicker way to get a stock of certain wild shrubs is through offshots or layers. It is also necessary if it is desirable to propagate any plant of marked characteristics as all seedlings are subject to variation.

### Layering

I have been surprised at the ease with which most of these shrubs are propagated by layering, the only essential being bending down and keeping covered in moist earth for several months a branch of the shrub it is wished to propagate. Sever it when strong enough, and plant in nursery row somewhere near its original home, where it should remain for one year. It may then be handled or shipped, due care being taken.

Some enthusiastic farmers and tree lovers are in the habit of taking up offshoots or natural layers from many of our native shrubs, packing them in moss, and shipping to some nursery or private planter. This usually results in compete failure, although there are exceptions. It is too risky, however, financially, unless the plants are established at least a year in nursery rows, and preferably near their native habitat.

The wax berry (Symphoricarpus) both white and red, is one of our commonest shrubs. It spreads rapidly by long, trailing arms, and is very useful for a low massed effect. The Oso berry (Nuttalia) is a taller, larger leaved shrub, bearing clusters of large yellow, red and purple berries, which follow the rather insignificant drooping racemes of greenish white flowers. It is sometimes locally known as Wild Cherry, from the appearance of the fruit.

One of the most interesting of all our native shrubs is Chilopsis linearis, known by the Spaniards as Mimbres, and locally as Flowering willow, Desert willow, etc. It is deciduous, with fine, willow like foliage, but belongs to the bignonia family. The flowers, in upright racemes, resemble those of the catalpa, but smaller, pale lilac, with yellow dots. Its habitat is far to the south in the dry canyons and arroyos; hence the common name Desert willow.

I have a specimen, 600 miles north of its native home, which in less than three years, has grown to 4 feet 1 inch in height and 5 feet in diameter, and is now full of bloom. It is therefore adaptable and will succeed anywhere in California where sunlight prevails.

Wax myrtle (Myrica Californica) grows into a small, dense headed tree. I have found it in the pine woods near Pacific Grove and have seen it flourishing in private grounds in Saratoga, under two very dissimilar climatic conditions. The foliage is very dark and flowers small, but the very large white wax like berries are a marked feature. The foliage has a pungent odor, which prevails with so many native shrubs. Especially is this characteristic of the California laurel (Umbellularia) which grows into a large tree in the northern part of the state, valuable for timber, and the allspice (Calycanthus) growing in canyons along the creeks in the coast range. This is a striking shrub, with its arge, bright green leaves and magnificent maroon flowers.

Several species of Ribes would group well with Symphoricarpus, mentioned above. Incense shrub, or Flowering currant, wild gooseberry (R.

speciosum) and wild currant (R. tenuifolium) are all very good. The latter makes a very large shrub, with beautiful yellow blossoms; fruit red and edible. The Red Bud or Judas Tree of the eastern states is well known, but its California prototype, Cercis occidentalis, is rarely seen outside of Yolo, Lake, and other northern counties, where in early spring the hillsides are gorgeous with its brilliant crimson flowers.

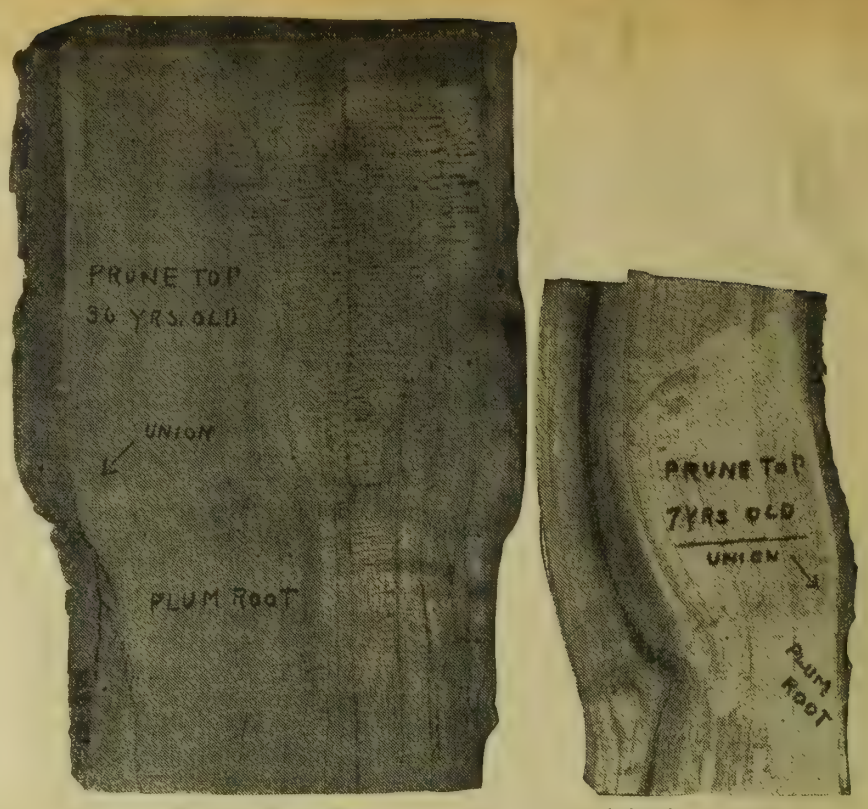
Flowering Ash (Fraxinus dipetala) with its rich glossy foliage and clusters of white, fragrant flowers, forms an exceedingly pretty small tree.

A broad, spreading shrub of rapid growth is the Indigo Shrub (Amorpha) with locust like leaves, flowers in long spikes, almost black, with golden stamens. It would make a good background.

Holly leaved cherry (Prunus ilicifolia) is well known as one of our best hedge plants. The Catalina Island variety (P. integrifolia) has larger foliage, lighter in color, and forms very handsome individual specimens. Both have panicles of white flowers, followed by large purple fruits.

Few seem to be aware of it, but we have several native species of Philadelphus, sometimes wrongly called Syringa. One species is quite fragrant, and P. Lewisii is a sight when covered with its white bell like flowers. Styrax Californica, or Storax, is much less common. Its flowers are borne in drooping panicles, resembling snowdrops. I have found it in Kings River Canyon and now find that it grows as far north as Lake County. Several dogwoods (Cornus), are very attractive, especially C. Nuttalli, with very large flowers. It is found in the northern counties. There are a dozen or so species of Ceanothus (Mountain lilac) with flowers ranging in color from white to a dark blue, and occasionally pink. C. thyrsiflorus in the moist woodands of the coast becomes a tree 15 or 20 feet in height; its flowers are deep blue. C. Spinosus has glauous foliage, light blue flowers in very large, often drooping panicles, while C. verrucosus and some others are low growing with white flowers. C. arboreus grows on some of the islands off Los Angeles, bears very large showy blue flowers, handsomer even than the cultivated European hybrids.

The chamisal or chaparral (Aden-




Cut from Budded Trees Showing Perfect Union of Stock and Bud

Specimens of root crowns sent by C. A. Nidever. Mr. Nidever writes: "The large one is from a tree 36 years old that has been dead several years. The small one is a seven year old prune tree that was in first class growing condition up to this year when it died back with a crop nearly ripe. The bark and cambium have been as dead all spring as they are now on the specimen. The tree was evidently getting food up through the sap wood but not sending any back to the roots, for the fruit was abnormally large. The union was above ground and as you can see it was perfectly healed. A dark colored wood shows in the heart of the young tree sample which might develop into heart rot but I don't believe that it would. If it is heart rot it got in before the union healed and could have no effect on its dying suddenly this year. By looking at the top of this young specimen you can see the ring of the original tree. The wood has been built out from that in perfect shape. There is no chance of any leak in the union, which is the only reason that I can see that it would be harmful to cover the union. If the connection is not perfect then it should be removed for the tree will always be weak."

ostoma), and the grounsel tree (Baccharis) cover some of the dry hillsides. As individual cultivated specimens they would hardly be recognized, but exclaimed over because of their beauty.

Berberis Californica is allied to B. aquifolium, or Oregon grape; it is one of our most beautiful evergreen shrubs with the varying shades of green and red foliage, bright yellow flowers and blue berries. Fremontia is difficult to propagate, but a specimen is well worth the price. Its flowers, gorgeous yellow and wax like, are magnificent. Carpenteria, or tree anemone, has very large, fragrant white flowers. Under cultivation it makes a grand shrub. Then our native tree poppies, Romneya and Dendromecon, the former the "Queen of Flowers," the latter, her page.

The manzanita (Arctostaphyllos) and the madrone (Arbutus Menziesii) as the most typical of California's shrubs or small trees must be mentioned. The manzanita exists in several species, A. pungens and A. glauca being best known. They will grow well from layers, and, after being established in some container for a year, can be moved anywhere. The madrone makes a fair sized tree, and when fertile seed is obtained it is not difficult to grow, but requires frequent transplanting before it is set permanently. Typicaly Californian, and unsurpassed for beauty, it should be in every collection.

The list grows, so that one hardly knows where to stop. There are many others, but all of the above will thrive almost anywhere in the state, and they are all native to California. My object is to try to create a demand for these trees and shrubs so that California nurserymen will be encouraged to propagate them. There is a wide field open. The digging up and exporting of our native bulbs should be prohibited by law, but the collecting of seed of our native plants, trees and shrubs should be encouraged.


# Save the Groves and Orchards of California!

It is a recognized fact that the citrus groves and orchards of California are deteriorating. This is due to lack of nourishment. Unless trees receive properly balanced food they slowly starve to death. The most important soil essential is Available Calcium Carbonate—and the constant cropping and irrigation of the soil of this State is gradually using it up. The ultimate result is scrawny, weak trees and small unprofitable production.

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## Marine Shell Fertilizer Co.

**Chamber of Commerce Bldg. Anaheim, California**

## GUMMING OF DECIDUOUS FRUIT TREES

By W. R. Wood

(Continued from Page 261.)

We agree with Mr. Nidever that probably the excessive gumming of deciduous trees the past season was largely due to climatic conditions, and possibly in his particular case the loss was entirely due to these conditions, but we believe that trees planted too deep are more susceptible to gumming than those planted as they should be, especially if planted on very heavy land. Trees planted on light well drained soil will no doubt do about as well whether planted deep or shallow, but where the soil is heavy there is danger in planting too deep. Of course the danger is not as great with deciduous trees as with citrus. To the latter it almost means certain death if the bud union is below the ground in heavy soil.

We can not agree with Mr. Nidever in his statement that after a bud union is perfectly healed, it makes no difference whether this union is above or below the ground. There is a decided difference in the varieties with respect to their soil and climatic likes and dislikes, and this is one reason for using different root stocks. A variety that does not do well on heavy soil is budded or grafted on to a root that thrives on such soil, and if this bud union is planted below the surface or for any reason becomes covered to such a depth that the bark above the bud union is continually in contact with this moist heavy soil the chances of the tree gumming are much greater than if the bud union was well above the ground.

There is also a difference between budded or grafted trees and seedlings. While the bud may make a perfect union there is a difference between it and the root that shows throughout the life of the tree, and this difference, although it may be slight, affects both the top and the root. In some varieties the lack of affinity between the two is very marked while in others it is hardly noticeable, but by cutting through a section of a tree at the bud-union it will be noted that there is a well defined line between the two stocks, showing from the heart to the outer edge of the wood. In the writer's opinion this variation or offset, no matter how slight, has some effect on the flow of sap both to and from the tree top, and if through any cause there is a clogging or interference with the free flow of the sap it breaks through the bark at the weakest part, which is oftentimes at the bud union. This is more noticeable in citrus trees. With deciduous trees the breaking out may be farther up on the trunk or in the branches, but the bud union may have contributed its part toward starting the trouble. At any rate we believe that the safest plan is to plant young stock at as nearly the same depth as it grew in the nursery.

## OYSTERS OF YESTERDAY

By Ernest Braunton

THE other day the writer ventured forth to visit a deposit of marine shells in Orange County, to see what such things look like, and afterward to visit some of the farmers who had used this material, to find what material benefit it had been to them.

The so-called mine was on top of the ground, with nothing to uncover, but two or three inches of soil in places overlying outcroppings for a mile or so in each direction. There is enough high grade calcium carbonate in sight to furnish the whole state for some years to come. Though largely decomposed, oyster shells in a fair state of preservation may be found throughout the mass, chambered inside of each other to the number of a half-dozen or more. They appear as though some child had placed them carefully in this way and then some gigantic force had squeezed them into a mass but a half inch thick (for an actual measurement and count made of seven shells thus layered). A few scallops are also in evidence but the majority are oysters, though mere shells of their former selves.

The writer was anxious to find an orchard where shell lime had been applied to part of an orchard and the remainder left as a check plot, but this is a point neglected by those who have used it, so one can but observe the general good and listen to the praises of the orchard owners who believe the results they have obtained are due entirely to applications of calcium carbonate in the form of decomposed sea shells. The first one quoted herein had the nearest to check plot comparisons of any visited.

### What Happened

F. E. Jones lives just below Santa Ana, post office address Route 1, box 56. Mr. Jones was not at home but Mrs. Jones cheerfully accompanied the writer over the seven acre orchard and told the following story: "We bought this much run down place ten years ago, rooted out the old Navel oranges, though first inter-setting with young Valencias, leaving none of the Navels more than two or three years. To provide plant food we started a small dairy and a poultry plant. For seven years the dairy and poultry manure was applied, plowed under and irrigated every 30 days. But the soil seemed dead and the fertilizer not acting, for the trees did not satisfactorily thrive.

"So Mr. Jones concluded in 1920 that he might as well stop and get some money direct from the manure through sales. Now he is selling the total output. In April, 1921, he applied to part of orchard ten tons to the acre of this sea shell lime. In a few weeks both trees and soil were in such improved physical condition that he applied a like amount to the remainder. The color and size of the foliage, and the young growth, are the best of the whole ten years. In spite of the freeze, the degree of injury of which you may judge by the dead wood, the trees are well loaded with a crop of fine promise."

Several other orchards were visited and all appeared to have been much benefited by calcium carbonate in sea shell form. The writer would like to see this material given many trials, on different types of soils, but always with a check plot where none is applied, so that the measure of the benefit may be at least approximately determined.

## NUT EXPERTS

A Cultivator representative attended the annual meet of the California Walnut Growers Association at Tucker's Grove, near Goleta, seven miles north of Santa Barbara, last Saturday, a full account of which will appear next week. The attendance was about 825. All the nut experts were there. One of the speakers, George E. Farrand, said he was in attorney's office lately when a professional appearing man entered and asked who were the best local nut experts. The lawyers didn't know, so asked him. He named them, and the man said: "Well, I want to see them at once. I hope to prove by them that a client of mine now in the psycopathic ward is sane, so he can make his will." These nut experts were with us Saturday.

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Eighteen hundred tons of pea vines produced in the county have been purchased by dairymen of the Marin County farm bureau for feed. Most of the vines were siloed and are showing excellent results in milk production. Five new silos were erected to be filled with pea vines.

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# Legal Queries

Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.

### Second Hand Engine

I bought a stationary engine supposed to be in first class condition. The engine broke down. I had a machinist examine it and he found that the vendor had, after taking the pistons out, replaced them upside down so that it had worn the cylinder. When replaced correctly it causes such play that in a short time it will break again. Could I collect damages?—Subscriber, Bakersfield.

This was a second hand engine, bought from a person not engaged in merchandise. Apparently there was no warranty concerning the engine as the question states that it was "supposed" to be in first class condition. The injury might have been caused by ordinary use of the engine and the former owner might have believed it in first class condition. The general rule is that a mere contract of sale or an agreement to sell doe not imply a warranty so that it is highly probable that no action would lie under the circumstances.

### Intoxicating Beverages

A justice of the peace has held husband and wife guilty of manufacturing intoxicating beverage. Is it or is it not legal to make small quantities of intoxicating beverages in the home?—Subscriber, Covina.

In view of the fact that the judgment was rendered by a police court it was undoubtedly under a city ordinance. Many cities prior to the enactment of the 18th amendment had ordinances concerning the manufacturing, sale and disposal of intoxicating liquors, violation of which would render a person guilty of misdemeanor. The general rule of the 18th amendment forbids the manufacture, sale or disposal of intoxicating beverages. Congress in the Volstead act has held that beverages containing more than one-half of one per cent alcohol are intoxicating beverages, and the officers of the government enforcing the Volstead act have also held and the courts have backed them in the holding that such manufacture is unlawful.

### Cows Not as Represented

We purchased cows on contract. One went bad, which we sold to the butcher. The others have not properly performed. The vendor agreed to make an exchange but refused to do so. We contracted to pay a certain amount per month, but the vendor has accepted less. Must we stand the loss on the cows? Can the vendor take the cows back, or will he be obliged to accept what we can pay?—Subscriber, Hynes.

Your first remedy was rescision upon ascertaining that the cows were not as represented. This action must be taken promptly, however, and you must restore to the vendor all you receive. In view of the fact that one of the cows was sold to the butcher you cannot make this restoration. The second remedy is an action for damages for difference in value of cows as represented and as they were. As you were purchasing upon a sale contract this difference in value would be applied on the balance due under the contract, and you could be required to pay what remained over. The condition of any such action is that the contract be affirmed and your payment be made in accordance therewith except for deduction as stated.

### Lease Terms

I had a tract of land and leased it for three years. I furnished the seed, and lumber for irrigation boxes. The lessee was to plant the seed and put in the boxes. He was to receive all the crops for the first two years, but the third year I was to receive one-third or its equivalent. The lessee had the right to sublease. He has rented a part of the property for cash and now desires to make me accept one-third of the rent instead of one-third of the crops. What can I do?—Subscriber, Orange.

You are entitled to insist upon the exact terms of your lease and to require the delivery of one-third of the crops or their equivalent. The parties who sublet are deemed to have had knowledge of the terms of the lease which you have with your tenant, and their leases are taken in subjection to the terms of your lease. Unless your tenant complies with the terms of his lease by paying one-third of the crops or their equivalent, you are entitled to bring action in the usual manner of unlawful detainer and have both him and his tenants ejected

### Damage to Automobile

A widow owns an automobile, used both for pleasure and business. It is also used by her two minor children. She is called away on business and forbids the children to drive the car. But they took the car out and afterwards requested some other boys and girls to drive this car while they got in another. The car overturned and considerable damage was done to the car. Is the driver of the car alone responsible or who are?—Subscriber, Gridley.

It would appear that no principal of contract is involved in such matter, but that all of the children were joint wrongdoers, and all might be equally held responsible. This on the theory that the widow's children informed the others, as the details of the question state, that they had no right to take the car out.

### Support of Family

Is a wife entitled to a divorce because the husband cannot make more than $100 per month? If so, can the husband claim the custody of the boy? If she gets the child will the husband be required to pay for the child's maintenance more than six months in the year?—Subscriber, Oakland.

The grounds for divorce in this state are adultery, extreme cruelty, wilful desertion, wilful neglect, habitual intemperance and conviction of felony. The failure to make more than $100 per month does not fall under any one of those heads. In any such action however, the question of the disposition of the child is within the discretion of the court, as well as the amount and character of the payment necessary for the support of such child. It is the general duty of the husband to provide for the support of the child and this applies whether or not the husband has the custody or even the right to see the child.


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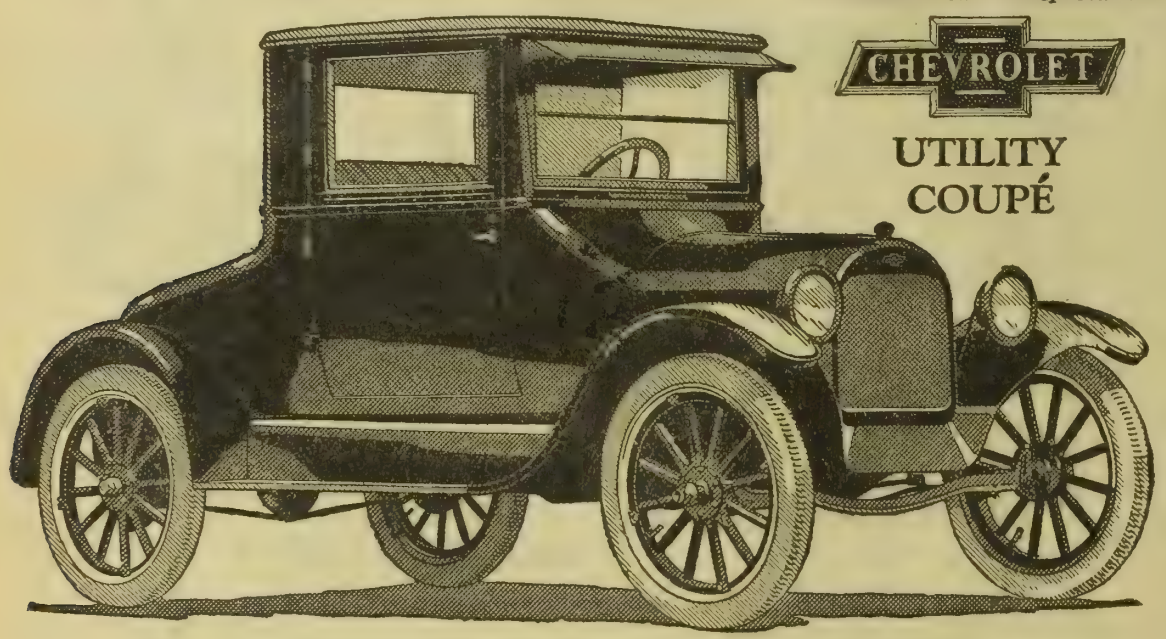

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### Community Property

If a man has judgment standing against him can his wife hold a home which she has earned?—Subscriber, Claremont.

All earnings of either husband or wife are community property and community property is subject to levy of execution for the debts of the community or husband. The method whereby such home could be protected would be by filing homestead which would protect it up to $5,000.

### German Confiscated Property

Where can I obtain data with respect to German confiscated property?—Subscriber, Stockton.

As to any details it would be necessary for you to communicate with the Alien Property Custodian, Washington, D. C.

### Lease to Japanese

Does the law prohibit one leasing land to Japanese for agricultural purposes? Is any distinction made between cash rent and crop rent?—Subscriber, Carpenteria.

The law does not prohibit any such lease but provides that the state may bring action to cause the interest acquired to be escheated to the state. The law makes no distinction between rental upon a cash or crop basis. A recent decision held that the alien land law does not apply in questions of crop rent on the theory that under such leases no interest in the land is conveyed. It is understood, however, that this case is on appeal so that until a final determination great care should be taken in having any such transactions.

### Willing Community Property

There is community real estate which is deeded to both husband and wife. In case the wife dies first does all the property go to the husband where there are children? If she makes a will specifying that at her death one-half of the property goes to the children and the husband signs such will would that hold good?—Subscriber.

The expressed presumption by law is that wherever any property is conveyed to a married woman and to her husband the married woman takes the part conveyed to her as tenant in common unless a definite intention is expressed in the instrument. This is a presumption of law and it is possible to overthrow it by evidence satisfactory to the court. If it is community property then upon the death of the wife the whole of the property descends to the husband. If, however, it is held that the wife was a tenant in common of the property her estate is entitled to an undivided one-half interest. It would seem that the signing of the will by the husband would be evidence that the husband recognized the fact that the wife was a tenant in common. If such was not the case the wife would have nothing to will and it would therefor be an idle document.

### Pump a Part of Land

Several months ago we moved on a ranch expecting to lease it. No lease was signed and we intend to move in a few weeks. When we moved here we installed a new motor and pump. Can we move this property away?—Subscriber, Galt.

When a person affixes his property to the land of another without an agreement permitting him to remove it the thing affixed belongs to the owner of the land, unless he chooses to require the former to remove it. Consequently upon affixing a pump to the land it became a part of the land as much as the buildings thereon, and you would not be permitted to remove it.

### Community Property to Husband

Have the children of first wife any right in the property acquired under the first marriage?—Subscriber, Stockton.

Upon the death of the wife the entire community property without administration belongs to the husband. There was an amendment changing this rule but the amendment was repealed by referendum at the last election.

### Trees on Highway

I have several large acacia trees fronting my property which I wish to remove and replace with shrubbery. I am told these belong to the county and cannot be taken out by me. Can you tell me if this is correct or not?—Subscriber, Cudahy.

Trees in the highway can be removed only by permission of the proper authorities. Many of the counties have adopted the provision of law permitting the appointment of a county forester. In such counties this permission must be obtained from this official. Where such act has not been adopted then application should be made to the supervisors or to road commissioner in the district. On the state highway it probably would be necessary to obtain consent of state highway commissioner.

### Rights in Road Frontage

What rights has a property owner in his frontage along a public road? Can advertisements be placed on the roadside in front of his property? Can livestock be picketed there? Can travelers camp there, leaving trash and litter, all without his permission and against his will?—Subscriber, Coachella.

It is a misdemeanor to put up, affix, fasten or paint upon any property belonging to any of the governmental divisions or dedicated to the public, or upon any property of any person without license from the owner, any notice, advertisement or designation of any commodity. Under the motor vehicle act it is made a high grade misdemeanor for any person owning or controlling possession of any horse or other livestock to voluntarily or negligently permit such animals to stray upon or remain unaccompanied by a herder or other person in charge or control thereof, upon the public highway, either side of which is subjoined by property which is separated from such highway by fence, curb, lawn or building, and no person shall feed, pasture or camp any such livestock upon any public highway between the hours of sunset and sunrise without keeping a sufficient number of herders on continual duty to keep open the road so as to admit at all times a ready passage of vehicles and also keep red lanterns or lights burning to warn the public of the presence of such stock. Further under such motor vehicle act it is likewise a high grade misdemeanor for any person to leave standing or permit to be left standing upon the main traveled portion of any public highway a vehicle undergoing repair or for the purpose of camping.

### Lost Check

In January, 1917, a creamery gave a check. The check was lost, subsequently found and placed in the bank for collection. It was returned. Is the check still good?—Subscriber.

Undoubtedly it is barred by the statute of limitations as an action upon any contract, obligation or liability founded upon an instrument in writing must be brought within four years from the date.

### Bankruptcy

What property is exempt under the bankruptcy law and what does one do to invoke this act?—Subscriber, Van Nuys.

A person desiring to become a voluntary bankrupt must prepare a prescribed set of schedules setting forth all of his assets and liabilities and assign to the trustee in bankruptcy all of his property. It requires the payment of $30 for fees, and there are some additional fees for publications and so forth. California has liberal exemptions covering in fact some three pages. Generally speaking however, household furniture, implements of trade, earnings of the judgment debtor for 30 days preceding filing of petition, and a small amount of agricultural implements, horses and cattle are exempt.

### Exempt from Attachment

I advanced money to a party with the understanding that I was to be repaid when the material upon which he was working was sold. This was not done. Can I attach his machinery


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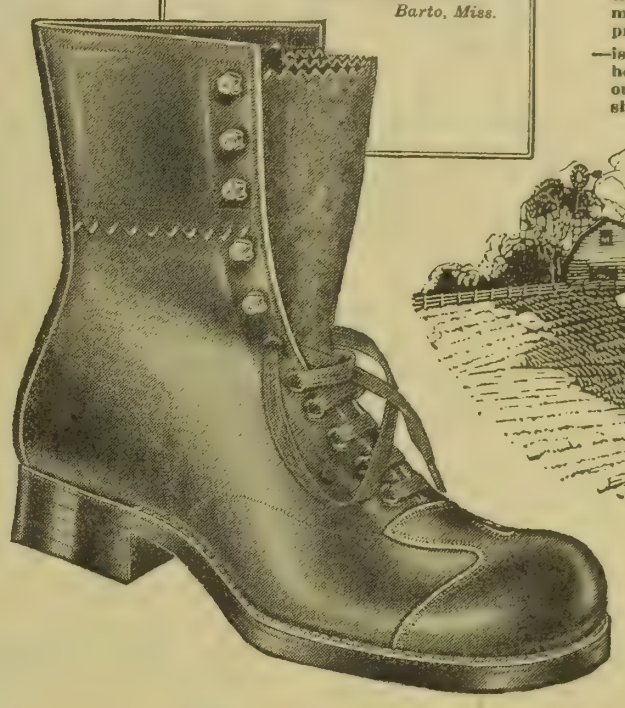

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**This Wolverine is so pliable and soft you can double it up like a moccasin. It wears like iron but you'll hardly know you have a shoe on, it is so soft and easy.**

**For tender feet, or where you do not encounter wet weather, wear this Comfort Shoe. A blessing to the feet.**

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There is a Wolverine shoe for every kind of work. Soft, flexible shoes for field and shop; heavy, hi-cut, leg-protecting shoes for teamsters, lumbermen, oil men; every one made wholly of our double-tanned, soft horse hide that always outwears other leather and always stays soft.

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and tools for the amount involved?—Subscriber, Ramona.

As to machinery it would be necessary to specify what that machinery is. But, generally speaking, the tools or implements of mechanics or artisans are exempt from execution, otherwise you would be entitled to take your action and have your remedy by way of attachment.

### Government Grant

The government once granted a tract of land and described it by metes and bounds and said it contained 10,000 acres; in fact, it contained 20,000 acres. What is necessary to establish the claim to the extra 10,000 acres?—Subscriber, Springville.

Unless there is some claim made by somebody or other it would hardly seem that there is any litigation necessary. It is the general rule that where there are definite particulars in description, the addition of others which are indefinite or unknown or false does not frustrate the conveyance. When there are inconsistent measurements, that of angles is paramount to that of surfaces and that of lines paramount to both. When permanent and visible or ascertained boundaries and monuments are inconsistent with the measurements, the boundaries or monuments are paramount. Thus it would seem that the description by metes and bounds would be conclusive.

### Turning Flood Waters

Has a town on river a legal right to build a levee to prevent flooding when by so doing large amounts of flood water are thrown on the opposite side so that orchards will be badly damaged?—Subscriber, Watsonville.

It has been held that one has a right to protect himself against flood water, that is, water escaping from its natural course. For that purpose he may obstruct the flow upon his land even though such obstruction causes the water to flow on to the land of another, but such cases require careful study. It would probably be far better for you to take the matter up with your local attorney.

### Trees Not as Represented

I purchased Phillips Cling peach trees from nursery. They came properly labeled, were planted and three years later produced some peaches. Not one was a Phillips Cling; they were all sorts of different varieties and are worthless to me. What can be done?—Subscriber.

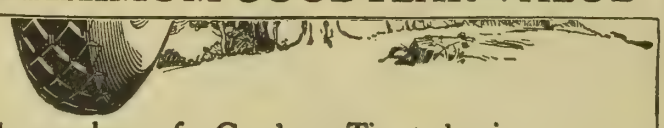
You undoubtedly have right to action for damages upon breach of warranty of quality of personal property. Your measure of damages in such case is the excess of the value which the property would have had at the time to which the warranty referred, if it had been complied with, over its actual value at that time. This means the time when the breach thereof is, or with due diligence might be discovered by the purchaser; and the proper method of ascertaining such difference in case discovery cannot be made after the trees are planted is to take the difference at the time of discovery between the value of the land as planted to the trees delivered and the value such land would then have had, if it had been planted, with trees of the kind warranted by the seller. This is the rule which has been followed in cases along this line.

### Naturalization

Three years ago a British subject married an American woman. Six months from now he will be naturalized, becoming a citizen of the United States. Is it possible for him to again become a British subject for two years without making it impossible to again take out naturalization papers in the United States, when the two years are over?—Subscriber, Oakland.

He is of course a British subject until he finally takes the oath of allegiance to the United States. He can renounce this oath of allegiance and again become a British subject, but if he desires to a second time apply for naturalization papers it would be entirely within the discretion of the court to refuse naturalization, as it is never the policy of governments to treat so lightly a solemn matter such as the taking of the oath of allegiance. This discretion would naturally arise under the requirement that the alien must show that he is attached to the principles of the constitution of the United States and well disposed to the good order and happiness of the same. The court could undoubtedly take the view that a person so recently becoming a citizen and renouncing his allegiance could not be attached to the principles of the constitution to such an extent as to qualify him as a good citizen.

THE MAXIMUM GOODYEAR VALUE



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# Questions and Answers

**Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Pruning Oranges

Please give me some general ideas on pruning Navel orange trees. Will it hurt trees that have not been pruned for some time to give them a severe pruning?—Subscriber, Lincoln.

Orange trees need very little pruning, if properly headed when first planted. Sucker growth and interfering branches should be kept pruned off, also any limbs that extend out so as to interfere with cultivation. After the trees reach the bearing age it is advisable to keep all the dead wood pruned out of the center of the heads. This promotes the setting of fruit on the inside as well as the outside of the tree. Above all things do not prune an orange tree like a hedge by clipping the outside branches, as this tends to make the top so dense that no sunlight can penetrate it and thus increases the amount of dead wood on the inside and weakens the tree generally. Unless your trees are in a sickly condition we do not think a severe pruning is necessary. Only where the trees show a sickly condition is it necessary to cut them severely, and then from one-quarter to one-half the top should be cut away, depending on the severity of the case. Even then it would be best to examine the soil and root system and try and ascertain the cause of the sickness and if possible remedy it.

### Budding Walnuts

Will you kindly advise me where to apply to have my walnut trees budded and approximate cost per tree? I have about 160 trees, the oldest in their sixth year and ranging down to replants in their second year and on black walnut roots. So far these trees have not had irrigation except by tank wagon for short time after setting out, but are vigorous. Ranch is in San Joaquin County in Farmington fruit belt, in heavy chocolate loam soil close to creek. Are not walnut trees more susceptible to frost injury after being budded?—Subscriber, Hawthorne.

Would suggest that you take the matter up with some nurseryman in your section. There are nurserymen at Stockton, Merced, Modesto and other close by towns that either have men in their employ or can advise you of parties who do this work. Grafting is the most satisfactory method of working over walnut trees and the work should be done in the spring just before the new growth starts to come out. English walnuts are susceptible to frost injury, especially if the cold weather comes before the trees have become hardened up for winter. As the trees get older, however, they become more resistant and frost damage is less liable to occur. We do not know that they are any more susceptible to injury from frost when grafted on black walnut stock than when grown from seed excepting that the grafts make a more vigorous growth and are therefore more tender when young.

### Growing Plums from Sprouts

Will a sucker from a cherry plum tree bear fruit every year or do they skip three years before they bear again? Will they bear as well as nursery stock? Where can this nursery stock be gotten?—Subscriber, Eureka.

We do not quite understand your question. The cherry plum (Prunus myrobalana) is used as a root stock on which to bud or graft the commercial varieties of plums and prunes. We presume that you refer to the French method of propagating by sprouts. It was claimed that sprouts from certain varieties would not gum as badly as trees grown in the usual way. As far as time of bearing is concerned we do not think there would be any difference. It would no doubt take the sprouts as long to come into bearing as it would trees grown from seed. It is possible that the sprouts would come nearer producing fruit in quality and quantity like the parent tree than trees grown from seed. Any of the general nurserymen can no doubt supply you with either seed or seedlings of this variety.

### Prunes Drop

German prune tree is thrifty, blooms and sets fruit but most of them drop off when very small. Does it need other pollenizer? I read in some farm paper to bore a hole in the trunk of the tree and fill with sulphur. Then plug the hole, and the fruit would stay on the tree. What do you think? Subscriber, Stevinson.

We understand that the German prune has a habit of dropping its fruit before it reaches maturity. It is possible that this might be overcome by planting some stronger variety nearby but it would have to be one that bloomed at the same time. Some of your local nurserymen could no doubt assist you in making the proper selection. We do not think that the boring of holes and filling them with any kind of substance will be of any benefit and is quite apt to kill or permanently injure any tree treated in that manner.

### Split Pits

Please tell me why the pits of plums and peaches split open. We have the prune plum and about two-thirds of the pits break open.—Subscriber, Pasadena.

"Split pits" of the peach and prune was investigated by the California experiment station some years ago but no cause for this condition was found. Certain varieties seem to have a larger percentage of split pits than others, and it is probably due to a weakness of the variety.

### Full Efficiency from Pump

My 5 inch centrifugal pump does not seem to throw enough water. Some mechanical principle has been violated somewhere. The pit is 5 feet deep; water level, 3 feet below bottom of pit; well, 174 feet deep; stand pipe three feet in diameter, 14 feet high with 7 inch discharge and 10 inch concrete pipe line. Water level in stand pipe, depending on where I am irrigating, is 8 to 12 feet above ground. Adding 8 feet to water, the pump lifts the water 16 to 20 feet, plus the decrease in level due to suction. Is that an excessive lift? How about the pressure exerted by the column of water 3 feet in diameter and 5 to 9 feet in height above discharge inlet? The water actually delivered is not less than two-thirds of what neighbors get. It is not prohibitive in cost. The neighbors say that my trouble is most likely due to the well not having sufficiently enlarged the cavity at the bottom so that the water level drops when the pump starts. I haven't measured the water level when pumping. Considerable sand is still pumped. It caused the water jacket to fill up with sand until I put in a settling barrel.—Subscriber, Caruthers.

It would seem to us that your trouble is due to a shortage of water in your well or your pump does not run fast enough. If you have no vacuum gage on your pump it would be necessary to drop a float in the well between the suction pipe and the casing to get the depth that the water is being drawn down. By adding the depth of suction to the height of discharge

you can ascertain your total lift. All centrifugal pumps are built to deliver a certain amount of water based on the total lift and speed. If the lift becomes greater it will be necessary to speed up the pump in order to get the same amount of water. If air bubbles appear in the water as it is discharged it indicates that the pump is getting air either around the packing gland or through the suction. However when much air is being pumped it soon forms a block in the pump and the water stops until the air block is released. With belt driven pumps it often happens that the belts get loose and there is a considerable slippage, thus reducing the speed and correspondingly the volume of water discharged. We would suggest that you find out from the parties who furnished the pump just what speed it is supposed to run at to deliver the desired amount of water and then by the use of a speedometer you can ascertain whether or not it is running up to speed. The only change we could suggest in your discharge pipe would be to put on a tee in the place of the L, where it turns to empty into the 3 foot standpipe, and put on an additional 12 feet of 7 inch casing. This would relieve the friction at this turn and might give you a little more water. However if the L at this point is of the long radius type the standpipe would not benefit much.

### Wooly Aphis

Kindly inform me as to the best spray to use and the best time of year to kill the cottony pest that is now growing on my apple trees. Where may I learn something of the life, history and nature of the pest? What is its name?—Subscriber, Van Nuys.

Presumably this is wooly aphis. If still in print secure copy of "Injurious and Beneficial Insects of California" by writing State Department of Agriculture, Sacramento. See pages 78, 79 and 80. Even more extended description of life habits and method of control is given in Monthly Bulletin, Vol. 6, No. 10, October, 1917, page 390.

### Building With Stone

I have on my mountain ranch an abundance of granite rock of every size of which I should like to build a good sized house and garage and apple storage. Where can I get information, plans and the right kind of builder for this work?—Subscriber, Long Beach.

The building of a house is a trade by itself and we question the advisability of a novice attempting such construction without the help of an expert. However, where one has somewhat of a knowledge of practical building there might be an experience worth while in attempting to build a house. As to the handling of cement which would perhaps be safest in building up stone wall the best information can be secured by writing Portland Cement Association, 111 West Washington Street, Chicago, Illinois. This concern has issued a series of pamphlets on cement construction. The Macmillan Company, New York, J. B. Lippincott Company, Philadelphia, T. Y. Crowell Company, New York, publish numbers of special engineering and other books. Possibly they could supply you with a technical publication which would prove of value. As to a builder, or one to direct in the work, practically every neighborhood has a good stone mason. If busy he may possibly be able to refer you to others.

### Salting Ensilage

Can you tell me if salting corn ensilage when filling the silo will improve the feeding value?—Subscriber, Watsonville.

Salt is not generally added to silage. If the silo is air tight it adds nothing to the keeping qualities and some think prevents proper fermentation of the silage. If the silage is old and if the corn is old and has become overdry then pure water is added to be sure the moisture content is sufficient and the curing process is complete without any additional material.

### Chemical Weed Eradicator

Some time ago you wrote an article on the killing of weeds and morning

(Continued on Page 274)

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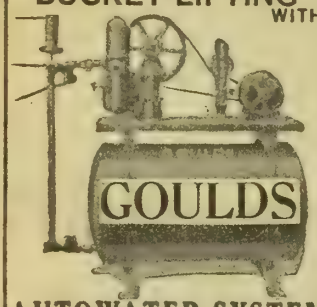


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# Household Department

### BEAUTIFUL THINGS

Beautiful faces are those that wear—
It matters little if dark or fair—
Whole-souled honesty printed there.

Beautiful eyes are those that show,
Like crystal panes where hearth-fires glow.
Beautiful thoughts that burn below.

Beautiful lips are those whose words
Leap from the heart like songs of birds,
Yet whose utterance prudence girds.

Beautiful hands are those that do
Work that is earnest, and brave, and true,
Moment by moment, the long day through.

Beautiful feet are those that go
On kindly ministries to and fro—
Down lowliest ways, if God wills so.

Beautiful shoulders are those that bear
Ceaseless burdens of homely care
With patient grace and daily care.

Beautiful lives are those that bless—
Silent rivers of happiness,
Whose hidden fountains but few may guess.

Beautiful twilight, at set of sun;
Beautiful goal, with race well won;
Beautiful rest, with work well done.

Beautiful grave, where grasses creep,
Where brown leaves fall, where drifts lie deep
Over wornout hands—O beautiful sleep!
—Anon.

### THE COLDEST PLACE

**By Clara Peterson**

IT was too bad that the apple tree belonged to Miss Sarah Lizard who owned the sandy hill that sloped down to the beach. The apple tree stood, straight and wide and beautiful, in the center of the slope, and near its roots Miss Lizard had a little house of sand. It didn't cost her much to live for she was very fond of the flies and bugs that buzzed all around. Of course she never once thought of eating one of the big red apples on the tree and in spring she never even used the apple blossoms for her table.

But in the rabbit nest next door were two little bunnies who wished and wished that that apple tree belonged to them. Their folks were poor and often had to spend all day pulling weeds for Farmer Peacock down the road so the two bunnies were alone many times.

The baby bunny's name was Ruthie. She was snowy white but her eyes were pink and her tiny tail was black. Robert, her brother, was bigger and his fur was a lovely golden brown. Often he sat beside his baby sister in the long grass and wished and wished and wished that the apple tree belonged to him for then Ruthie might have something she really liked to eat. Then he would stop wishing and scurry through the grass until he found a delicious clover for Ruthie. To tell the truth, both bunnies were quite thin and hungry all the time for there weren't many clovers and the grass was very tough.

"I think I'll go into the nest and sleep till muvver comes," said Ruthie one cool afternoon when she had watched the apple tree so long that she was very hungry, and away she hopped.

Robert hopped to the edge of the grass and cocked his head as he looked down toward the tree for thump, thump, thump the apples were falling on the sand, round and red and ripe and juicy.

"Oh, dear!" sighed Robert.

And then something happened. Miss Sarah Lizard came running up from the beach. She was waving her little front paws and moaning. Now and then she wiped her eyes with her small black apron.

"He's lost! He's lost! I'll never find him—never, never, never!" she said over and over again.

She held her apron to her eyes and hurried on until she bumped straight into Robert who was so busy watching her that he had taken two hops forward and was sitting on the sand.

"Oh!" screamed Miss Lizard, looking up at him. You see she had never been so close to a rabbit before and he looked at least as large as an elephant.

"Ex—excuse me," mumbled Robert, backing away. "Maybe I can help you find him—whoever he is."

Miss Lizard began to moan again.

"He's lost—entirely lost! It's my little nephew, Christopher Lizard. He is spending the day with me and he has such a cold that I wasn't to let him out of the house at all. We both took a nap in the sun and he got up first and ran away. Oh, oh, oh!"

"I'll scamper everywhere and look," said Robert, and off he went. Miss Lizard searched sadly through some of the long grass and then she went back and sat down on her little porch and cried.

It must have been half an hour later that she heard Robert talking.

"Hurry along, now, please, Mr. Lizard. Your aunt is worried. Now, now, don't try to get away. I'm watching you!"

And there out upon the sand crawled little Christopher Lizard with Robert hopping slowly behind him.

"You good, good rabbit!" cried Miss Lizard hugging her nephew who looked very sulky indeed. "Where did you find him?"

"Lying in the dark mud under a snowball bush," said Robert Rabbitt.

"Under a snowball bush! screamed Miss Lizard. "Why that's the coldest place in the world—and you with such a cold! You might have died, Christopher! You know your mother told you to keep in the sun every minute you weren't in the house."

"I'm tired of being melting hot all the time," grumbled Christopher, and he crawled into the little sand house and began to munch a fly sandwich.

Miss Lizard put down her apron and began to smile.

"My, I was worried, Mr. Rabbit! Thank you so much. I do wish I had something to give you. We had a delicious mosquito pie for dinner but it is gone—Christopher did love it!"

Just then the biggest apple on the tree fell off "kerthump" and rolled up beside Robert's foot. He just couldn't help bending over and smelling it, for oh, how sweet it was!

Robert must have looked very hungry for Miss Lizard said, "I don't suppose—that is, you don't like these funny hard apples do you?"

Then Robert told her that he and his baby sister and his mother and his father liked apples the very best of anything.

Everybody was happy after that for Miss Lizard was glad indeed to have the bunnies take all of the bothersome red apples out of her yard and you should have seen Ruthie sitting in the sun and munching, munching, munching until her little stomach was full!

### HINTS FROM HOUSEKEEPERS

**Some Good Recipes**

I have received your answer about the pectin and also the Cultivator for June 17. You don't know how I appreciate your kindness and in turn I am giving you a few recipes which are excellent and that I have never seen in the Cultivator. With the heartiest thanks to you for your answer I remain a Merced Subscriber, and a fond reader of the Cultivator.

Egg Plant—Peel and slice, putting into cold water about half hour. Slice 2 or 3 onions fine and put in saucepan with 3 or 4 spoons of butter or fat and brown slightly. Then add 1½ tablespoons flour and 2 cups bouillon or meat stock. Put in egg plant slices and cook 20 or 25 minutes. Peel 3 or 4 large tomatoes and add, cooking all until done. Just before serving beat 2 eggs, add to boiling sauce and boil 2 minutes. This is Italian style.

Tongue Ragout.—One small beef or 4 calves tongues. Scrape clean, cover with boiling water, add salt and soup greens. Bring slowly to boil and simmer till thoroughly tender. Remove scum while cooking. Take off skin and slice. Melt in sauce pan ¼ pound butter, add two small onions chopped fine and brown with 3 tablespoons flour, Add enough of the liquor from the tongue to thicken. Add 3 slices of lemon, pepper and vinegar to taste, 1 cup chopped sweet or sour pickles and 1 small can French mushrooms if liked. 1 teaspoon browned sugar gives a fine color. Boil all together 10 to 12 minutes. This tastes very good with dumplings of any kind.

Beef Kidney Italian Style.—Cut beef kidney in two lengthwise, re-

## The Cultivator Patterns

**4080. Misses' Dress.**—Cut in 3 sizes: 16, 18 and 20 years. An 18 year size requires 6⅜ yards of 32 inch material. The width of the skirt at the foot is about 2¼ yards. Price 10 cents.

**4085. Girls' Dress.**—Cut in 4 sizes: 8, 10, 12 and 14 years. A 10 year size requires 4¼ yards of 32 inch material. Price 10 cents.

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**4091. Girls' Dress.**—Cut in 4 sizes: 2, 4, 6 and 8 years. A 2 year size requires 1½ yards of 32 inch material. Price 10 cents.

**4097. Ladies' Dress.**—Cut in 6 sizes: 36, 38, 40, 42, 44 and 46 inches bust measure. A medium size requires 5¼ yards of 32 inch material. To make underbody, sleeve facings, and vest portions of plain material as illustrated 1¼ yard 40 inches wide will be required. The width of the skirt at the foot is 2⅝ yards. Price 10 cents.

**4088. Girls' Dress.**—Cut in 4 sizes: 6, 8, 10 and 12 years. A 10 year size requires 2⅛ yards for the guimpe and 2¼ yards for the dress of 32 inch material. Price 10 cents.

**4099. Sleeveless "Cover All" Apron.**—Cut in 4 sizes: Small, 34-36; medium, 38-40; large, 42-44; extra large, 46-48 inches bust measure. A medium size requires 4½ yards of 32 inch material. Price 10 cents.

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**PRICE OF ANY OF THE ABOVE PATTERNS 10 CENTS EACH**

**HOW TO ORDER PATTERNS**

Write your name and address plainly in full, give correct number and size of each pattern you want, and send 10 cents in coin or (1 or 2 cent) stamps for each number. In order to furnish our readers with the very best NEW YORK styles, all patterns ordered are filled in NEW YORK. Do not expect patterns under **Two Weeks** from date of order.

**CATALOGUE NOTICE**

Send 12c in silver or stamps for our Up To Date Fall and Winter 1922 Catalogue. This is even better than the Spring and Summer number. It will have 8 colored plates,, the same as the last catalogue, but a great many of the other pages will be arranged in plate form, so that the Fall and Winter Catalogue will be more like a fashion book than a pattern catalogue.. It will also include points for the needle and hints for the home dressmaker.

**PATTERN DEPARTMENT**
**California Cultivator Los Angeles**

moving fat. Cut in small pieces. Melt in saucepan 1½ tablespoons butter, and 1½ tablespoons chopped onions, 1 clove, garlic and brown slightly. Put in kidneys and brown about 5 minutes. Add one cup water, 1 cup tomato, ½ teaspoon salt, little paprika. Stir well several times and let boil 30 to 35 minutes then put in 2 tablespoons chopped green pepper, 1 tablespoon lemon juice. Serve on large platter with boiled rice around it.

### Watermelon Marmalade and Preserves

Noting request for ways of preserving watermelon in Cultivator of August 26 a reader sends in these recipes:

Watermelon Marmalade—Heart of 1 large ripe watermelon, cut into small squares, minus seeds and strings. Allow 2 lemons and ¾ pound sugar to each pound fruit. Cut lemons in slices and cook sugar, fruit and lemon together until syrup thickens. Crystallized ginger and walnuts added before removing from fire changes this into conserve.

Watermelon Meat Preserves—To 1 pound fruit use ¾ pound sugar. Select melons not too ripe and use only the heart. Take fruit and half of sugar and set over slow fire until fruit is saturated with sugar. Remove fruit and set in sun. Add other half of sugar to the syrup in the kettle and cook till a thick syrup. Put in fruit and allow to come to slow boil. Remove and put in jar. Cook syrup a few minutes longer and then pour over the fruit.

### The Last Fierce Charge

Mrs. John A. Gibson of Ukiah sends words to "The Last Fierce Charge." This she suggests may be poem requested by Elverta subscriber in recent Cultivator.

THE LAST FIERCE CHARGE

'Twas just before the last fierce charge,
Two soldiers drew their rein,
With a parting look and a shake of hands,
They ne'er might meet again.
One had blue eyes and curly hair—
Nineteen but a month ago,
He had red on his cheek, and down on his chin,
He was only a boy, you know.

The other was tall, dark, stern, and proud,
Whose faith in life was dim,
They only trusted the more to him,
He was all the world to them.
They had ridden together on many a raid,
And marched for many a mile,
And now together once more they meet,
With a calm and hopeful smile.

Just then they faced each other,
With a fearful ghastly gloom,
The tall dark man was the first to speak,
"Say, Charlie, my hour has come,
Together we'll ride up yonder hill,
And if you ride back alone—
You will promise to me little trouble to bring,
When you find that I am gone.

I have a fair face on my breast,
I will wear it into the fight—
With a sunny curl, and a bright blue eye,
It's like the morning light.
And I tell you, boy, it's dear to me,
It gladdens a lonely life,
But little she thought of the form of death,
When she promised to be my wife.

Write to her, Charlie, when I am gone,
Send back that fair fond face—
Tell her gently where I died,
And where's my resting place.
Tell her my soul will wait for her,
In the border land between
Heaven and earth until she comes,
It will not be long—it seems."

Tears dimmed the eyes of the blue-eyed boy,
And his heart was low with pain,
I will do your bidding, comrade, dear,
If I return again, but if I should fall
And you should return,
You will do the same for me,
For I have a mother that's waiting at home—
Write to her tenderly.

My mother she lost them one and all,
Her husband and her sons,
And now my country has called on me,
She kissed me and cheered me on.
She is waiting at home like a weeping saint,
Her face all covered with woe,
Her heart will break when I am gone,
I will see her soon I know.

Just then the order was given to march,
For an instant, hand touched hand,
Answered they, and on they rushed,
That brave and gallant band.
They rode till they came to the crest of the hill,
Where the enemy's shot and shell
Poured drifts of death among their ranks,
And jeered them as they fell.

Just then they turned with a horrible yell,
For the heights they could not gain—
And all that doom and death has spared,
Marched slowly back again.
But among the dead that was left behind,
Was the boy with the curly hair,


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MONTGOMERY WARD & CO.
Fall & Winter 1922-23

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And the stern, dark man that rode by his side,
Lay dead beside him there.

There is no one to write to that blue-eyed girl
Those fond words her lover said,
Or the mother at home that's waiting her son,
Little knows that he is dead,
And little they know of the last kind words,
Those words to soften their pain,
Until they cross the dark river of death,
And stand by their sides again.

### Good Cooked Frosting

Here is the best frosting recipe I have ever tried:

Put 1 cup sugar and ½ cup water in saucepan, stir until dissolved, bring to boiling point and wash down sides of saucepan with a piece of cheesecloth or a pastry brush dipped in cold water. Beat 1 egg white until light, add slowly a spoonful of the boiling syrup, beating constantly. Slowly add three more tablespoons of the syrup and continue beating, allowing the syrup that remains in the saucepan to boil until it spins a long thread. To make this test, remove saucepan from the fire, dip a spoon in syrup, being careful not to stir it, lift it from the syrup and allow syrup to drop slowly from the spoon. If a thread is formed ten or twelve inches long the syrup is cooked sufficiently and should be removed from the fire. If it does not spin a thread it should be returned to the fire and frequently tested until the right consistency is reached. With a thermometer the temperature should rgister 240 degrees Fahrenheit. When syrup is ready it should be added in a fine, steady stream to the egg mixture while beating, and then ½ teaspoon vanilla or other flavoring as preferred may be added. The frosting should be beaten constantly until almost stiff enough to hold its shape. It is more easily made by two people than by one alone. If, when cool, frosting is too thin to spread, the dish containing it may be placed over hot water. Fold frosting gently over and over until it becomes stiff enough to hold its shape or begins to get sugary on the sides of the bowl. Then pour on the cake, smoothing with back of spoon or leaving rough.

## HOUSEHOLD QUERIES

### "Cowboy's Prayer"

Will you please publish Badger Clark's "Cowboy's Prayer" in the Cultivator? Can you tell us where this was published recently?—Subscriber, Santa Paula.

The "Cowboy's Prayer" possibly identical with "The Dying Cowboy," "The Cowboy's Lament," etc., was published in several versions on Pages 328 and 329 of the California Cultivator of March 25, 1922, copy of which is mailed the Santa Paula subscriber. Many of these cowboy songs and verses have been collected by Prof. John A. Lomax of the University of Texas and published under the title "Camp Fire and Trail Ballads" by Sturgis and Walton Co. Prof. Lomax during this year's summer session at our state university at Berkeley lectured on Cowboy Songs, Cowboy Verse and Negro Spirituals as was noted on Page 11 of the Cultivator of July 1.

### Green Tomato Mincemeat

I haven't seen in the Cultivator a recipe for green tomato mincemeat. Would it be asking too much to make such a request?—Subscriber, Montebello.

Six dozen medium size tomatoes chopped medium fine. Let stand a few hours, draw off juice and add as much water as juice, add 5 pounds light brown sugar (or half brown and half white if preferred), 2 pounds chopped raisins. Cook all slowly until tender. Add 2 tablespoons each of cinnamon, salt, cloves and allspice, 1 cup vinegar and boil until thick. Stir constantly. Lastly pare 6 large sour apples, core and chop, cook and when done add to the first part and mix thoroughly, then seal while hot in glass jars. This is nice mince meat and can be used for fruit cake, plum pudding and pies. Add butter if used for pies. Will keep indefinitely. When opening jars for use one can add more apples and raisins if desired.

### Quince Honey

Will you kindly print directions for making quince honey?—Subscriber, Windsor.

Make a syrup of 3 pounds granulated sugar and 1 pint water. Grate or put through food chopper 3 large quinces and stir them into the boiling syrup. Let boil 15 minutes. Pour into jelly glasses. This will make 7 glasses of delicious honey.

Another: Boil 10 cups sugar and 3 cups water together. Pare 4 large quinces, and grate. Skim the syrup, add the quinces and boil 10 minutes. Bottle and seal. This is very good and is very much like real honey.

### Good Meat Substitutes

Will you please print some good meat substitutes for this hot weather? —Subscriber, Riverside.

Egg and Potato Dish—In a baking dish arrange alternate layers of cold potatoes and hard cooked eggs cut in quarter inch slices. Sprinkle with salt and pepper and nearly cover with white sauce. Grated cheese may be sprinkled over each layer. Cover with toasted crumbs and bake until thoroughly heated.

Pea or Bean Souffle—One cup of pea or bean pulp, one-third cup bread crumbs, one-eighth teaspoon pepper,, 3 eggs, white sauce (½ cup milk), ½ teaspoon salt. Make sauce, add crumbs, pulp and beaten yolks. Fold in beaten whites. Bake until firm in a moderate oven.

Scalloped Olives and Potatoes

Three tablespoons butter or bacon fat, 3 tablespoons flour, 1½ cups milk, ½ cup chopped cheese, 4 cups cold diced potatoes, ½ cup chopped green pepper, ½ cup minced ripe olives, ¼ cup buttered bread crumbs, seasonings.

Melt fat in saucepan, add flour and stir until smooth. Add milk gradually, stirring constantly. When thickened add cheese and seasonings. Cook slowly until cheese is melted. Put a layer of potatoes into a buttered baking dish, then a layer of peppers and olives. Repeat. Pour the sauce over the top, cover with buttered crumbs and bake in a moderate oven 20 minutes.

Scalloped Olives and Potatoes

Two cups canned corn, 2 cups finely diced celery, ½ cup minced ripe olives, ½ cup milk, ¼ cup buttered bread crumbs, 2 tablespoons butter, 1 teaspoon salt, ½ teaspoon pepper.

Put the corn, cooked celery and olives in alternate layers into a buttered baking dish. Add seasonings, butter and milk. Cover with buttered crumbs and bake in a moderate oven 30 minutes.

Mock Oysters

One cup chopped nut meats, 1 cup boiled rice, 4 parsnips, 4 tablespoons flour, 2 eggs, 1 teaspoon salt.

Boil parsnips until tender; force through a coarse sieve and add the well beaten eggs. Mix nut meats, rice and seasonings. Combine the two mixtures. Drop by tablespoons in hot olive oil and saute until brown. Serve with ripe olive and tomato sauce.

### A BIFURCATED HONEYMOON

"Honey," said the colored suitor, "when we gits married you ain't gwine to give up dat good job you has workin' for de white folks, is you?"

"But ain't we gwine to have no honeymoon an' take a trip on de train somewhere?"

"One of us might go, honey. Dey ain't a thing holdin' me, but you's go 'sponsibilities." — Birmingham Age-Herald.

### HOUSE RATS AND MICE

The California department of agriculture calls attention to the following authoritative summary of rodent damage in the United States.

"House rats, the most destructive mammal pest in the world, each year destroy food and other products in field, granary, warehouse, store and home to the extent of more than $200,000,000, a sum equalling the economic output of 200,000 men working continuously. In addition to destruction of food products, poultry and other agricultural property, these pests are carriers of bubonic and pneumonic plague and other diseases communicable to man, and carriers of trichinosis, a parasite of swine; and since rats and mice may contract avian tuberculosis, both may have an influence on the spread of this infectious disease among domestic poultry." Information on approved methods of rat and mouse extermination may be had by addressing the Bureau of Pest Control, California Department of Agriculture, Sacramento.

### "STOP RAPIDLY"

W. D. Ashbaugh of Bucyrus, Ohio, has received from his brother now in Tokio, Japan, a card of rules governing automobile traffic in Japan. The card says:

"At the rise of the hand of policeman, stop rapidly. Do not pass him by or otherwise dirupt him.

"When a passenger of the foot hove in sight, tootle the horn trumpet to him melodiously at first. If he still obstacles your passage, tootle him with vigor and express by word of mouth the warning, 'Hi! Hi!'

"Beware of the wandering horse that he shall not take fright as you pass him. Do not explode the exhaust at him. Go soothingly by, or stop by the roadside till he pass away.

"Go soothing on the grease-mud, as there lurks the skid demon. Press the break of the foot as you roll round the corners to save the collapse and tieup."

### CAUSE OF RIMING

"If you're waking call me early; call me early, mother dear."
A request like that from daughter seemed so strange, unique and queer
That a poet, overhearing, wrote a long, sonorous rime
That'll thunder down the ages till the very end of time.
—Country Gentleman.

Maybe that hill is not there, after all—

VERY often the hill we seem to be climbing is made out of the common mistakes of diet which starve tissues and nerves and slow down energies.

How smooth and level the path seemed to be when we were younger.

Simple, natural food may level that hill to a smooth path again.

Why not try it?

Begin today with a dish of Grape-Nuts with cream or milk—and fresh or preserved fruit added if you like.

Keep on with this crisp, delicious, strengthening food in place of heavy, ill-assorted, starchy breakfasts and lunches—and see if the old-time zest and speed on the old-time level path doesn't come back again.

Grape-Nuts —THE BODY BUILDER

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Made by Postum Cereal Company, Inc., Battle Creek, Michigan

New Lamp Burns 94% Air
Beats Electric or Gas

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal-oil).

The inventor, W. V. Johnson, 31 N. Fifth St., Portland, Ore., is offering to send a a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help him introduce it. Write him today for full particulars. Also ask him to explain how you can get the agency, and without experience or money make $250 to $500 per month.

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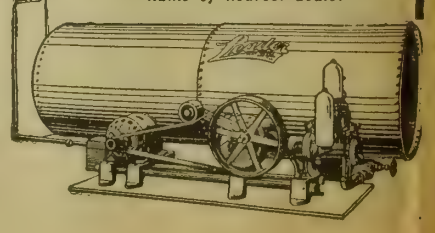

# Comparative Prosperity of the California Farmer

By A. L. Spellmeyer

CENTRALIZATION has been carried to an extreme in the East and Middle West, and decentralization is comparatively prevalent in California production. The comparatively great prosperity of the California farmer, stockman, rancher and business man at this time of depression must have a cause. That cause is not explained by saying that a great multitude of people are rushing to California and therefore make prosperity. Rather, the people are coming here in multitudes because we are prosperous in comparison to other districts.

We have our small men, our narrow minded swinish profiteers, and our selfish manipulators, but there are few men among our worst that refuse to accept and back some project for the general good of the state or locality. Our banks only a few years ago were generally accused of being pawnbrokers and "small town," but in a few years our local banking methods have broadened, and today vital basic problems such as livestock and farm financing are being gingerly probed and sampled by our bankers as a prelude to a general constructive effort of help in a large way. This alone acclaims that our California banks have reached a growth and cosmopolitan stage and may outstrip any known financial policy in the end.

In our comparative western prosperity in California we must give due credit to the general cooperative and progressive tendency of our producers and the great established fruit industries, such as the citrus, raisin, walnut and others which have taught us that lesson and taught our banks and our middle marketers that in these organized industries they can go so far and no farther. It has brought home a further lesson of restraint in all attempts at a middle market control, for the surest thing here in California to force organization is to sand bag and milk some special line of production, for if so mistreated cooperative organization is certain to develop.

As to decentralization, it is general in California even though our cities are growing at a remarkable rate.

The citrus people do not operate a great central plant, but hundreds of local packing houses in the fruit districts. The raisin people put their factories in the heart of the fruit districts instead of in the heart of the cities. This is further shown in the scattered meat killing industry, in cotton ginning, etc. Our distances here have to some extent prevented centralization. Our factories are spread out in various lines over a whole state, not in a few congested districts. Cement is made in country plants, meat is killed and marketed in San Diego, San Bernardino, Ramona and Anaheim, and country districts throughout the state. Tractors are made in Stockton, matches in Chico, and our scattered manufacture is through the length of the long state of this Union.

Even our banks have reached out in many branches, furnishing a grasp of possible money volume that can only be furnished by great city banks, while country districts and country products. This scattering of effort, in our midst, oil production and manufacturing is already existing as fact in California, and that may explain our comparative prosperity.

With the wonderful advantages we have, all is not perfect, and we cannot lie down, we must continue the effort to further the comparative freedom that producing industry has here. In Southern California at the presnt time the main effort is concentrated upon stimulating the Southwest livestock industry, for that has been the best organized and protected of all the producing industries, the hardest hit and it has been shown to be the direct cause of much loss to our ordinary small farmer. The entire state must not concentrate on fruit or raisins or cotton, and with the great growing world demand it has become necessary to stimulate livestock production for our needs, for general small farm existence and for by-product manufacturing.

Methods that some of our local middle marketers of meat attempt, are pirateering, but our worst are not as bad as some of the best in the more centralized states, as to applied methods towards livestock production. The very fact that a sensitive spot exists in the hides of some of these local killers as to what is fair to producers shows there is a hope for reform. The behemoth of ancient days has a paper thin hide as campared to some of the Eastern manipulators of the business.

About 30 miles south of Los Angeles is a killing firm that operates some 42 shops successfully, and there is a lesson in this success for every rancher or farmer at California that must depend partially upon livestock price for income return (and this when it is broadly considered means most of agricultural effort of this state,) in shortening the road between producer and consumer.

I remember this firm killing its picked-up few head at a local packing house on commission. Later it put in a little killing plant near Los Angeles as the business was getting too much for the packing house to like it and cost too much to do the work for the owner to like it. The business branched out and a greater abattoir resulted in that place 30 miles from the city, but there was a lot of competition and the road became rather rough. Then the owner, now older, bought a few retail shops, and then a few more, and now he is riding easily, and doing well, with a stable kill volume and a string of shops.

Professor Christie of Purdue University, of Indiana, recently visited us and called our attention to certain needed reforms in methods and marketing of Western livestock. It takes a stranger to size things up, and we could in many ways here in California return the excellent criticism of Professor Christie, with a possible criticism of Indiana as made by a party who just returned from a visit to the Lafayette district.

We are told that eggs are 15 cents a dozen there now, oats 24 cents a bushel and corn, 39c. Stacks of hay are abundant and money is scarce. A particular lot of weanling Shorthorn calves was offered for sale a few weeks ago and they were good one, 400 pounds and in fine shape, and the best offer drawn for them was $10 per head.

As this Indiana visitor stated on his return this week, the people in California don't even know what hard times are for those Indiana folks who bought farms on time have to let them go, and the man is fortunate who can pay his taxes. He states on many farms the peak of accomplishment is to be able to gather from any possible sources enough money to meet the taxes and maintain existence, right now.

Comparatively therefore, California is far better off than Indiana, and if Purdue University will assimilate through Professor Christie the lesson in California cooperative food organization among producers, Indiana will benefit, and if we absorb reforms in raising and marketing livestock that Professor Christie advocates, we will likewise benefit.

You can write Montana and Wyoming for an appraisal on some property there and you get the answer that it's worth $30,000 or some specific sum, but we couldn't loan anything on it as we haven't any money up here. You can hear men say there is not a single cowman in New Mexico who has not been very badly injured in his finances. A bank examiner from Texas is reported to have taken a vacation rather than keep looking into the old story of farm and livestock troubles, but plenty of rain and no boll weevil will change the Texas condition rapidly.

Comparatively California is prosperous, and we cannot look into the future with any dire forebodings. We have good reason to hope for an increase of prosperity in our livestock production and general farming. Many of the Eastern storms pass us by, and the fact this state enjoys a great growth and healthy activity is because a part of our production actually receives the profit it earns, and the rest of our production has a hope of soon participating.

---

A sharp answer turneth away business.

# Livestock News Notes

## LIVESTOCK SALE CALENDAR

**Holsteins**

September 21, Dispersal, E. Maracini, Dos Palos.

September 28, Dispersal, Carl Ray, Lankershim.

October 26,, Draft C. W. Anderson, Burbank.

November 16, Dispersal, Arthur & Maxfield Holstein Co., Hanford.

---

Leda Pietertje Spofford Walker, owned by Charles Harrington, Compton, has completed a record of 887.96 pounds butter from 18,132.2 pounds milk in 365 days. She is sired by Prince Riverside Walker, the great old proven son of Aaggie Acme of Riverside, owned by W. J. Higdon. This record was made as a senior three year old.

---

At the present time there are sixty-nine cows of all breeds in California that have made 305 or 365 day records above 800 pounds of butterfat. Of these sixty-seven are registered Holsteins. One cow of each of two other breeds has made over 800 pounds of butterfat in one year. Three first calf registered heifers in California have each made over 800 pounds butterfat in one year.

---

Chas. E. Walker, the Tucson banker who has been active in war finance loans, was in Monday and reports Southern Arizona has both good grass and good feeder cattle, but few beef steers in the entire district.

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During the absence of President Le Baron Vice-President Wing is acting as head of the club. He has appointed F. E. Howard of Santa Rosa, head of the bureau of educational work, which will arrange for the showing of Ayrshire films and stereopticon slides throughout California. Any farm bureau center, agricultural club or class may obtain the films without charge by writing Mr. Howard. In order to save time and transportation charges the films will be routed.

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The Ayrshires formerly owned by A. D. Silver, Atlas Way Route, Napa, have been purchased by Arnold Cremonini of the same address.

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E. Wyndham of Redding had the state leader for the month of April, 1922, in his cow Tanglewood Queen 4th, with a production of 1,477.7 pounds milk, 58.22 pounds fat.

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## CALIFORNIA AYRSHIRE RECORDS

| | | Milk, lbs. | Fat, lbs. |
|---|---|---|---|
| Lucy of Elkhorn. | 2-2-1/2 | 12,025 | 544.48 |
| Polly Puss 3d..... | Mature | 16,684 | 701.92 |
| Willowmoor Miss Mac ..... | 4-1/2-5 | 12,706 | 501.40 |
| Willowmoor Vesta 4th ..... ..... | 4-4-1/2 | 17,775 | 753.18 |
| Willowmoor Jean Douglas 1st .... | 3-1/2-4 | 6,860 | 241.67 |
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These are the leaders in the various classes of the advanced registry for California. Mr. Breeder, do your cows have authenticated records? If not, why not find out what they will do by putting them on official test? None of our records are as high for the different classes as they should be. Let's find out what every registered Ayrshire cow in California can do in the way of production. There is no reason why the records for the breed should not come to the Pacific Coast the same as the records for other breeds have. There is going to be a demand this fall for Ayrshire bulls out of dams with advanced registry records of 400 pounds butterfat or better. These records must be verified. If you have such bulls for sale, please list them with the Secretary, California Ayrshire Club, La Honda.


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A government accredited herd. No reactor in 16 years. A herd whose record in the show and sale ring is only surpassed by the esteem accorded its productions by cattlemen. We can furnish bulls or females to fill any need—and at sound prices. Visit our herd or write for information.

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The foundation of this herd came from the noted Gov. Packard herd in Arizona, a herd composed of the breed's most famous blood lines.

Most of the bulls in the offering are rugged, range raised fellows, ready for heavy range service.

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# San Joaquin County Fair

By Jack Klein

THE third fair at Stockton, under the management of the new and wide-awake board far surpasses anything that has ever been attempted in that county before. San Joaquin County has spent a lot of money equipping its fair grounds, and the buildings are by far the best in the state. The big agricultural and horticultural building is crowded and the new poultry building is barely sufficient to house the exhibits. The livestock barns are overflowing into temporary quarters between them.

Great interest is being taken in the fair, and from an attendance standpoint it ranks with district rather than with county shows.

The big exhibit of tractors and farm fachinery is the mecca of a great many visitors from this fertile section, which is on the verge of another great year of fruit and grape harvest.

Being close to Sacramento and just before the big fair there, the Stockton show has drawn a number of herds of the different breeds from as far south as Los Angeles.

In the dairy breeds it is a close race between the Holsteins and Jerseys as far as numbers go. The Polands are of course most numerous of the hogs. A considerable number of sheepmen are present with representative flocks, and the competition has been close in a number of breeds.

The Berkshire hogs are represented only by the fine show herd from A. B. Humphrey's Grape Wild Farm at Escalon. Many well known individuals are in the herd, but the boar, Escalon Big Joe, was too good to be headed for senior and grand champion. Grapewild Leader 15 was junior. In the sows Escalon Artful Princess was senior and grand champion, with Escalon Royal Lady 13, junior.

Honors in the Durocs were divided between the Western Laboratories of Stockton and Jim Thorp of Lockeford. Thorp won all the championships.

Hayes and Harter of Grants Pass, Oregon, showed the only Hampshires, and Dr. Summerfield's Tamworths were the lone herd.

In the Polands the two big herds shown by A. Buckland & Son of Fresno and the Tagus Ranch of Tulare, fought a battle royal with the herd of Beckman & Sons of Lodi cutting in occasionally. Giant Prospect, shown by Buckland, was senior and grand champion boar, and the Tagus Ranch showed an unnamed boar for junior. Willows Lady, a senior yearling, won the senior and grand championship for Tagus and Miss Orange Bob 6 from the same herd was junior.

In the fat barrow classes Western Laboratory was first, Humphrey, second, and Summerfield third in pens. Tagus won champion barrow.

The hogs were judged by E. L. Potter, of the Oregon agricultural college.

Fred Wilson, of Reno, Nevada, judged sheep.

Judge H. A. Lindgren, also of O. A. C., was confronted by large classes in the dairy breeds, but was generally satisfactory in his placing.

The Le Baron herd of Ayrshires from Valley Ford and the herd from the H. G. ranch in Santa Barbara County, were both large ones, and a dozen aged cows faced the judge. The H. G. animals were of excellent type and well fitted and shown, so were usually victorious. The Gantz ranch took all championships.

The Guernsey herd from the Humphrey ranch was alone and competition was between the animals of the herd. Nobleman of Maple Hill, looking better than ever, repeated his former success. Mayhew's Bonnie Lass was senior and grand champion cow.

The Jersey showing was a battle with four herds competing. Waterloo Jersey Farm won junior and grand champion cow with Violets Grace Derriem of L. and Junior with Financial Countess Foxalo, Romulus Interest, belonging to W. J. Hackett, was senior and grand champion bull and Thorp's Biddy's King of Mossdale was junior. Tom Harrison had the Dairy Shorthorn showing all to himself.

About 90 per cent of the Holstein ribbons went to the South, being split up between the show herds from the Hartsook and Berylwood ranches. They were opposed by R. M. Stevens of Modesto, Salfield & Biggs of Escalon, and Edwards Brothers of Escalon, but without avail.

The great young bull, Prince Aaggie of Berylwood, who is by the way, backed up by the highest average yearly records for his seven nearest dams of any bull in service in the world, was junior and grand champion, beating some wonderful bulls for the honors. Major Korndyke Pontiac Fobes, owned by Hartsook, was senior champion.

Hartsook's cow, Ava Model Hengerveld, was senior and grand champion, and his junior yearling, Lily Tirtomia Pietertje Ormsby, was junior champion.

The awards in the Holstein's were:

Aged Bulls—1, Hartsook on Major Korndyke Pontiac Fobes; 2, Edwards on Sir Toyon Model Hartog.

Senior Yearling—1, Berylwood on Prince Aaggie of Berylwood; 2, Berylwood Fobes Korndyke; 3, Edwards on Prince Aralia Ignaro Walker.

Junior Yearling—1, Hartsook on Tritomia Pansy Ormsby; 2, Berylwood on Prince Alcartra Walker Segis; 3, Edwards on Model Korndyke Clyde Hartog; 4, Stevens on King Ormsby Segis Prilly.

Senior Calf—1, Berylwood on Count Alcartra Veeman; 2, Hartsook on King Artis Segis Pontiac; 3, Stevens on Sir Raphaella Woodcrest Prilly; 4, Edwards on Model Korndyke De Kol Hartog.

Junior Calf—Hartsook on unnamed calf; 2, Hartsook on Meadhart Aaggie Mead 7; 3, Hartsook on Meadhart Aaggie Mead 6; 4 Salfield & Biggs on Live Oak Alcartra Pontiac.

Aged Cow—1, Hartsook on Ava Model Hengerveld; 2, Berylwood on Korndyke Canary Bightest; 3, Hartsook, Colantha Creamelle Illa Korndyke; 4, Berylwood Fay Tritomia Hengerveld Walker.

Two year old—1, Hartsook Wadnah Ormsby Skylark; 2 and 3, Berylwood Holland Pietertje Fobes and Lida De Kol Ormsby Hartog; 4, Edwards Gladys Nudine Hengerveld.

Senior yearling—1 and 2, Hartsook Cornucopia Paul Segis Fayne and Ragapple Tritomia Ormsby Segis; 3 and 4, Berylwood De Kol Sunshine Creamelle and De Kol Creamelle Sunshine.

Junior yearlings—1, Hartsook, Lily Tritomia Pietertje Ormsby; 2, Baird Snodgrass Pearl Aaggie Hengerveld Segis; 3, Hartsook Caroline Wayne Fayne; 4, Edwards Detry Hengerveld Hartog.

Senior Calf—1, Berylwood Miss Aero Osuma; 2 and 3, Hartsook Meadhart Mary and Meadhart Pietje; 4, Berylwood Lady Ononis Segis.

Junior calf—1, 2, Hartsook Jacoba Pontiac, Meadhart Eva Bona; 3, Berylwood Pieba of Berylwood; 4, Hartsook Meadhart Tuebic Segis.

Aged herd—1, Hartsook; 2, Edwards.

Young herd—1, Hartsook.

Calf herd—1, 2, Hartsook; 3, Edwards; 4, Salfield & Biggs.

Get of Sire—1, Hartsook, Get of Tritomia Pietertje Ormsby; 2, Berylwood, Get of Pearl King Segis Pontiac; 3, Hartsook, Get of Hazlewood Finderne Fayne; 4, Edwards, Get of Model Korndyke De Kol Hartog.

Produce of Dam—1, Hartsook, Produce of K. S. and Lily McKinley; 2-3, Berylwood, Produce of Fay Tritomia Hengerveld Walker and Miss Bracelet Fobes Korndyke; 4, Edwards, Produce of Gladys Nudine Hengerveld.

Book Review

## BUTTER MAKING

"Principles and Practice of Buttermaking" by G. L. McKay, Dr. S. C., formerly professor of dairying state college, Iowa, and C. Larsen, M. S. A., professor dairy husbandry, South Dakota, published by John Wiley and Sons, New York, $3 post paid.

"The art of butter-making in some form dates back to time immemorial. History tells us that butter is one of the oldest, as well as one of the most universal, articles of diet. We are told it was used in some form two thousand years before the birth of Christ. References are made to it in early Biblical and other ancient history. We read, in Genesis, that when Abraham was visited by Angels, who appeared in the form of men, 'he took butter and milk and the calf which he had dressed and set it before them.' The word 'butter' is mentioned in the Bible seven times. It is known that the Scythians and Greeks used butter in 450 B. C." are the opening words of the first chapter. A number of other most interesting facts as to history of buttermaking are given. There then follow 25 chapters and appendix touching upon composition of milk and its various properties, milk secretion, milk and its products, ferments, variation, commercial handling of milk, composite samples, creamery calculation, separation, farm separators, neutralization and pasteurization, cream ripening and starters, churning and washing, salting and working, preparing for market, composition of butter defects, judging and grading, cold storage, cooling facilities and economic operation of creameries. There are over 400 pages in the book printed on excellent paper. It has many illustrations and is a book which every butter maker should have in his library. The information contained in the book is made available by a most complete index covering nearly a dozen pages.

Cattle were the first money. The Roman word for money, pecuniam, is derived from pecus, meaning cattle.—Wells' Outline of History.


**Blackleg**

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produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

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Herd Headed by the King of Hollow Hill
BERKSHIRE HOGS
Stock of Both Breeds For Sale
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Three Miles From Downey on Downey-Long Beach Boulevard

## ACCURATE LIVESTOCK REPORTS PLANNED

It pays to kick, sometimes, as livestock men are finding out, and we can conclude that the recipient of many kicks in the last few years, Leon M. Estabrook of the department of agriculture, is a well intentioned party. E. E. Kauffman of California isn't so slow in statistical governmental work himself, and such men as Alonzo Egbert Taylor and other noted economists happen to reside in sunny California. Mr. Estabrook and Mr. Kauffman had recognized the limitation of the government guess methods and lack of classification in livestock numbers, and Mr. Kauffman's census and work since 1920 has shown a considerable ability in attempting more accurate reports for this state.

Now Mr. Estabrook is associate chief of the new department at Washington, the bureau of agricultural economics, and has a working plan for reporting livestock numbers by age and class, together with full and general estimates of range conditions, calf crops, movements, etc. of livestock. It is most comprehensive, and if the work equals the promise, and congress allows the appropriation, we will see arrive a state of general knowledge of livestock prices and conditions, providing that contemplated service is "speeded up" to be effective. In some respects it will not avail if it gets musty before being sent out, as price information is wanted at once, before the condition changes, if it is to accomplish any beneficial result to producers.

This is a very good time for the Southwestern men to intimate to the congressmen soliciting their support and vote a pledge to help this market information service. After these men get in they may not pay as much attention as before they get in, and it is quite a pertinent matter for the Southwestern livestock producer to have this general information as to supply and demand.—A. L. Spellmeyer.

## CATTLE IN DEMAND

From various districts come the details of specific sales, contracts or offerings on cattle and sheep. In the offerings the general rule is a half to one-fourth in numbers of the steers that were offered from those same districts ten years ago. I notice this now for formerly I had bought out some of these districts on orders and have old records of numbers that show a great number depreciation in this fall's offerings. The St. George steers haven't sold yet; the Kingman district is not thoroughly cleaned up and southern Arizona is offering some grass fat fall medium steers on basis of $6.50 per cwt. delivered to Los Angeles. With the Inyo cattle and other Utah and Nevada districts, it may be realized there are uncertainties in the situation that rather depress feeder buying activity here.

There is also a lack of finance, for many people want cattle in Imperial and elsewhere, who haven't the money, and they are offering to trade bank stock, lands and improved property for cattle in a number of instances, to my positive knowledge.

There is some talk of the war finance functioning further, and Director Meyers recently is reported to have addressed the American National Livestock Association on the subject with the result that a committee from that body has been appointed to confer. A few weeks ago there was a war finance loan refused upon a southern Arizona outfit for an amount equivalent to the bank debts and just one-quarter of what the identical outfit was held at for sale in 1919 and half of its present asked price. The ways of the mighty are difficult to understand. If the loan is good now for the banks it ought to be good for the war finance with the banks backing, as is necessary. Also the year is fine and grass is good in Arizona.

The Arizona prices continue to average about $25 for yearling steers, $35 for twos and $45 for good 900 pound threes, or 5 cents by weight, f. o. b.—A. L. S.

# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Quality of Milk

To what extent is the quality of a cow's milk affected by delay in having the cow come in fresh? If a cow has not come fresh for over a year is it as wholesome for a baby?—Subscriber, El Cajon.

Milk from a fresh cow or one that has not been giving milk for more than six or eight months after coming fresh is considered best for a baby although there is no good reason why the milk from a good healthy cow should not be good even after a longer period. The quality of the milk depends somewhat on the feed. It should be neither too rich nor too poor but should consist of some green feed or roots if possible. All feed should be free from mould or decay as that will affect the milk.

### Hog Cholera

Have some young hogs that have a good appetite but cough and get white matter in the corners of the eyes. They keep getting weaker and die. What is wrong?—Subscriber, Woodland.

Probably it is hog cholera. Better consult a veterinarian nearby or write the state board of agriculture at Berkeley.

### Cow Fails to Breed

What should I do for a cow that fails to breed? She is five years old, a good milker and always in good condition. She is fed alfalfa hay and barley stubble with plenty of alfalfa pasture. It is about a year since she was fresh and we have failed to get her with calf although she comes in heat regularly.—Subscriber, Sisquoc.

Read answer in last issue to similar question. If you fail after trying that write us again.

### Calves Dying

My calves four or five months old are fat and seem healthy. They are fed milk once a day and run on hill pasture. One at a time they get sick and in 24 hours die They get stiff in the joints, swell under the jaws and along the windpipe and breathe hard. What can we do for them?—Subscriber, Ashland, Oregon.

We can not tell what is wrong with the calves. It acts like some kind of poisoning. Better get a veterinarian nearby to look at them.

### Ringbone

I have a mare that got hurt about two months ago at the fetlock joint and swelling was left that does not go away. She is not lame when walking but cannot trot on hard road. Please advise me what to do for it.—Subscriber, Ashland, Oregon.

If it is below the fetlock joint it may be a ringbone but if it is above it is only a strained ligament. In either case tie a bandage loosely around it and soak it with cold water twice a day. After a few days if it is still lame apply a good liniment.

## DAIRYMEN SAVE $10,000 WEEKLY

Cooperative creameries in Minnesota are saving $10,000 every seven days by shipping their products at carlot freight rates through the Minnesota Cooperative Creameries Association, Inc., direct to their New York sales office. Seventy cars of cooperative creamery butter are moving to the eastern market every week under the association marketing plan. These cars carry more than 2,000,000 pounds of butter.


In the near future we will discontinue all official and semi-official testing

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**ANY 50 HEAD of Registered Holstein Cattle in Our Herd**

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This offer is made without reservation and includes every one of our State Champion and World's Record cows, among them:

KIATTA PONTIAC PRIDE (world's record junior 4 year old for 365 day milk production), 1,134 lbs. butter, 31,491.6 lbs. milk in 365 days. 34.46 lbs. butter, 747.4 lbs. milk in 7 days, and two of her daughters.

IRENE SEGIS PONTIAC, at 4 years, 1,008 lbs. butter, 23,301.7 lbs. milk in 365 days. At 5 years, 33.03 lbs. butter, 76 lbs. milk in 7 days. Now making the largest combined milk and butter record ever made in our herd; has 551 lbs. butter, 14,094.3 lbs. milk in 136 days, averaging over 103 lbs. milk and 4 lbs. butter per day. A sister to Kiatta, both being sired by a son of a 1,470 lb. yearly record cow.

LOIS BERYL PRIDE. California State Champion and fourth highest in the world for seven days milk in the senior 4 year old class. 837.4 lbs. milk, 29.03 lbs. butter in 7 days. She is running in long time test and has to her credit over 500 lbs. butter in 169 days. Another sister to Kiatta.

FANNIE PONTIAC BUTTER GIRL PRIDE, California State Champion for seven day milk production in the junior 4 year old class. 751 lbs. milk in 7 days. She is running sensationally in long time test and has to her credit 20,700 lbs. milk and 720 lbs. butter in 228 days.

SEVERAL SISTERS to the above that have made good seven-day records and have made or are now making year records up to 1,100 lbs. butter.

JOHANNA PRINCESS MOOIE 2d at 3 years, 1,172 lbs. butter, 25,596.5 lbs. milk in 365 days (world's combined milk and butter record when made—still 2d highest in the world for butter). She has two three-year-old daughters with 28.87 lbs. butter and 30.03 lbs. butter in 7 days.
Sisters to Johanna Princess Mooie 2d.

THELMA HARTOG SUNLAND DE KOL 4th. 32.08 lbs. butter, 728 lbs. milk in 7 days. 1,134 lbs. butter, 27,000 lbs. milk in 365 days.

DAUGHTERS AND GRAND-DAUGHTERS of Laurameka, 1,326 lbs. butter, 29,899 lbs. milk in 365 days; ROXIE PAULINE BURKE HENGERVELD, 1,188 lbs. butter, 25,175 lbs. milk in 365 days; JOHANNA PRINCESS MOOIE 2d, 1,172 lbs. butter, 25,596.5 lbs. milk in 365 days; KIATTA PONTIAC PRIDE, 1,134 lbs. butter, 31,491.6 lbs. milk in 365 days; THELMA HARTOG SUNLAND DE KOL 4th, 1,134 lbs. butter, 27,000 lbs. milk in 365 days, and a number of cows now running sensationally in long-time test.

LAST YEAR we made some of the largest records in the United States.
THIS YEAR we are going stronger than ever.
The test strings will be kept in test until sold.

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PALO ALTO — E. N. Brown, Manager — CALIFORNIA

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**Thursday, September 28, at 10 A.M.**

This will be a complete dispersal of Mr. Ray's milking herd of registered Holsteins, the sale list containing the largest percentage of females with official records ever offered in a California sale.

33 OF THE 37 COWS AND HEIFERS HAVE OFFICIAL RECORDS

There are five cows and heifers in the sale with official records above 30 pounds of butter in 7 days, and a large percentage of the balance have records from 20 to over 29 lbs. A number now making good yearly records.

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Your appreciation of the California Cultivator can be shown best by writing to and buying from Cultivator advertisers.

## QUESTIONS AND ANSWERS

(Continued from Page 267)

glory. I have quite a lot of morning glory and would like to get rid of it.—Subscriber, Calexico.

There are weed killers which have been advertised in the California Cultivator and which are said to do good work. Where one wishes to destroy the weeds chemically the preferable way probably is to use these mixtures. Where one wishes to prepare his own we refer to article on page 738 of the Cultivator of June 4.

### Champagne

I would like to know how to make "champagne wine."—Subscriber.

We believe it is illegal to publish in any paper or to give through the United States mails information as to manufacture of any alcoholic beverages.

### Plaster for Fertilizer

How will old lime plaster do for fertilizer on sandy land?—Subscriber, Nipomo.

We do not think you would derive much benefit from the use of old lime plaster on any soil. There is not a great deal of lime in the plaster, the greater proportion being sand. If you can get the plaster for nothing and only figure the cost of loading and unloading, you might get enough benefit to justify the expense but otherwise we would not think it worth while.

### Peaches Gumming

Would it be possible for you to give me any information about treatment for a peach tree on which the peaches nearly all show an oozing of gum? Is this anything that can be controlled or cured?—Subscriber.

This question is discussed on other pages of this issue as it has been in two or three recent numbers. Gumming has been declared to be an indication of disease or physical condition of a tree rather than a disease itself. However, there is a diversity of opinion. As the question is being discussed so fully by those who have observed it, will refer our subscriber to these articles.

### Explosives for Clearing

On my mountain ranch I have many acres of land to clear of elder, box-elder, sycamore, choke cherry, snowberry and wild rose bushes, also much wild buckwheat. What is the best way to clear? Is powder too expensive to use in getting out the trees? What reading matter could I get on the subject of clearing land?—Subscriber, Long Beach.

Explosives have proved economical and afford a quick method of reducing stumps and big boulders. Would suggest writing to the Department of War, Washington, D. C., and asking as to supply of explosives which the department is closing out at a very small fraction of original cost. In fact, the principal expense will be for freight. In addition write Institute of Makers of Explosives, 103 Park Avenue, New York, for "Use of Explosives for Agricultural Purposes." Also write DuPont Powder Company, Wilmington, Delaware.

### Commercial Fertilizer for Potatoes

C. Henry Smith of San Francisco, writes: "Referring to Springville subscriber's query in California Cultivator of July 29 regarding the use of commercial fertilizers in growing potatoes, would say that nitrate of lime has been used with excellent results in California for a number of years. It carries 13 per cent nitrogen in the most available form and should be applied at a rate of 400 to 500 pounds per acre."

### Irrigating Orange Grove

Orange orchard near Covina froze back severely last January. Dead wood was all removed last spring and it has had fine care. We have been irrigating about every four to five weeks and the trees have grown wonderfully. We expect to irrigate again this week. We usually run the water 24 to 36 hours. Would you recommend giving the orchard the usual amount of water at this time? If not, state number of hours you would water and when you would make last irrigation of the summer preparatory to hardening the trees for the winter. The age of the trees is about 15 years. All of the growth on the trees is this year's. They have grown to about one-half normal tops. This and any other advice you can give me on caring for this orchard to bring it back would be appreciated. State in your next issue the above information. —F. D. K., Pasadena.

Because of this inquirier's request for immediate answer, letter was written him. Then it was noticed that no name was signed to the request, merely initials. Of course, the letter could not be sent, therefore the answer has been inserted in first issue possible of Cultivator. Please observe request at head of query column and sign name and address. These will not be published. It is merely a matter of courtesy to us and convenience to you.

Regarding irrigation (if not too late with this information) we would suggest irrigation at this time just as heavy as usual, but the September irrigation should be much lighter. Of course you cannot estimate just when the rains are going to begin. But if the irrigations of September and later could be so as to simply keep leaves from curling it might lessen the danger from frost injury. On the other hand, we believe trees are at times severely injured by withholding water. It is a matter largely of closely examining your soil conditions. The only thing positive we can say is "Don't dry up the trees too much." If they are forced into dormancy during September and October a warm December rain might start them into such vigorous growth that a cold January might injure them.

# Fourth Farm Bureau Contest

ON THE first of October there will begin in the contest laying house at Santa Cruz the fourth California Farm Bureau Egg Laying Contest. Begun three years ago under the auspices of the poultry division of the college of agriculture of the University of California, this contest has grown to such proportions and won such unqualified support from the poultrymen of California that it bids fair to become a permanent institution.

The objects of the contest, according to the 1923 rules and regulaions, just issued, are:

1. To build up the average egg production of the California hen by stimulating interest in selection and breeding for egg production.

2. To add to our knowledge of the science and art of breeding for egg production by a study of individual productive variations.

3. To afford poultry breeders the opportunity of having their fowls officially tested and of demonstrating the value of their strains for egg production.

4. To acquaint the public with the relative value of these strains.

5. To demonstrate the adaptability of California climates to successful egg farming.

6. To demonstrate the practical value of the experimental work of the poultry division of the state experiment station.

### Contest Rules

Each entry will consist of 12 pure bred pullets of a recognized standard variety, but only ten birds will be considered as in competition, the two additional birds being included to take care of mortality losses during the year.

The sum total of the egg production of the ten highest hens of each entry at any given time will determine the position of that entry in the contest.

If the number of hens in any one entry falls below eight that entry shall thereafter be ineligible to compete for pen prizes.

Outside entries should be shipped to arrive between September 25 and October 1.

Local entries will be notified when to bring in birds.

The entry fee will be $2 per fowl for the one year period.

The management reserves the right to refuse any entry in which the birds show signs of disease, and to kill any birds whose presence because of disease or vice would be detrimental.

No entry may be withdrawn after the birds have been received at the contest grounds.

Legbands and directions for placing them will be sent to each owner when his application is accepted.

All birds will be fed, housed and handled alike under expert supervision. Every attention will be given to sanitation and disease prevention and every normal effort made to secure maximum production. Three entries will be placed in each pen and floor eggs divided equally between the three entries.

All birds will be trapnested. Exceedingly malformed eggs, soft-shelled eggs and eggs weighing less than 18 ounces to the dozen will not be counted nor credited to the bird.

All eggs produced will become the property of the contest.

Ribbons will be awarded monthly to the three highest pens and to the highest laying hen for that month. Handsomely engraved loving cups will be awarded to the first, second and third high pens and first, second and third high hens at the close of the contest.

### 1922 Ration

The contest ration for the year just closing is as follows: Scratch grain in morning: 80 pounds plump, recleaned barley; 120 pounds plump, whole wheat; 200 pounds clean, cracked yellow corn. Nutritive ratio, 1:7.9.

Scratch grain in evening: 200 pounds sprouted barley (fed very dry).

Two hundred pounds morning scratch mixture. Nutritive ratio, 1:7.8. Dry mash in hoppers all day: 240 pounds wheat bran; 160 pounds gray wheat middlings; 100 pounds ground oats; 100 pounds corn meal; 40 pounds soybean meal; 40 pounds linseed meal; 60 pounds fish scrap; 60 pounds meat scrap. Nutritive ratio of mash, 1:2.7. Nutritive ratio of total ration, 1:4.4, Fiber in total ration, 5 per cent. Ash in total ration, 4.4 per cent.

During fall and winter when the highest possible production is desired a moist mash consisting of the above dry mash moistened with milk or water is fed at noon in such quantity as the birds will clean up in 15 minutes. Two and a half per cent finely granulated charcoal and one-half per cent finely sifted salt is included in the mash mixture.

A day's grain ration for the birds in the contest the past year has consisted of 329 pounds barley (80 pounds dry in the morning and 200 pounds sprouted and 40 pounds dry at night); 180 pounds whole wheat; 300 pounds cracked yellow corn. This makes the grain ration 40 per cent barley, 25 per cent wheat and 37½ per cent corn.

Planters who want to be satisfied, Should buy the seeds that are certified.


Control the Citrus Pests
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By Using
UNIVERSAL BRAND SPRAYS

Red Spider, Citricola and Black Scale can be controlled effectively and economically with Universal Brand Sprays. That our products have "made good" consistently is the satisfying experience of hundreds of growers.

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| B. T. S. ..... 15 lbs. | per 200 gal. tank. | B. T. S. ..... 12 lbs. |
| TRIUMPH ..... 1½ to 2½ gals. | | TRIUMPH ..... 1 gal. |
| K-SEEN GLUE ..... 1 lb. (for citricola and black scale) | | K-SEEN GLUE ..... 1 lb. (for red spiders) |

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4 Gals. Lime Sulphur Solution can be substituted for the above B. T. S. dosage.

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If you have a special problem regarding your grove call on Mr. Herbert, our assistant entomologist, at our Los Angeles office.

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**The Archibald Hatchery** will supply through September and October White and Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons and Wyandottes. Our folder may interest you. B. W. Archibald, Soquel, Santa Cruz County, California.

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**Fall Chicks**—Hatches every week. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. Stubbe Poultry Ranch and Hatchery, P. O. Box 67-E, Palo Alto, California.

**Union District Hatchery** is booking orders for the fall chick. Chicks from the best tested layers at right prices. White Leghorns, Rhode Island Reds, and Barred Rocks. F. & L. Downing, Los Gatos, California.

**Watch Us Grow**—We are now booking orders for fall chicks. Brown and White Leghorns, Rhode Island Reds, Barred Rocks and Anconas. Ohlen's Hatchery, Campbell, Calif.

**Fall Chicks Pay**—Order now for September and October delivery. White, Brown, Buff Leghorns, B. Rocks, Reds, Anconas, B. Minorcas. McDonald Poultry Ranch, Rt. 1 Box 246, San Jose, California.

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**Eastman's Bred-to-Lay** Hoganized and Trapnested Barred Rocks. September chicks. Fairmead Poultry Farm, Fairmead, California.

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**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

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**For Sale**—97 Acre Prune and Olive Orchard interplanted with seedless grapes, bearing. Modern Bungalow and pumping plant for irrigation. Located near Woodland on paved highway. Price $30,000—terms if desired. Call on or write Wm. Gould, Woodland, Yolo County, California.

**Paradise, The Orchard Home Place**—Water, electricity, telephone, good roads, healthful climate, reasonable prices. Box C. Publicity Committee, Paradise, California.

**Florida**—Information Indian River Section; book 148 illustrations and, letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## GOVERNMENT LAND

**Attention:** Million acres Government land for farming, grazing, timber. Near R. R. Plenty water. Send for folder. Rally, 1111 So. Alvarado, Los Angeles, California.

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**For Sale**—New Britain Garden Tractor, used 6 months, in splendid condition. Price $125.00. Hillcrest Country Club, Sawtelle, California. Phone 761290.

**For Sale**—New DeLaval Separator No. 15 with belt power attachment, used only three months. H. H. Sisson, Willits, California.

**For Sale**—Allwork Tractor, disc cultivator, three gang disc plow and hay rake, all in good condition, bargain. W. Dibble, Rancho La Puente, Puente.

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## SEEDS AND PLANTS

**Carolina Strawberry Plants for Fall Planting**—the most prolific and best berry. Gives crop the first year. Postpaid $1.50 per hundred. Write for prices on larger quantities. G. M. Hawley, El Cajon, Rd. No. 2.

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## CATTLE

**Jersey Show Bull Calf For Sale.** Born November 29, 1921. Sire traces 6 times to Financial Count in 5 generations. Dam Register of Merit cow with 489 pounds butter on two milkings a day. Strong in Noble of Oakland and Financial blood. A splendid individual and priced to sell. Grant A. Brown, El Monte, Calif.

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys — Grape Wild Farms — Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Registered Guernsey Bull Calves for Sale** from A. R. Dams and Sires. This herd passed the State Tuberculin test on July 10th, 1922, making one of the longest continuous T. B. free records of any Guernsey Herd on the Coast. James A. Brown, Capitola, California.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

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**Registered Holstein Bull** sired by King Pontiac Segis 3rd. Will sell cheap or trade for good cow. J. P. Kelly, San Bernardino.

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**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

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**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

**Registered Herefords**—Anxiety IV strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

## WANTED

**Competent Dairyman and Farmer**—35 years, married, no children, wants to take charge of place or work as first helper. Knowledge of thoroughbred stock and testing records, best references. Send particulars to L. Morel, P. O. Box 705, Modesto, Calif.

**Wanted Throughout California**, men with autos to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call. J. H. Yetter, 317 Central Ave. Los Angeles.

**Wanted to Buy** dried apricots and peaches. Please mail samples to W. A. Collins, Box 397, packing house at Santa Fe Depot, Santa Ana, California.

**Wanted**—Hatching eggs of all kinds. Cultivator Box 23, Los Angeles.

## MISCELLANEOUS

**Natural Leaf Tobacco.** Chewing 5 pounds $1.75; 10 pounds, $3.00. Smoking, 5 pounds, $1.25; 10 pounds, $2.00. Send no money. Pay when received. Tobacco Growers Union, Paducah, Ky.

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Kentucky Homespun Smoking Tobacco.** Ages in bulk. Mellow and sweet. 10 lbs., $1.50; 20 lbs., $2.75. Tobacco Growers Union, Lynnville, Kentucky.

**Leaf Tobacco**—good for smoking or to use in hen nests. Fifteen cents pound—express paid on 10 pounds or more. Grant, P. O. Box 466, Fresno, California.

**Peach Tree Borers** killed by Krystal Gas (P-C Benzine). Pound tin $1.00; five pounds $3.75, postpaid or C. O. D. Home Products Inc., Rahway, New Jersey

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**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

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## TREES

**For Sale**—Grafted walnut trees, also citrus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**For Sale**—Grafted Walnut Trees for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**For Sale**—"Victory" Avocado Buds at $10.00 per hundred. Come by appointment or bring budder. A. B. Phelps, Horn Avenue, Sherman, Calif.

**For Sale**—Hachiya Persimmon Trees, grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**1000 to 1500 Avocado Seedlings** for lining out. Address Wagner's Nursery, Pasadena.

**Beeman Tractor Cheap** — Young man learn trade. Cash Nursery, Sebastopol.

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**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St., Los Angeles.

## DOGS

**Thoroughbred Airedale Puppies**—3 months old. Connell Ranch, ½ mile N. Savannah Garage, 1½ mile West El Monte.

## PATENT ATTORNEYS

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## OLIVE CROP

An olive grower reports:

Mission olives are scarce this year, many southern groves not producing. One of the large olive groves of Southern California and a fortunate one, will have but half a ton an acre and only part of them are Missions. Some 120 acre groves, mixed oil mostly, are almost without bearing this year in the south.

Olive prices are now figured by some packer canners at $215 for 12/16 size, a bonus for 13/16, and about $175 per ton for 11/16 with $125 per ton for the oil stuff.

One ten acre grove was contracted at $150 and they are common Missions, not budded, and don't look to be able to make any 11/16. There seems a shortage of large size Missions and of Ascolanos and Sevillanos and in the south a very short crop of all olives.

## REFRIGERTOR CARS HAVE RIGHT OF WAY

Following the conference between G. H. Hecke and the interstate commerce commission in Washington last week, the California department of agriculture received wire from Senator Shortridge: "Priority order on refrigerator cars issued by interstate commerce commission this morning."

This ruling, coupled with the fact that the interstate commerce commission has demanded the quick return of refrigerator empties to California rails, should go a long way in relieving congestion and aiding in the marketing of the great fruit crop of the state.

## FRUIT SHOW AT UNIVERSITY

The third annual fruit show at the University of California, College of Agriculture, is to be held November 16 to 18 under the auspices of the students' fruit show committee. The show will give the opportunity to assemble and exhibit a great variety of fruit from growers in widely different sections. It is expected that growers will respond by shipping samples of their fruit so that the show this year will be even more successful and instructive both to exhibitors and students. All fruit will be displayed with the variety and name and address of the grower attached. Since this is an educational enterprise on the part of the students no cash awards will be offered. Ribbons will be given to the first, second and third places in each class.

Fruit should be shipped express collect and upon receipt will be placed in cold storage until the date of the show.

Exhibition will be on the campus of the University of California at Berkeley.

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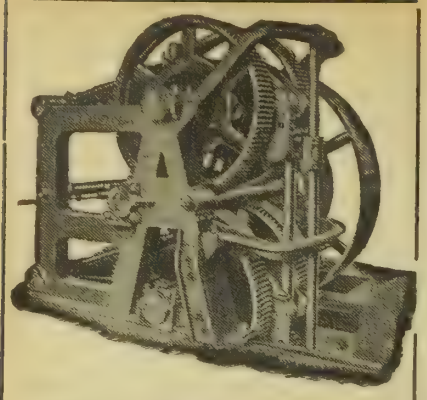
Tehama County farm bureau centers meet at Johnston-Reeds Creek, September 11; Dairyville, 13; Antelope, 14; Bend, 15; El Camino, 18; Red Bank, 20; Richfield, 25; Stanford, 27; Liberal, 28; Flournoy, 29; Squaw Hill, October 4.



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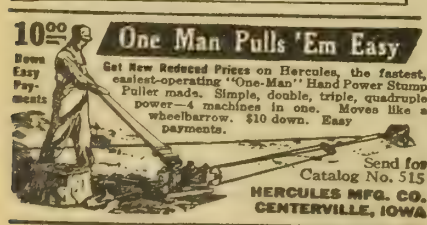
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# Hens and Chicks

By Jean A. Koethen

"MOTHER, mother," cried a little chick, as it came running in from its play yard to the coop, "Oh, mother, I'm so cold, hurry and warm my back." "There, there, child, clucked Mother Biddy, "don't cry. I'll have you warm in no time. Just cuddle under my wing and you'll be all right." So the little chick slipped under the softly lined wing and stuck its head out to watch its brothers and sisters. Mother Biddy kept on clucking, "There, there, there," and in a few minutes the chick was back in the mud playing with its brothers, warm and happy.

Another little chick in the same yard came to its mother that very day, begging, "Oh mother, please warm my back, "but the mother hen hardly paused in her efforts to move every bit of straw from one end of the coop to the other as quickly as possible. "Tut, tut," she scolded, "How can you expect me to stop when I am so busy? Just go and stand in the sun awhile and your back will be warm enough." So the little chick went and stood in the sun, but it didn't get warm. Then it leaned against one of its brothers, but still it didn't get warm. Then it went and stood in a corner and humped up its back to keep itself warm, but it only got chillier and chillier. Finally it stole up softly and crawled under its mother's fluff, but she began scratching more energetically than ever and the chick had to go back to its corner. When dinner time came it could only eat a mouthful, but that little gave it a stomachache. Next morning that chick lay dead and cold in the nest, and the good woman who owned the hen that wouldn't hover it when she came to feed her brood next morning wondered what that chick could have eaten.

A good hen is the best mother in the world, but a bad hen is the worst. When you find the mother of a newly hatched brood more anxious to scratch than to hover her brood, eliminate her. A jug of hot water is a better mother than she.

In handling hen mothers it is well to keep in mind that a hen has no intellignce. She has instinct, and if her instinct leads her to sit clucking all day with outspread wings, well and good. If it leads her to scratch most of the time and keep coop and litter and brood in a turmoil, her activities should be turned into another channel.

### You Furnish Intelligence

Much can be done, however, to control and subdue a too active hen mother. A darkened coop is an incentive to quiet. A small coop in which she cannot easily do much moving about is better for such a hen than a larger one. In any case she could be made as comfortable as possible by the use of clean litter with soft dirt or sand underneath, should be fed regularly, kept free from lice, and given all necessary protection from sun and wind and rain. A 2 by 3 coop, with tight roof, and a wire run for the chicks is very satisfactory. Confine the hen to the coop by means of a wire or slatted gate, but let the chicks out into the run after the first three or four days. Later on when they demand more range a brick may be placed under the end of the run. Chicks that have free range make very rapid growth and do not mind rainy weather if only they have a mother that will warm them when they need it. I remember a Buff Orpington hen of mine that brought 23 chicks through a storm that was almost a flood without the loss of a chick. While the coop was fairly swimming she still kept those chicks warm.

The hen that has hatched a brood should be kept on the nest for 24 hours if she can be kept quiet. Feed her out of the hand if necessary, remove shells and dead chicks, darken the nest if possible, and let her sit without uncovering the chicks till next day. By this time she will be anxious to get off and stretch her legs, and the chicks, if they are husky and the weather not too cold, will be climbing up the sides of the nest, looking for something to eat.

In moving from nest to coop great care should be taken to keep the chicks from chill. Remove the hen first and give her a chance to eat and dust. Have the coop in a sunny sheltered place, and cover the chicks up warm in a basket or box if they must be moved any distance. The avoidance of chill now means a husky, thrifty brood. Chill the first day or so is generally fatal.

The brood coop should be absolutely clean, absolutely tight on three sides and open on the fourth and should face south or east. The board bottom should be covered with clean, dry sand, and the sand covered with alfalfa leaves. On top of this litter may be scattered charcoal and chick grit for the chicks to pick at the first day, and dry breakfast oats when they are ready to eat.

### Feeding the Chicks

Chicks that have a good hen mother do not require as careful feeding as brooder chicks. This is partly because of the mothering they receive, partly, no doubt, because chicks in small broods always do better than chicks in large flocks. If you ask why this is so I can only ask in return why children do not thrive in the homes and institutions as they do in familes. Chicks are rased very successfully in flocks of a thousand or so, but the greater the flock the greater the care required to keep them healthy. Chicks raised the natural way are not menaced by coccidiosis or white diarrhea. If the coop is kept clean, and hen and chicks kept free from lice, and sufficient hovering given by the hen the chicks may eat almost anything and as much of it as they will. A few years ago it was thought necessary to start chicks on some special nursery feed such as hard boiled egg and bread or rolled oats; now the most successful poultrymen start them on chick feed and give neither bran nor mash till the fourth or fifth day. Some put bran before the chicks for a few days before starting the growing mash, others start the flock on the growing mash by the end of a week. Feeding small broods is in no way different from feeding large flocks except that there need not be the care to keep from overfeeding. Mash and grain may be kept before the chicks from the first, and they will not overeat if they have the chance to run which naturally reared chicks usually have.

Milk is of very great value to all chicks and gives them a start which nothing else gives. It does not greatly matter whether the milk is sweet or sour or fed in fountains or in the mash. I have started many a brood on bread moistened with sweet milk, and limited the amount fed only by its availability. At some experiment stations the dry mash is moistened two or three times a day with clabbered milk.

## A BREEDING PEN WITH SOME UNUSUAL AND NOVEL FEATURES

By O. S. Proctor

CHICKENS have been protected or unprotected by so many kinds and styles of houses that it would seem impossible to introduce any novelty along this line. But the breeding pens developed and in use at the Black and Blue Hatchery, Baldwin Park, seem to have achieved some distinction both in construction and system of operation.

In size as related to the number of birds the ratio is less than is usually considered necessary, but this is offset by the portability whereby the greatest cleanliness, fresh ground and inducement for the hens to scratch is achieved.

The pen is four feet wide, eight feet long, and two feet high, covered partially with a galvanized pan two inches deep, and the other part of the top is tar paper and sheet iron. We believe the use of a water container for a roof is novel, but it is not expensive and is very satisfactory as it serves three purposes, first, protection from sun or rain; second, a supply of water for the automatic drip, and third, to equalize the temperature.

The automatic drip is strikingly novel, simple and effective. It consists of a float which is composed of a board with a nail in each end to fit loosely in opposite corners of the pan; a short rubber tube leading from the bottom and edge of the pan, the free

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ıd of which is supported by wires ıailed to one end of the board float. djusted by bending the wires to get ıe desired drip in the drinking ves-el.

The feeds are in one container with wo partitions on the end outside the en with feed adjustments inside. The iiddle section for mash is much ırger than the section for greens vhich is larger than the one for yster shells. All are covered by an xtension of the tar paper roof. 'he nests are in the opposite end and re simply a sheet iron trough ex-ending across the end and hinged to ıe turned up at night so the nests vill not be fouled, and give more oosting room.

Three roosts are provided, made of ½ by 3 inch, spaced 12 inches and 12 nches from the ground. The nests and oosts occupy one-half of the pen vhich is separated from the other half oy a board ½ inch by 12 inches by 4 feet so the roosting space is en-closed except the entrance which af-fords ample ventilation without drafts. The water pan is directly over the oosts and a sheet iron lid covers the iests. A burlap bag is secured to the op of the lid with a margin or flap n the water pan so water is drawn over the lid to evaporate and cool the nside of the house.

Fine big Blue Andalusians roost comfortably on one roost so nine hens and one rooster only need two roosts, out they need the room to insure ven-ilation.

In operation the ground is prepared ahead by planting heavily, wheat, bar-ley or oats, so moving the pen gives grain sprouts and greens as well as cleaning and an inducement for the hens to scratch. The feed boxes be-ing together under one cover facili-tates keeping all feeds before them. It is much easier than carrying the feed through doors into the pens and avoids carrying disease from pen to pen as is done where the attendant goes among the chickens.

# Poultry Queries

(Conducted by Jean A. Koethen)

### Limberneck

Limberneck can be cured by giving one teaspoon wood ashes sifted through a fine sieve," writes Mrs. R. H. Simonds of Orland. The sifted ashes is given in a tablespoon of water.

### SURFACE POTATOES

A government agricultural expert, writing in an Australian exchange, thus describes the methods and the results so far obtained from an experiment in potato growing, the potatoes being planted or placed on the surface of the soil, and then covered with straw in place of giving the seed a covering of earth.

Some soil, the writer points out, is too heavy and stiff for potatoes, and will not allow the tubers to expand. Growing them in straw was tried and the experiment is being continued. The ground is plowed deeply and harrowed into a good state of tilth; the potatoes are then placed by hand firmly in the soil until they are about half covered; then 12 to 15 inches of wheat straw is placed over them; this completes the planting. Nothing more is done until the potatoes are picked—not dug—from under the straw, for they lie on top of the ground around the sets.

Some people do not understand that the potato tuber is not the root of the plant, but a modified portion of a runner from the stem. The potato tubers must form above the seed planted, therefore if it is placed on top of the soil they have no option but to grow as they do. The straw forms a protection from the sun and other destructive agents the same as the earth does when grown in the ordinary way. The potatoes grown last year under straw were only a fair crop, but of beautiful shape, with lovely skins. Some were found in the straw hanging to the stem six inches off the ground; most of them were lying on the soil, and some were slightly buried. They can be looked at any time during growth by removing the straw, which must afterwards be replaced. The same plant has been looked at several times apparently without damaging the tubers. Will this method of growing potatoes pay? This cannot be answered at present, but further information is being obtained.

Experiments in growing potatoes under straw and under earth are now being carried on side by side, with the same variety and other conditions being equal; both are now forming tubers nicely. The straw, of course, is an item, also carting and laying it on, although the latter operation can be performed quickly, but there is no after cultivation, and no weeds grow—no digging, straw can be forked away quickly. If successful it will be a handy way for a kitchen garden, as the cook will merely have to go out, put aside the straw, and pick the best tubers off for the pot; those left will probably grow all the better. So far as known this method has not been tried in California, but E. D. McSweeney, well known potato grower of El Monte, says he will give it a tryout this fall.

### TROUBLES OF OUR OWN MAKING

Simple precautions would avert most of the railroad crossing horrors. Here are a few rules, which, if followed, would save many lives:

Never approach railroad tracks that must be crossed at grade, without this thought: "Here is the place where I must play safe!" Have your car under control, then you will be prepared for any emergency. You know the importance of having good brakes on your car. Look them over, from time to time.

Probably nine out of ten times there will not be a train near enough to check your progress over the tracks. Make no effort to go across, until, by careful use of both eyes and ears, you have sized up the situation.

All must agree that a little time spent in trying to protect life and limbs is a good investment. We use up some time hunting bargains in stores. Better plan to hold onto the life you possess. No bargain counter has another to offer you. When your end comes, you will be a long time dead.

Maybe, when you get near the railroad tracks, you see a train coming, and the thought comes into your mind, "I can beat it across!" That thought is a mere whim. Your judgment is not speaking. In such a case, wait for your sober second thought.

Remember that a fast train can run the quarter mile from the whistling post to the crossing in 15 seconds. Do you know just exactly how far you can make your car go in one-fourth of a minute? Most of us fail to do our best in an emergency.

Do you admire a man who tries to beat a train over a crossing, when he has his family or friends in the car with him, depending upon him for protection? If such a man were to run his business so carelessly as that, we greatly fear that the balance would show up on the wrong side of his ledger. Most of us are very weary of reading newspaper accounts of death and destruction. Let's be rooters for safety at the crossing!—Southern Pacific Bureau of News.

### EDUCATIONAL WORK AT SOUTHERN CALIFORNIA FAIR

The junior department will be the big and attractive feature at the Southern California Fair this fall and the boy and girl will be very much in evidence. Every department of junior activity will be shown in carefully set out details. The method of imparting vocational instruction used in our high schools will be shown in actual operation. The state will show the method used in its work of teaching new vocations to disabled citizens.

The junior fair takes up all branches of agricultural education and under the direction of the boys every department in agriculture and animal husbandry will be conducted. A model farm will be shown and the various divisions of farm work will be demonstrated by boys from agricultural high schools.

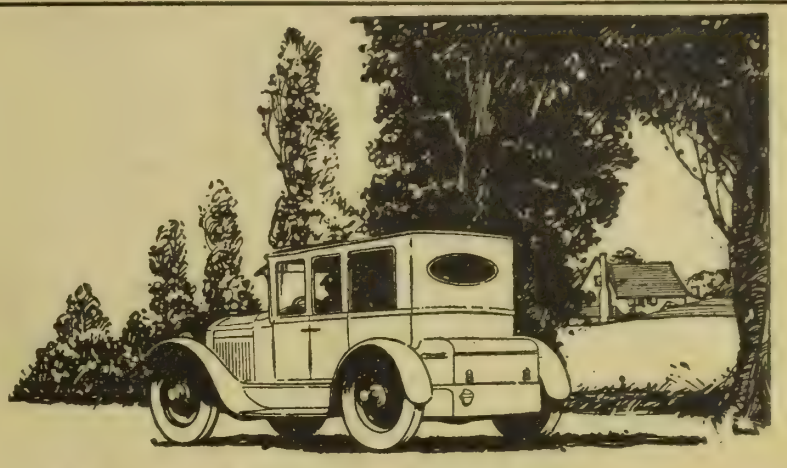
The state livestock judging contest will attract teams from sixty or more of the high schools of Southern California. The three high teams from Riverside with the three teams from Sacramento will compete for first honors at a central contest at Davis.

An agricultural short course will be conducted each day during the fair by competent instructors in front of the grandstand and some very essential part of farm economy, either in the animal or soil divisions will be demonstrated and discussed.

### CULL FOR PROFIT

"The way to meet present day conditions," says B. R. Holloway, of the Holly Hatchery, "is to raise more pullets, discard old hens, cull closer and keep only the high producers." Mr. Holloway finds the demand for hatchery chicks much greater than last year. He has now incubating 130,000 eggs, an increase of 50,000 over the fall of '21.

The Chinese made agriculture a part of their school courses over 4,000 years ago.

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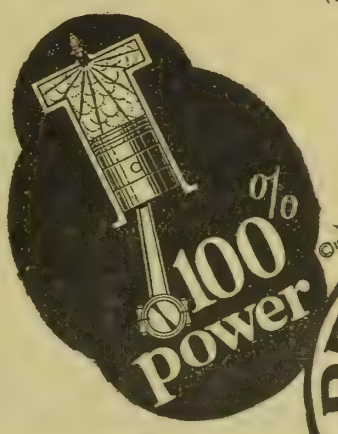


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# Los Angeles Markets

Los Angeles, September 6, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 46 cents.

Prices extras past week:

| Aug. 31 | Sept. 1 | 2 | 5 |
|---|---|---|---|
| 45 | 45 | 45 | 46 |

### CHEESE

Brokers' prices:
California flats, 20@22.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 37; case count, 33; pullets, 30.

Prices extras past week:

| Aug. 31 | Sept. 1 | 2 | 5 |
|---|---|---|---|
| 37 | 37 | 37 | 37 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 19; colored, 30; broilers, 32; roasters, 32; old roosters, 14; fryers, 30; ducks, old, 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 60@70; capons, 35@43.

Belgian hares, 11@14; old, 8.

### LIVESTOCK

Los Angeles, September 5.—Weighed and delivered off cars without food or water.

Hogs (hard grain fed) 125 to 150 pounds, 8.50; 175 to 225 pounds, 9.50.

Cattle (on foot, gross weight): Steers, good, 6.50@7.00; medium, 5.25@625; cows, good, 4.75@5.25; medium, 4.00@4.50; bulls and stags, 3.00@3.50; calves, 125 to 175 pounds, 8.00@9.00; 175 to 250 pounds, 7.00@8.00.

Sheep, ewes, 4.00@5.00; lambs, 9.00@11.00.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, September 5, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement slow, market dull. New Stock: best, locals, sacked 1.25@1.50, mostly 1.35; poorer, low as 1.00 sack; Northern, Rivers, 1.85@2.00 cwt.; Sweets, local, lb., 4@5 lb.; Northerns, 4@4½.

Onions: Demand and movement slow, market dull. Stocktons: Yellows, 1.40@1.65; Whites, 1.65@1.75. Locals: Whites, 50@60; Spanish, 90@1.00 lug. Garlic, Mexican best, 7@8 lb.; Northern, 6@7.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, September 5, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: San Pedro: Kentucky Wonders, 7; Limas, 3@4.

Bunched Vegetables: Per dozen bunches: Turnips, beets, parsnips, 30@35. Parsley and radishes, 15; spinach, 25.

Cabbage: Market steady, quality generally good. Field cr., best mostly 2.25@2.50.

Cucumbers: Local, lug, 50@60.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, best, 3.00@3.50; poorer, 2.50@2.75.

Corn: Green, local, best, lug, 75.

Eggplant: Local, 4.

Lettuce: Market steady. Locals: Ordinary, leafy, 90@1.00 cr.

3.50.

Okra: Lb., best, small, 6@7.

Peas: Best, Northern, lb. few best, 10@12; poorer, low as 6.

Peppers: Locals: Bells mostly, 3@4; Chilis, 3@4 lb.; Cherry, 6@7; Fla. Gems, 6.

Squash: Market steady. Locals: Summer, lugs, 40@50; Italian, lugs, 65@70.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs, best pink, 90@1.00; ripe, 70@75.

### FRESH FRUIT

These are actual prices obtained September 5 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc, as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Gravensteins, loose, 2@3 lb.; packed, fancy, 1.50; B grade, 1.10@1.25 box, according to size. Crabapples: Locals 90@1.00 box; Northerns, 4@5 lb.

Cantaloupes: Market weak. Locals: Tip Tops, best, 50@65; poorer low as 25 crate.

Grapes: Demand slow, market steady. Northerns and Locals: Malagas, 4@5; Muscats, 3; Tokays, 6@7 lb.; Black Hamburg, Rose of Peru, 1.50; Black Prince, 2.00 lug.

Peaches: Market steady. Locals and Northern, freestone and cling, all varieties, 2@4 per lb.; mostly, 3.

Pears: Demand good, market steady. Northern: Bartletts, mostly 4@4½; ripes low as 2.

Plums: Demand and movement slow, market steady. Per lb.: Satsumas, 2½. Other varieties, 1@3 per lb. according to quality. Northerns: Various varieties 3@4 lb.

Watermelons: Local Klondike, best, 1.00@1.25 cwt.; poorer, low as 75; Chileans, mostly 1.00.

### CITRUS FRUITS

These are actual prices obtained between 7 and 8 o'clock, September 5, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms, cash on the walk. There may be slight fluctuations during the day's trading. Higher prices are frequently obtained where credit is given or goods are delivered.

Grapefruit: Market steady. Californias: Northern, packed box, fancy, 6.00@7.00; market pack, 3.75@5.50.

Lemons: Demand and movement light, market firm. Special brands, fancy, 7.25@7.50; choice, 6.50@7.00.

Oranges: Demand moderate, market steady. Valencias, special brands, 10.00@10.50.

### HONEY

Season's flow about over with, some factors estimating yield at 70-80 per cent of normal. Other estimates range lower. Quality generally good. Demand slow, market dull, with very few sales. Carloads f. o. b. usual terms for outside shipment, quoted per pound: White Orange, 9@9½; Light Amber Sage, 6¼@6¾; Light Amber Alfalfa, 6@6½. Beekeepers receiving 20 cents per lb. cash for beeswax.

### BEANS

Manager Churchill of the California Lima Bean Growers Association reports more than one-fifth of the new crop sold for September and October delivery on basis of 6.50@6.75 for September shipment and from 6.00@6.50 for month of October shipment. Lower quotations are being made by certain shippers, presumably with the idea of getting the margin between the buying price (from growers) and the shipping price (to jobbers) as large and as profitable as possible.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oats | 18.00@20.00 |
| Barley | 15.00@17.00 |

Prices quoted f. o. b. L. A. to producers are:

| | |
|---|---|
| Rabbit Alfalfa | 20.00@22.00 |
| No. 1 Alfalfa | 16.00@18.00 |
| Standard Alfalfa | 11.00@13.00 |

Some growers report prices on ranch:

| | |
|---|---|
| Rabbit Alfalfa | 19.00@21.00 |
| No. 1 Dairy | 15.00@17.00 |
| No. 1 Alfalfa | 13.00@14.00 |
| Wheat Straw | 6.00@8.00 |
| Barley Straw | 4.00@6.00 |

### GRAIN

Prices L. A. Grain Exchange, September 6:

Barley: 100 ton lots October Del., 1.25.

# San Francisco Markets

San Francisco, September 5, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 45 |
| Prime Firsts | 40 |

Prices Extras last week:

| Aug. 30 | 31 | Sept. 1 | 2 | 5 |
|---|---|---|---|---|
| 44 | 43½ | .... | .... | 45 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 27 |
| California Flats, fancy | 18½@22½ |
| Oregon Trips | 23½ |
| Oregon Young America | 27 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 38½ |
| Extra Firsts | 37 |
| Extra Pullets | 29½ |
| Undersized Pullets | 18 |

Prices Extras last week:

| Aug. 30 | 31 | Sept. 1 | 2 | 5 |
|---|---|---|---|---|
| 38½ | 38½ | .... | .... | 38½ |

### POULTRY

Fryers, 29@32; broilers, 28@34; young roosters, 24@36; old, 14@18; hens, 14@31; ducks, 18@20; turkeys, live, 32@52; squabs, doz., 3.00@3.50; Belgian hares, lb., 15@18; Jack rabbits, doz., 2.00@2.50.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Sweets: 3@4 lbs.

Onions: Stockton Red, 1.25@1.40; Yellow, 1.25@1.35.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, September 5, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Beans: Green, lb., 4@7.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.
Cauliflower: Doz., 75@1.00.
Celery: 3.50@4.50 cr.
Corn: Green, 10@15 doz.
Cucumbers: Lug, 40@75.
Eggplant: lug, 60@65.
Lettuce: Local, best, 1.50@2.00 cr.
Peppers: Cal. Bells, 35@40 lug.
Rhubarb: Box., 1.00@1.25.
Sacked Vegetables: Carrots, 85@1.00;
Spinach: Lb., 3@4.
Squash: Summer, 50@75 lug.
Tomatoes: Lug, 40@75.

### FRESH FRUIT

Apples: New crop, green, 75@1.25 lug box. White Astrachans, 1@1.50; Gravensteins, fancy 3½@4 tier, 1.50@2.00; Alexanders, 4@4½ tier, 1@1.50 box. Red June fancy, 1.50@2.50; Crabapples, 50@1.00 lug.

Avocados: 4.00@12.00 doz.
Blackberries: Dr., 20@25.
Cantaloupes: Standard cr., 1.00@1.25.
Persian, 50@75.
Figs: Double layer box, 75@1.25.
Grapes: Cr., 90@1.50.
Huckleberries: lb. 20.
Peaches: 50@85 cr.
Pears: Bartlett, 1.00@2.00 box|
Cal. Pear Growers prices to canners ton:
No. 1 Bartlett, 75; No. 2, $40.
Plums: Best, 85@1.00 cr.
Raspberries: Dr., 45@50.
Strawberries: Local, dr., 45@50.
Watermelons: 1 per lb. and less.

### CITRUS

Grapefruit: 6.50@8.50.
Lemons: Spec. pack, 5.50@7.00.
Oranges: Valencias, 6.00@11.00.

### DRIED FRUITS

**Apples, 1922 Packers' Quotations f. o. b. Cal.:**

| | |
|---|---|
| Choice | 10¼@10½ |
| Extra choice | 10½@10¾ |
| Fancy | 12¼@12½ |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— San Joaquins |
|---|---|
| Standard | @19 |
| Slabs | @20 |
| Choice | @23 |
| Extra choice | @24½ |
| Fancy | @27 |
| | Southern |
| Standard | @20 |
| Slabs | @20½ |
| Choice | @24½ |
| Extra choice | @26 |
| Fancy | @28 |

**Apricots, 1922, Cal. Prune and Apricot Growers Assoc. prices:**

Santa Claras and Northerns.
Packed in 25-pound boxes, f. o. b. plant:

| Size | Sunsweet Brand | Growers' Brand |
|---|---|---|
| Standards | .... | .... |
| Slabs | .... | 19½ |
| Choice | 24½ | 23½ |
| Extra choice | 26½ | 25½ |
| Fancy | 30½ | 29½ |
| Extra fancy | 32½ | 31½ |
| Fancy Moorpark | 32½ | 31½ |
| Extra fancy Moorpark | 33½ | 32½ |

**Figs, 1922, Packers' prices f. o. b. Cal.:**

| White Adriatic | |
|---|---|
| Standard (in 25s) | @6¾ |
| Choice (in 25s) | @ 8¼ |
| Fancy (in 25s) | @11¼ |
| Extra fancy | @12 |
| Bricks, 12 No. 10s | @1.02½ |
| Bricks, 24 No. 8s | @1.65 |
| Bricks, 53 No. 6s | @2.65 |
| Bricks, 70 No. 4s | @2.75 |
| Layers, 10-lb., 4-row | 1.45@1.60 |
| Layers, 10-lb., 5-row | @1.35 |
| Black Mission | |
| Standard (in 25s) | @12 |
| Choice (in 25s) | @13 |
| Extra choice (in 25s) | @14 |
| Fancy (in 25s) | 16½ |

**Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:**

Opening quotations for the 1922 crop of figs released July 24 by the San Francisco representative of the California Peach and Fig Growers' Association, show substantial advances, particularly in black Missions. This grade is quoted at 11¼ cents this year, as against an opening price of 5 cents a pound in 1921.

The complete price list for 1922 crop Blue Ribbon, dried figs follows:

Adriatic—Prime 6¼; standard, 6¾; choice, 8¾; fancy, 11¾.

Calimyrna—Standard, 8¾; choice 11¾; fancy, 14¾.

Black Mission—Standard, 11¼; choice, 14¼, fancy, 17¼.

These prices are for figs packed in twenty-five pound boxes, ¼c per pound less for packing in fifty-pound boxes.

Adriatics, ungraded, in bags....7¼c per lb.
Adriatic fig paste, 75-lb. boxes 5½c per lb.
12-10 oz., bricks, Adriatics....$1.10 per box
24- 8 oz. bricks, Adriatics.... 1.75 per box
50- 6 oz. bricks, Adriatics..... 2.80 per box
70-d oz. bricks Adriatics.... 2.95 per box
24- 8 oz. bricks, Calimyrnas.. 2.25 per box

For foil wrap or brick figs add 10c per box.

| Box | Row | | Inches Spread | |
|---|---|---|---|---|
| 10-lb. | 4 layer | Adriatic | 2½ | $1.60 |
| 10-lb | 5 layer | Adriatic | 2 | 1.40 |
| 10-lb. | 6 layer | Calimyrna | 2½ | 1.90 |

PULLED CALIMYRNAS

| | |
|---|---|
| 48-1-lb round box | $10.40 per case |
| 6-5-lb. boxes | 6.60 per bundle |

All prices f. o. b. California common shipping points.

For shipment September, October, November, seller's option.

Terms as per dried fruit contract adopted by the National Wholesale Grocers' Association and the Dried Fruit Association of California, April 23, 1919.

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼@11½ | 15 @15¾ |
| 40-50s | 9 @ 9¾ | 12¼@12½ |
| 50-60s | 8 @ 8¾ | 10¾@11 |
| 60-70s | 7½@ 7¾ | 9¾@10 |
| 70-80s | 7 @7¼ | 8¾@ 9 |
| 80-90s | 6¾@ 7 | 8 @ 8¼ |
| 90-100s | 6¾@ 7 | 7½@ 7¾ |
| 100-120s | in 50-lb. boxes, | 6¼ per lb. |
| 120-up | in 50-lb. boxes, | 5½ per lb. |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | 10¾@11 | 11 @11¼ |
| Choice | 11½@11¾ | 11¾@12 |
| Extra choice | 13 @13¼ | 13½@13¾ |
| Fancy | 15½@15¾ | 16½@16¾ |
| Extra fancy | 17 @17¼ | 18 @18¼ |

**Peaches, 1922, California Peach and Fig Growers' Assoc. prices, September-October shipment:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @ | @11¼ |
| Choice | @ | @12 |
| Extra choice | @13¼ | @ |
| Practically Peeled— | | |
| Standard | @ | @12¼ |
| Choice | @ | @13 |
| Extra choice | @14¼ | @ |
| 11-oz. Cartons, 60 per case | | 7.00 case |
| 2-lb. Cartons, 24 per case | | 8.25 case |
| 5-lb. Cartons, 10 per case | | 8.50 case |

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | 12½@13 |
| Choice | 14 @14½ |
| Extra choice | 15½@16 |
| Fancy | 17 @18 |

**Raisins, Sun-Maid Raisin Growers' Prices:**

Under the schedule of prices for the 1922 crop of raisins announced by the Board of Directors of the Sun Maid Raisin Growers to the trade August 9, the growers will receive 5¾ cents for Muscats, 6 cents for Sultanas, and 6½ cents for Thompson's sweat box basis. Northern bleached Thompsons, (Sun Maid quality) oil dipped, soda dipped or choice sulphur bleached Thompsons will bring the grower 6¼ cents. Fancy Northern sulphur bleached (Sun Maid quality) will bring $40 more per ton, extra fancy Northern sulphur bleached (Sun Maid quality) $60 more per ton. Southern bleached (Sun Maid quality) oil dipped, soda dipped and choice sulphur bleached will net the grower 6¾ cents. Fancy Southern sulphur bleached (Sun Maid quality) will bring 9cents. Extra fancy Southern sulphur bleached (Sun Maid quality) will bring 9 cents. Extra fancy Northern or Southern bleached packed by growers, (California brand) soda dipped, oil dipped and choice sulphur bleached are named at 5¾ cents. The price for fancy sulphur bleached (California brand) 9¼ cents. Muscat layers 3 and 4 crown, all packs will bring 7 4-10 cents. Six crowns will net 8 4-10 cents. A $15 bonus will be paid for making layers in addition to half-cent quality bonus for extra standard grade. Layers will be settled for on packout basis as provided for in the crop contract. "These prices," said F. A. Seymour, general manager, "will be returned to the grower on a sweat box basis. Their realization, however, depends upon the disposal of the entire crop at the new prices named by the board."

1921 crop practically sold out.

### HONEY

Market unsettled. Demand and movement light. Some inquiries from Europe but few sales. Adverse weather curtailing alfalfa yield. Hawaiian honey quoted per pound f. o. b. San Francisco, Water White, 6½ cents; Light Amber, 5½ cents; Dark Amber, 5¼ cents; Honey Dew Honey, 3¾ cents. Guatemala Honey quoted at 6½ cents per pound f. o. b. San Francisco.

### BEANS

California Bean Growers f. o. b. Cal. c. r. c.

| | |
|---|---|
| Large Whites | 5.30 |
| Small Whites | 6.00 |
| Pinks | 5.10 |
| Mexican Reds | 4.15 |
| Red Kidney | 7.50 |
| Cranberries | 5.75 |
| Bayos | 5.00 |
| Blackeyes | 4.00 |
| Henderson Bush Limas | 8.00 |

### HAY AND FEEDSTUFF

A. W. Scott Co. says under date of September 2:

Receipts past week 1730 tons as compared with 1255 tons previous week. Export and coast shipments have been livelier and the demand has picked up considerably. Railroad conditions have caused a rush of water shipments wherever possible, and freight space is at a premium with rates increasing; this will probably cause weakness of shipments in the near future. Alfalfa continues strong, although the demand has dropped off somewhat and no sales of any quantity have been reported. Demand continues steady though rather light in volume causing holders to be firm in their prices throughout the producing districts. Millfeeds generally have been declining as the mills in the northwest starting up will be offering on this market at reduced figures to work off their surplus.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions.)

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@17.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 14.00@16.00 |
| Wild Oat and Barley | 10.00@12.00 |
| Alfalfa Hay | 13.00@16.00 |
| Stock Hay | 9.00@11.00 |
| Straw | 9.00@11.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 27.00@28.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 30.00@35.00 |
| Millrun | 34.00@36.00 |
| Middlings | 46.00@48.00 |
| Linseed Meal | 55.00@60.00 |
| Coconut | 31.00@33.00 |
| Alfalfa Meal | 23.00@24.00 |
| Cottonseed Meal | 50.00@55.00 |
| Molasses Beet Pulp | 34.00@36.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices S. F. Grain Exchange, Sept. 5, f. o. b. S. F. warehouse and storage charges paid.

Barley Feed. 1.15@1.20; shipping, 1.25@1.35.

Wheat Mill, 1.80@1.85; Feed, 1.80@1.85.

Oats: 1.60@1.75.

# Citrus Markets

Los Angeles, September 6, 1922.

Oranges selling well. Shipments going forward daily. Less than 2000 cars Valencias yet to go.

Grapefruit in keen demand.

Lemons cleaning up with strong demand for more.

### Citrus Shipments

Shipments of citrus fruits to date since November 1, 1921. Southern California: Oranges, 21,682 cars; lemons, 9,092; total, 30,774. To same date last season: Oranges, 36,446; lemons, 10,265; total, 46,711. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,603 cars; lemons, 185; total, 6,788. From Northern California to date this season: Oranges, 372; lemons, 8; to-

tal, 380. To same date last season: Oranges, 305; lemons, 5; total, 310.

AT THE AUCTIONS

**August 30**

New York: 15 or., 1 lem. Val. 3.00@11.10, lem. 3.85@4.30.
Boston: 5 Val. 3.10@7.95.
Cleveland: 2 or., 3 lem. Val. 2.95@4.25, lem. 3.95@7.05.
St. Louis: 2 or., 3 lem. Val. 1.35@6.10, lem. 3.40@4.80.

**August 31**

New York: 15 or., 1 lem. Val. 3.20@12.75, lem. 4.15@4.70.
Philadelphia: 4 or., 2 lem. Val. 3.15@7.20, lem. 1.85@5.50.

**Sept. 1**

New York: 10 or., 2 lem. Val. 2.80@12.00, lem. 3.50@8.05.
Boston: 4 or., 1 lem. Val. 3.75@9.25, lem. 4.30@7.00.
Philadelphia: 4 or., 1 lem. Val. 2.75@7.65, lem. 2.20@3.20.
Pittsburg: 2 or., 2 lem. Val. 2.95@7.05, lem. 2.60@4.60.
Cleveland: 2 or., 3 lem. Val. 4.95@6.60, lem. 2.60@7.20.
Cincinnati: 2 or., 2 lem. Val. 2.15@7.15, lem. 2.35@4.95.

**Sept. 5**

New York: 21 or., 2 lem. Val. 2.90@12.20, lem. 3.50@6.65.
Boston: 6 or., 2 lem. Val. 2.20@9.55, lem. 4.90@6.90.
Philadelphia: 6 or., 1 lem. Val. 2.60@7.85, lem. 1.30@2.35.
St. Louis: 2 or., 2 lem. Val. 240@5.25, lem. 3.20@4.10.

# Snappy Notes on Livestock

Any error herein is unintentional and subject to correction the following week. This summary is assembled from the best sources obtainable, and both producers and packers can assist by reporting actual sales or buys, giving names, dates and facts, and we will, if requested, withhold names. All we want is fact and a fair deal and correct information for the producers. Address A. L. Spellmeyer, care California Cultivator, 317 Central Avenue, Los Angeles. The Cultivator reaches over 40,000 producing farmers and livestock men.

Average price now paid for good 1100 pound beef steers Los Angeles is $7.25 per cwt. Some beef steers are held at 8 cents and the market is decidedly stronger. The last government report states the northern part of California is fairly well cleaned up of grass beef. I hear of 6 cent light beef. The $5.00 and $5.50 steers seem now to be a memory. Cows don't show the price and strength of steers and seem to hang about two cents lower instead of the usual one cent.

Lambs are strong on both fat and feeders. Practically the bulk of over 200,000 Arizona lambs have been already contracted, and most of them go north to feed yards, around the Ft. Collins and Colorado districts. Fat lamb sales up to $10.50 California. There is a strong demand for light California feeder lambs around the 8 and 9 cent market, and while some sold up north at the former price, there are no general offers at any specified price, though many offers to buy on the 8 cent price for feeders f. o. b. range.

Carcass prices haven't changed but are a trifle stronger, and on both lambs and beef are due for a change soon. Ten cent cow beef can be bought and $11.50 steer beef of very good quality, and cuts from the 27 cent lamb lists, but an applied $13.50 steer list seems on the way in the not distant future. When steer beef reaches a 16 cent list, with 14 cents actually applied, as is not altogether impossible this winter, we will know that cattle have started to come back in actual fact.

**Outside Conditions**

Northern Arizona, fine range and grass. Southern Arizona, good. New Mexico, spotted and dry. Texas, spotted and dry.

Arizona and New Mexico lambs have been fairly well contracted. Feeder cattle, yearlings and stock cattle seem slow to be contracted in New Mexico. Various lots of cows and calves are there quoted from $30 to $45 for cow and calf together; yearling steers from $24 to $25; two steers from $30 to $36; three steers from $40 to $45. Prices quoted covered some 10,000 cattle. Sheep prices are $11 to $11.50 per cwt. for feeder lambs, $5 to $6 for old ewes, and $11 per head for good range ewes.

Arizona prices run now 5 cents by weight f. o. b. for steers, feeders and stockers, or $22 to $25 per head for long yearlings, $32 to $36 for twos and $40 to $45 for threes. The cheaper prices apply on twos and threes on scattered numbers as straight lots of larger steers are held strong at the higher prices. Arizona lamb price at $10 for any feeder lamb, $10.50 for tops and $6 for old ewes. Arizona is more than half contracted on steers already. Buyers are now in several districts that were not previously cleaned up.

There are not many cattle in the Utah and Nevada districts offered now, and what there are seem to have a hard time to be able to make up their minds as to prices they want. The entire country is asking for buyers, and there are from California to Indiana more sellers than apparent buyers for various kinds of livestock.

The dairy trade in Los Angeles is very active and good. Dairy cows are being bought up in Northern districts as far as Wisconsin in the Middle West and brought to Los Angeles. Colorado is contributing. Very good T. B. tested Colorado six to seven gallon milkers can be bought there at $120 per head. Some lots of well marked twos Holstein heifers are offered in Colorado at $45 per head. Stockyards or no stockyards, Los Angeles is a market of a big district, for we use their milk cows and their fat cows, their steers and their lambs and swine.

I have no accurate and positive swine information that covers any new deals in the last few days and will put nothing out in this column without backing of actual deals or data. $9.50 to $10 f. o. b. country was last price reported to me, and 18 cents for carcass pork last list price.

C. C. Ellis was down from the Porterville district this week, looking to trade his vineyard for a cow ranch.

Niemann, the well known Elsinore butcher, who has been ranching in Tulare county for some time, is again headed back towards the south.

J. B. Herndon, head of New Mexico war finance, returned to Albuquerque this week to keep on helping the cattle and sheep men there.

Heber, Utah, sold lambs this week on the Kansas City market at $13.50 per cwt. They brought $9 per head net basis Heber. Down in New Mexico cows with calves at side sold at only three times the price of the Heber lambs.

A number of the Kingman cattlemen are in Los Angeles and some of them returned with some loan men this week, so there is something doing in that district in loans and cattle buys.

The Bailey ranch sold a few cars of nice steers this week to a local packer at a very nice price. The Bailey ranch is between Saugus and Lebec, and their cattle did well. They shipped them to the Globe yards and sold from that place.

A number of California feeder buyers are now out on the ranges. Feeders are stronger than they were and you don't hear of any 5 cent California feeder steers of good quality being offered this week, although I have heard of a few sales at $5.50 for small lots.

If strikes or something else don't spoil matters things look very favorable now for the California livestock men. Pure bred registered dairy bulls are offered at comparatively low price and from all parts come prices on various range bulls that are low enough to tempt purchase.—A. L. Spellmeyer.

## CALIFORNIA CATTLEMEN'S MARKET REPORT

San Francisco, Sept. 4.

The Chicago market received an increased number of cattle during the past week and maintained a steady price, increasing approximately 15 cents a hundred.

The San Francisco market remains strong with a particularly good demand for choice cattle. An increased number of sales are reported at 7 cents f. o. b. ranch. Sales at that price are reported from San Benito County on the coast, from San Joaquin and Sacramento Valley Counties, and one sale at 7 cents f. o. b. ranch for eight cars of choice steers was paid at Klamath Lake the early part of last week. Market quotations in newspapers have increased ½ cent during the past week, quotations now appearing at 7½ cents for number one steers, 5½ cents for number one cows, and 9 cents for calves f. o. b. San Francisco. This does not mean necessarily that the price has gone up, since more than that has been paid for choice steers during the past three or four weeks. It does indicate, however, a strong market.

The Los Angeles market remains strong, and a considerable number of sales at 7 cents f. o. b. ranch for choice steers are reported to Los Angeles buyers. Good and medium steers continue to sell from 6½ cents to 6¾ cents f. o. b. ranch.

The demand for feeder cattle remains strong, and members are urged to use their association offices for disposing of half-fat feeder cattle.

Do not forget the cattlemen's meeting to be held at the State Fair, Friday morning, September 8th, at 10 A. M. You are urged to attend. It is Cattlemen's Day at the State Fair.

Beware of the speculative buyers who are always most active on a rising market. Sell direct. The speculator's profit belongs to you.

Report sales promptly to R. M. Hagen, Secretary.

## CALIFORNIA CATTLEMEN'S REPORT

San Francisco, August 28.—The Chicago market showed a considerable increase in receipts during the past week and a drop of about ¼c in price. This situation is probably the result of grass cattle coming in from the northwest to eastern markets.

The San Francisco market remains steady with perhaps a stronger demand for good cattle than reported last week. While no sales have been reported at more than 7 cents f. o. b. ranch for good choice fat steers, yet the number of sales at that price is somewhat increased. These 7 cent sales are, of course, for good top cattle and the bulk of sales are for 6½ cents to 6¾ cents at the ranch. Such sales are reported from San Joaquin County and from as far south as Kern County to San Francisco buyers. Sales are reported at 5 cents for cows weighed at the ranch.

The Los Angeles market remains steady, with particularly strong demand for heavy cattle. The bulk of sales are reported at 6½ cents to 6¾ cents f. o. b. ranch for steers, and 5 cents f. o. b. ranch for cows. A contract sale of choice fed cattle is reported at 8 cents delivered in Los Angeles for steers, delivery to be made during the coming two months. This same contract sale includes cows at 6½ cents.

After the usual delay due to redtape, we can now report that the two government livestock reporters have actually arrived in California, being transferred from market reporting work at Chicago and St. Louis. A conference of these market reporters, state and government agencies, and representatives of livestock organizations, will be held on Wednesday, August 30, and actual livestock reporting by these government men will begin on September 1.

The supply of grass fat cattle coming from the mountains is not large, and the north coast section of the state is practically cleaned up at the present time. Hay fed cattle are reported to be selling at 6½ cents to 6¾ cents f. o. b. ranch in Arizona, and choice feeder steers are selling at 5 cents f. o. b. cars at Arizona points.

Do not forget the cattlemen's meeting to be held at the state fair on Friday, September 8, at 10 a. m. You are urged to attend this meeting.

Sell only prime cattle. Use your association to dispose of half fat cattle for feeder purposes. Report sales promptly to R. M. Hagen, secretary.

## ASSOCIATION NAMES PRUNE PRICES

Opening prices on the 1922 crop of prunes were named as follows by the California Prune and Apricot Growers Association:

| | |
|---|---|
| 20-30 | 23¼c per pound |
| 30-40 | 10¾c bulk basis |
| 40-50 | 8½c bulk basis |
| 50-60 | 7½c bulk basis |
| 60-70 | 7c bulk basis |
| 70-80 | 6½c bulk basis |
| 80-90 | 6¼c bulk basis |
| 90-100 | 6¼c bulk basis |
| 100-120 | 4½c per pound |
| 120-up | 4c per pound |

The above prices are named on the Sunsweet Brand. The Growers Brand is quoted at a quarter of a cent under this schedule. The above prices are figured on a bulk basis and do not include packing charge.

The association has this year delayed opening prices much later than in any previous season because of recent dull and unsettled market.

In commenting on the action just taken, General Manager Coykendall said:

"Our association faces a very unique situation. We have had for some weeks past a very dull trade condition. An early small demand from export markets provided foundation for a rather premature early development, and owing to the peak arrived at in this trading and to the domestic situation, the result of strikes and industrial tieup, we have had a decidedly dull market for many weeks past. With ready deliveries now in sight, we confidently look forward to renewed interest and trading and consider our prices entirely fair and worthy of trade's good attention.

Of course for the future as in all other businesses, we are dependent on conditions that may develop through the fall and winter. With settlement of strike conditions and renewed industrial activity, we would expect trading that will warrant a material advance in our schedule. At the present time whereas our sales firm at opening are confirmed at prices named above, we are now quoting the trade at a quarter of a cent advance.

"Our growers realizing all of the conditions surrounding the market at the present time, and especially the heavy crop of fruit prevalent through the nation and the world, will appreciate our opening prices. At times like the present, without the association the forced sale of many growers would bring about a total demoralization whereas with an association and with a certainty of reasonable delivery payment, the grower is in a position to stand for the maintenance of his market."

At the same time the association management announces that first payment to growers in the new season will be made all in cash on the following schedule:

20-30 10 cents per pound.
30-40 to 60-70 inclusive 4 cent basis.
70-80 to 90-100 inclusive 3 cent basis.
Sizes smaller than 100, 1½ and 1 cent per pound.

This payment, except on small sizes, is the same as last year, with the exception that the whole will be paid this year in cash whereas last year it was paid fifty per cent in cash and fifty per cent in notes.

## FOR POISONING ANTS

One of the most reliable ways of poisoning ants is to use equal parts tartar emetic and sugar. Moisten this with enough water to make into a syrup and pour into shallow dishes and set them in runways of the ants. They will eat very freely of this and as the poison does not act quickly, it will be carried to the burrows and fed to the larvae. In this way the old and the young die together, and a large colony is soon disposed of. In case the water dries out of the dish, more may be added, as this mixture does not spoil.—Colorado Agricultural College.

**WEATHER REPORT**

San Francisco, Sept. 2, 1922.

| Stations | Rainfall Week | Rainfall Season | Temp. Norm. | Temp. Max. | Temp. Min. |
|---|---|---|---|---|---|
| Eureka | 0 | .03 | .23 | 64 | 52 |
| Red Bluff | 0 | .30 | .04 | 98 | 64 |
| Sacramento | T | T | .01 | 96 | 60 |
| San Francisco | T | T | .01 | 80 | 54 |
| San Jose | T | T | .04 | 90 | 50 |
| Fresno | T | T | 0 | 100 | 62 |
| San Luis Obispo | 0 | T | .05 | 96 | 52 |
| Los Angeles | 0 | T | 0 | 94 | 62 |
| San Diego | T | .01 | 0 | 82 | 66 |

**COMING EVENTS**
(Corrections and Additions Requested.)

**Tehama County Fair, Red Bluff,** September 11-17.
**Tulare County Fair, Tulare,** September 13-19.
**Colusa County Fair, Colusa,** September 13-17.
**Glenn County Fair, Orland,** September 18-23.
**Kings County Fair, Hanford,** September 19-23.
**Fresno County Fair, Fresno,** September 25-30.
**Siskiyou County Fair, Yreka,** September 26-30.
**Orange County Fair, Santa Ana,** September 27-30.
**Shasta County Fair, Anderson,** September 28-30.
**Ventura County Fair, Ventura,** October 5-8.
**Butte County Fair, Oroville,** October 2-7.
**Pork Day, Turlock,** October 11.
**Los Angeles County Fair, Pomona,** October, 17-21.
**Southern California Fair, Riverside,** October 10-16.
**San Francisco Livestock Show,** October 18-22.
**California Horsebreeders Association, Los Angeles,** October 18-22.
**International Festival of Dates, Indio,** October 18-22.
**Pork Day, Fresno,** October 20.
**California Industries Exposition, San Francisco,** October 27-28.
**Yucaipa Apple Festival, Yucaipa,** November 9-12.
**Pacific Slope Dairy Products Show, Fresno,** November 13-18.
**Valley Citrus Fair, Visalia,** November 26-December 2.
**Orange and Olive Festival, Oroville,** November 28-December 2.
**First National Walnut Exposition, Santa Ana,** December 4-9.

COAST AND GENERAL

**Washington State Fair, Yakima,** September 18-23.
**Oregon State Fair, Salem,** September 25-30.
**Arizona State Fair, Phoenix,** October 30-November 4.
**Pacific International Livestock Show, Portland,** November 5-12.
**Northwest Fruit Growers Exposition, Seattle,** November 11-19.


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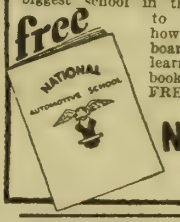


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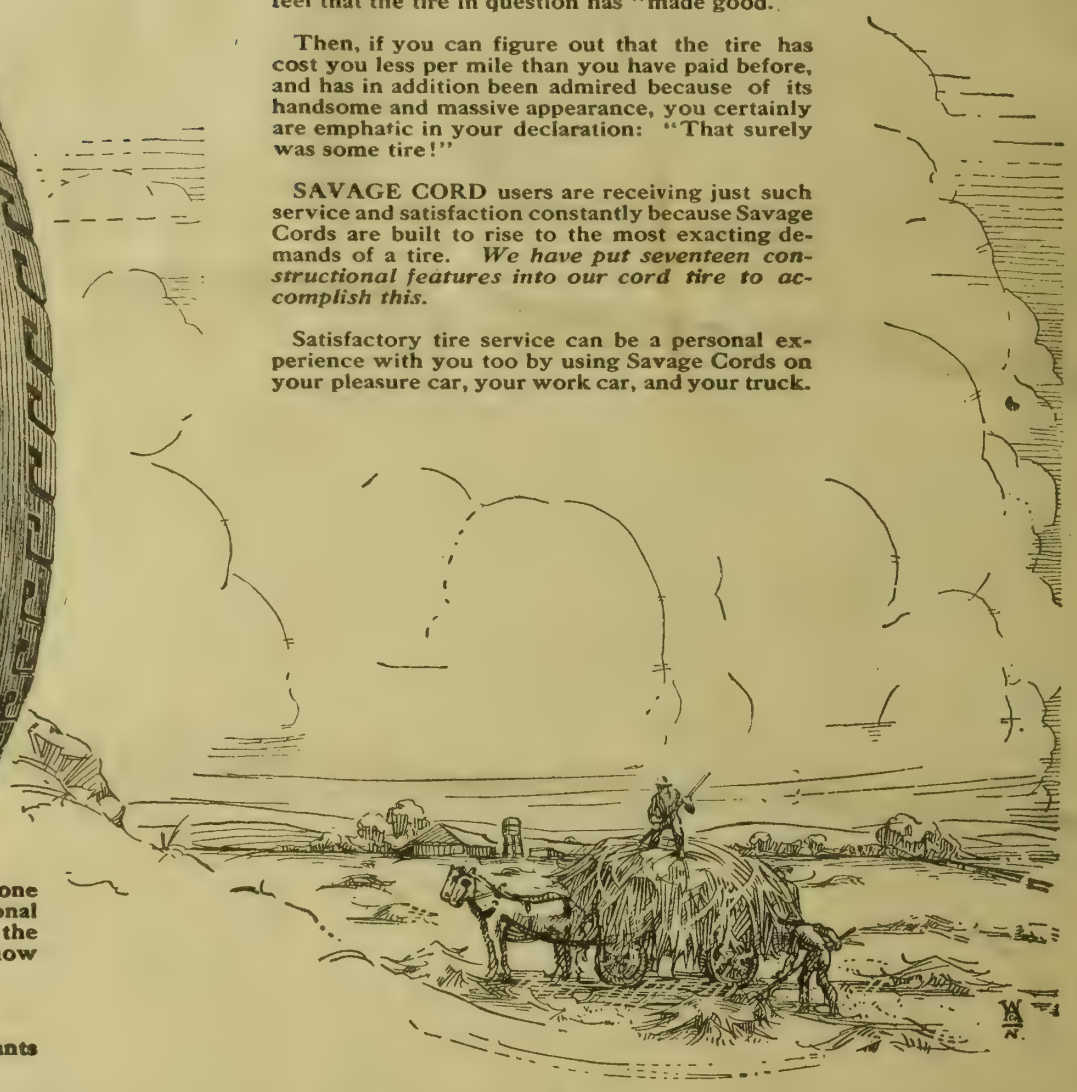

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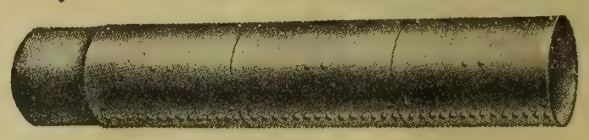

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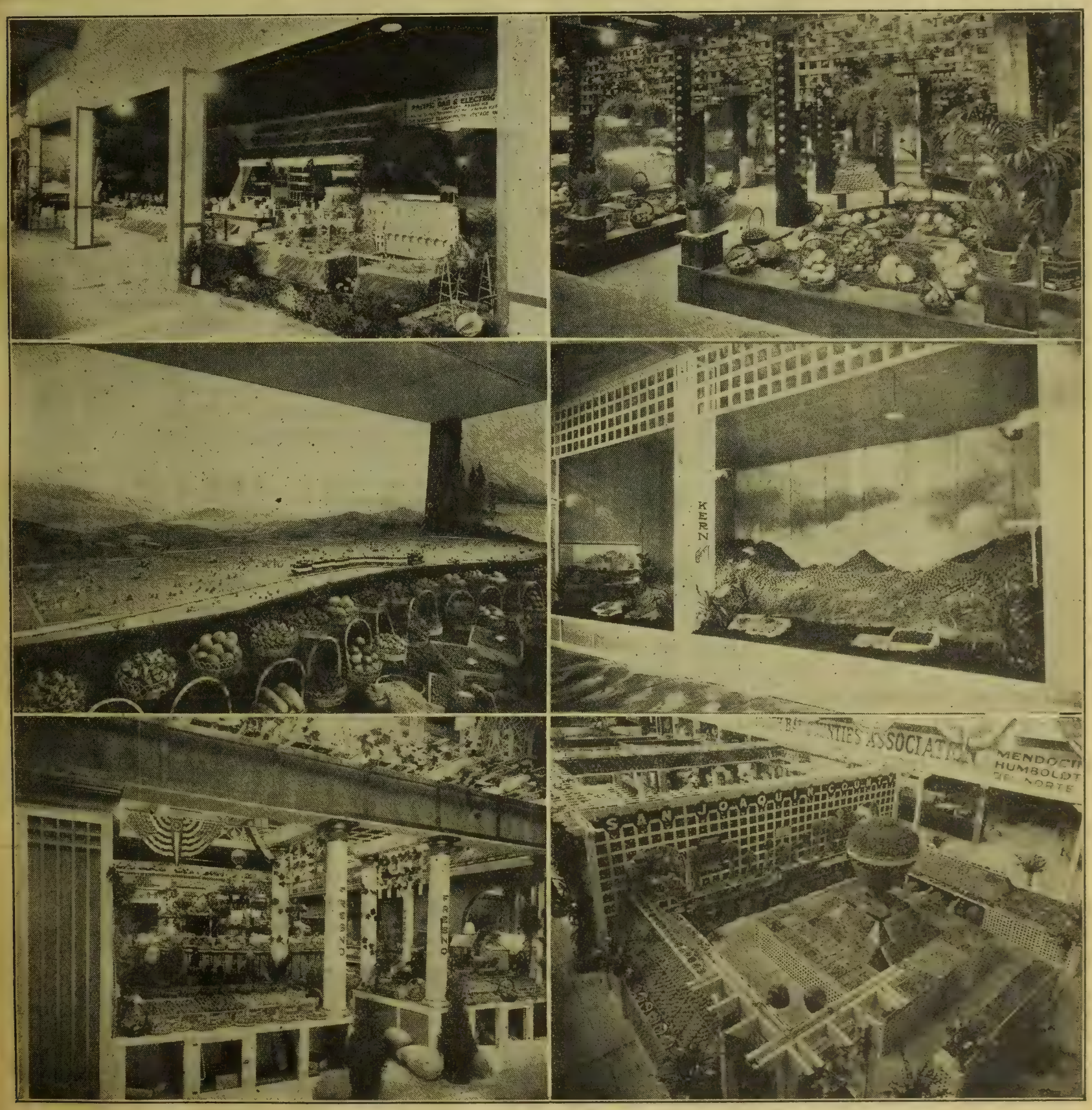
# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

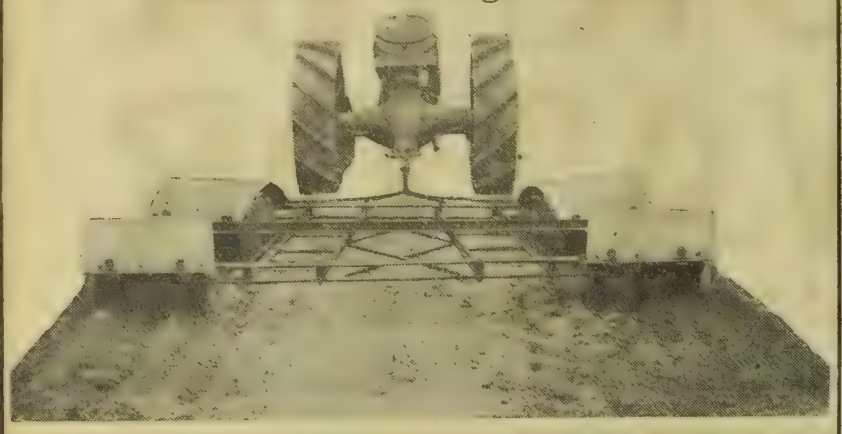
Vol. LIX — September 16, 1922 — No. 12


Some of the County Exhibits in the Horticultural Building at the California State Fair, 1922

# BRENNEIS
# Extended Orchard Disc Harrow

For Fordson and Light Tractors



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Designed for California orchards.

Total height to top of guards 20 inches.

All working parts and load in direct line with axles and pull.

No twisting of frame or tilting up when loaded for deep tillage.

Frame will carry 500 pounds extra weights.

It is built for hard work and to deliver service.

Fitted with grease cups in easy reach yet entirely out of the way.

Comes equipped with 18 inch cutout discs.

Equipped with a simple yet positive automatic shift, which sets the discs at any angle and is controlled entirely from the tractor.

With one hand set the chain in the position desired and when the tractor starts it automatically pulls the harrow gangs in that position.

No levers to set, no cranks or wheels to turn, no ropes to pull, no spring to break. No trouble with this hitch as the tractor does the work.

This hitch is our own design and is being fully protected by patents.

10 foot wide, 5 foot cut (2½ foot on each side of tractor). Weight 750 lbs.

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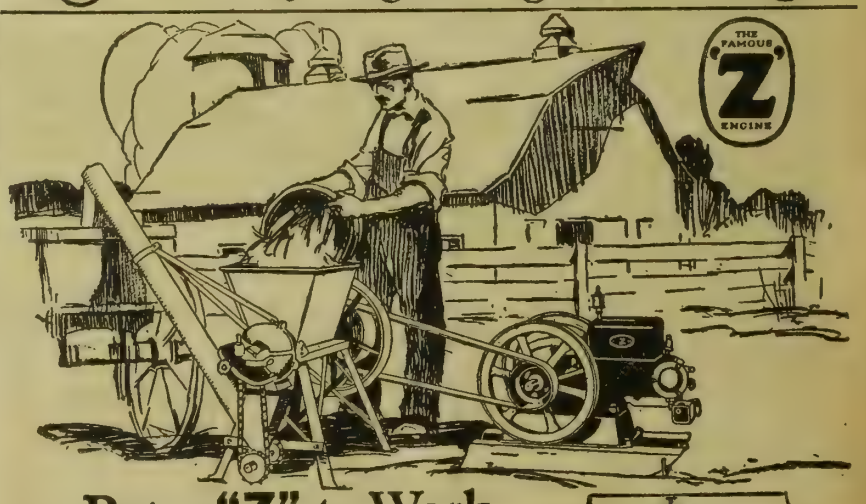


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# California Cultivator

Vol. LIX, No. 12 | Los Angeles, September 16, 1922 | One Dollar Yearly


# Horticulture and Its Implements on Dress Parade

By M. C. Holman

THE side shows, merry-go-rounds, Ferris wheel, catch penny schemes and other similar amusements were removed to a very remote section of the state fair grounds where they would least disturb the visitors who went there to view the state's progress and who were bent on getting as much out of the fair as possible. The attendance was made up of real, worth while folks there to learn what California is doing agriculturally. There was abundant proof that the census of the United States for 1920 is correct in placing California at the top.

The pumping tent revealed many improvements. The location was better, there was more space, more pumps and greater action. Small two inch pipes to the big six inch pipes, throwing water in every direction, conveyed an adequate idea of the power of the pumps and the tremendous utility of their operation.

The one big feature of the state fair is the horticultural building which stands in the center of the grounds. We have never seen the interior of this building so artistically decorated with designs in which California's fruit is made a part. From the beautiful statue of Liberty, which was kept constantly revolving, to the magnificient scenes of the broad California orchards, one passes through a veritable fairyland to see which is to realize that California, great in many things, is greatest of all in her magnificent orchards. Packed and processed fruits, vegetables and grains represent progress; they represent the utilization of our products in a most complete manner.

Mentioning only a few: There is a splendid exhibit by the state fish and game commission, in which live fish disported in miniature brooks and in glass cases. An artistic setting gave admirable opportunity for showing some of our native animals in their accustomed haunts. The commission also had a wonderful display of motion pictures.

It was most pleasing to note the harmony which exists between various groups of counties. The association of the northern counties presented a great display as did many of the central and southern counties. The mining counties had splendid showings of minerals.

Particularly notable was the exhibit in the section occupied by the state department of agriculture. This exhibit was probably never excelled in educational value. It occupied the entire south end of the building. The several departments were presided over by experts. The section of seed germination illustrated a complete story of seed testing. Thousands of dollars are saved each year by this branch in determining for prospective planters the germination value of the various seeds which are presented for examination.

In the pest control exhibit we had an opportunity of looking at several dozen of the dangerous Mediterranean flies. Fortunately they were safely pinned to a large board and had lost their power for further destruction. It has been said that if the Mediterranean fly gets into California it will, to a very great degree, destroy the fruit industry. Examples of its destructiveness in foreign countries have been enumerated many times and the quarantine against this pest is and should always be rigid.

We must not fail to give credit to the plant quarantine service of the department of agriculture for its vigilance in protecting the state. The sugar cane borer of India was taken from the baggage of a passenger who had attempted to land the pest at San Francisco. Some Kamani nuts coming from Hawaii were infested with larvae of the Mediterranean fly, and they were intercepted at San Francisco. Had the vigilance of the department been less, we cannot say what this shipment of these Kamani nuts would have meant to our state. The Oriental peach moth was intercepted coming into California from New Zealand. This is very destructive to peaches and the pest is now established in the eastern part of the United States, where it works terrible destruction each year and requires great vigilance to keep it under control. Specimens of these insects have been very carefully preserved for examination. It is not possible to urge too strongly that liberal appropriations be made each year to the department of agriculture, so that the fruit crop of California may not be blighted and production lessened.

A most interesting display of the department of agriculture was that of a dozen or more rodents. The method of proper extermination was adequately demonstrated. A complete chemical laboratory was in full operation showing some of the laboratory work of the department.

The Woman's Building is of special interest. It is presided over by Mrs. D. J. Milne, as official hostess. Mrs. Milne has been the hostess since the opening of the building in 1916 and her manner makes one feel perfectly at home. On the lower floor is conducted a baby clinic in which from 75 to 100 babies are examined each day. As a part of the duties the baby is given its bath, after which it is given a thorough going over, and a chart showing its physical status is presented to the admiring mother. Upon the health of the children depends the fate of the nation and judging by the babies presented for examination at the state fair, this nation should be particularly healthy.

There was also a dental clinic for the older children. Charts and posters from the California Dairy Council show the value of various food for children; also proper clothing and proper housing accommodations to produce the best results. This section is always thronged with interested mothers and each baby is given a special examination by the nutrition expert from the state's tuberculosis department. The lower floor also con-

(Continued on Page 290)

A Couple of Buildings and Scenes in Farm Power and Implement Tents

1, Women's Building devoted to domestic science, needlework and fine arts. 2, Cletrac on a pedestal. 3, H. C. Shaw Company and general view in tractor tent. 4, Speaks for itself and is big enough to make its own way. 5, Tools and charts used in extension work of the tractor school. 6, University of California houses a big exhibit in its own building. Dairy products are also exhibited in right end of building. 7, Tractor dis-assembled to show working parts. It is reconstructed in daily demonstrations. 8, Exhibit of H. V. Carter Company. 9, A view of some of C. L. Best Company's tracklayers. 10, H.-P. tractor in Hadfield-Penfield exhibit. Also Fordson tracklaying device.

# Agricultural News Notes of the Pacific Coast

## Northern California

Rice harvesting commenced in Glenn County about September 15.

Stockmen of northeastern Modoc have shipped nearly all of their lambs to San Francisco.

Sonoma County's Gravenstein crop was about 800 carloads as against 350 carloads last year.

The second annual convention of the Placer County fruit growers will be held in Auburn on October 4 and 5.

The first rice cut in the whole rice belt of Central California was harvested on the Packer ranch, near Willows, September 2.

The Applegate orchard at Codora, Glenn County, has sold more than $2,500 of peaches from four acres.

The turkey crop for Tehama and Glenn Counties is estimated at more than 100,000 for the coming holiday trade.

More than 400 people are engaged in harvesting the fruit crop on the Superior ranch near Monroeville, Glenn County.

Livermore Valley, Alameda County, reports a heavy grape crop, but late cool weather will defer picking until late September.

Five makes of heading devices will be used to harvest the White Yolo at the University of California farm at Davis about October 1.

Twelve silver cups will be awarded in Sonoma County for the best Gravenstein apples, at a contest to be held at Santa Rosa the last week in September.

The final organization of the Glenn County cow testing association was completed by election of Peter Kasak as president and M. G. Haigh as secretary.

There are 108 entries made in the livestock division of the Glenn County fair by members of the agricultural clubs. Fair will be held next week, September 18-23, at Orland.

The first government report of livestock market was issued by the San Francisco office, September 7. Federal and state departments of agriculture combine in the service.

"Sixty per cent of the municipal expenses of Palo Alto are paid by the revenues of the public utility enterprises owned and operated by the city," says Professor West of Stanford University.

The Sun-Maid Raisin Growers plant at Yuba City, though a remodeled packing house, is equipped with latest style raisin stemmers and recleaners and is practically a duplicate of installations through the San Joaquin Valley.

The railroad commission has restored freight rates on paddy rice to a basis of 25 per cent in excess of grain rates and ordered reparation to shippers in excess of this ratio. This affects mainly Glenn and Colusa County shippers.

A survey by the Sonoma County farm bureau of the value of silage as compared with other feeds in the dairy district shows that an increase of seven and two-tenths pounds of butterfat per month per cow was obtained in the herds being fed silage as compared with those not receiving this feed.

## Central California

Tulare County fair is on this week, September 13-16.

Clovis, Fresno County, reports fruit shipments cut 50 per cent by car shortage.

Several new bleaching houses have been built at Yettem, Tulare County, for handling Thompson Seedless.

Leon Leighton, who lives near Keyes, Stanislaus County, has at the state fair an exhibit of 69 varieties of fruit.

Grain fires on the Turlock Garden Lands property near Jennings destroyed between $5,000 and $6,000 worth of grain.

Chester H. Rowell has announced his resignation from the state railroad commission, to take effect January 1.

Raisin growers are urged by association inspectors not to pick grapes until they show 23 to 24 per cent sugar content.

Hilmar, Merced County, though ready for a big crowd at its community fair, was surprised at the numbers who came.

The Spreckels ranch at Aptos, Santa Cruz County, has been sold to Fred L. Somer of Pomona. It is reported that it will be subdivided.

Early season estimates of a raisin pack of 250,000 tons will probably be materially raised because of strike forcing more extensive drying.

The Weed Patch farm center held its first annual community fair at Vinland on Saturday, September 2. Large crowds attended from Arvin, Edison, Fairfax and Bakersfield.

The Sun-Maid plant at Dinuba is a three story building of reinforced concrete and brick 80 by 140 feet. There will be many new features in equipment.

First carload of dried peaches from Kings County was sent, September 2, from the Hanford plant of the California Peach and Fig Growers, designed for Bordeaux, France.

A shipment of Thompson Seedless grapes showing sugar content of 27 per cent was made by J. F. Frantz of Riverbank, according to Horticultural Commissioner Rutherford.

A record price for Alicante Bouschet grapes was paid when five carloads, grown on ten acres of land on the A. W. Haydock ranch, on the Coffee road, east of Modesto, brought $140 a ton.

A grape exposition is feature of the Madera County fair being held this week, September 14-16, at Chowchilla. Madera County now has approximately 30,000 acres in vineyard, about half of it bearing.

A special rain forecast for raisin growers will be made by the United States weather bureau, daily after 6 p. m. Growers may telephone for this information to Fresno 5800 during office hours; Fresno 5809 between 5 and 9 p. m., and Sundays and holidays.

Meeting in Visalia in all day session, September 1, directors of the 14 ditch companies on the Kaweah river, plaintiffs in the five year old litigation which has cost $450,000 already, rejected proposition for ending suit, submitted by Lindsay-Strathmore committeemen.

## Southern California

Southern California Apple Show at Yucaipa, November 9-12.

The Ventura County Calf Club has been awarded a silver cup for display at state fair.

Bee Inspector Marks of Ventura County is finding much honey still in beekeepers hands.

Riverside is busy with preparations for the Southern California Fair to be held October 10-15.

Cotton growers of the Bard district met, August 26 to sign up cooperative cotton marketing contracts.

The Riverside plant of the California Growers Association is handling 100 tons of peaches a day.

Several arrests were made at Blythe last week of ranchers who permitted Johnson grass on their premises.

The Valley Packing Association is now packing early varieties of Coachella Valley dates at El Monte.

An interstate bridge across the Colorado River at Blythe is being urged by the Indio chamber of commerce.

C. J. Claussen, nurseryman of Brawley, says that pears will some day be the third important fruit crop in the valley.

Special arrangements are being made for featuring livestock at the Orange County fair at Santa Ana, September 27-30.

Miss O. A. Miller, has arrived in El Centro to take up her duties as home demonstration agent of Imperial County. She succeeds Mrs. Yonge.

A prize of $25 is offered by the Deciduous Fruit Distributors of Southern California for a brand name. The office of the association will be opened at Redlands.

Better cows and more feed will bring prosperity to Imperial Valley says Vice President Fuller of the Southern Trust and Commerce Banks at El Centro and Brawley.

R. L. Churchill, manager of the California Lima Bean Growers, has returned from a four weeks trip through Eastern markets. He reports beans in Michigan late but a big yield in sight.

The union stockyards in Los Angeles, which contemplate the expenditure of millions and giving the opportunity for livestock men to secure advantage of real competition, is nearing the state of active construction.

A shipment of 10,000 palm leaves will go from Coachella in time to reach New York for Jewish feasts, October 7-15. The leaves are chosen from near the heart of the tree. Prior to the war these palms were imported from Italy.

Bee Inspector Hansen of San Diego County reports nectar flow not as large as had been hoped early in the season. Buckwheat, white and purple sages, mullein and tarweed are still holding out in some of the higher altitudes.

The city council of Los Angeles fixed the tax levy for the fiscal year at $1.26 per hundred of valuation. This is a reduction of 19 cents a hundred from last year when the rate was $1.45. This reduction of 19 cents is made possible by funds turned in to the city from the bureau of light, water and power. In addition a reduction of 10 per cent in electric rates was made a short time ago.

## The Coast and General

Some lettuce has been seeded in Arizona truck raising sections.

Special express refrigerator service brought berries from Spokane to Chicago this year in 80 hours.

Consul L. Smith at Saigon, says the Indo-Chinese buy each year 47,000,000 francs worth of foreign sweets, mostly from China.

Canadian cattle, for 25 years quarantined from ports of the United Kingdom will soon, it is announced, be permitted entry.

The Arizona highway commission will soon let contracts on the 42 miles from Welton to Aztec, another link in the Yuma-Phoenix road.

Hot dry weather in dairying sections of the East has reduced butter production. Storage holdings show decrease over last year at this time.

Filled milk interests have withdrawn motion for rehearing of case in which supreme court of Wisconsin upheld the law prohibiting manufacture and sale of filled milk within the state.

Australia is seeking new markets for their livestock and meat supplies The Grazers' Association of New South Wales is inquiring into the possibilities of Java, Japan, and China as markets.

The Oregon Growers' Cooperative Association reports the loganberry season practically closed on August 1. The association handled 2,810,000 pounds which were sold fresh, dried, canned and barreled.

The coffee beetle, which has for years been destroying coffee plantations throughout Africa, the East Indies, and other coffee growing districts, may at last be curbed by a recent discovery in Java.

In Steuben County, New York, the battle is on against tuberculosis. Veterinarians have tested every one of the more than 50,000 cattle in the area. The United States reports this the biggest job undertaken under the area plan of eradication.

The 1910-1914 average sugar beet acreage harvested in Russia was 1,832,622; total yield, 12,358,912 long tons. In the season of 1921-22 acreage harvested was 292,040; yield, 492,987 long tons. Yield per acre in 1910-14 period was 6.74 long tons; in 1921-22, .96 tons.

South Africa's orchards contain 116,320 lemon trees, 1,382,410 orange trees, 323,300 tangerine trees, 1,211,550 apple trees, 907,800 apricot, 105,300 mango, 57,560 nectarines, 2,411,270 peach, 542,420 pear, and 995,570 plum trees, according to the government census. Thousands of acres are devoted to grapes and currants, and the South African dried fruit exports, the bulk of which goes to England, are growing larger.

Out through Ohio, Indiana and Iowa hundreds of thousands of live chicks, but a few days out of their shells, are shipped up to Manitoba, Canada, every spring. The seasons are so late there that it is difficult to procure fertile eggs in sufficient quantities early enough to supply the demand for young chickens and to produce birds for breeding purposes. Heated cars keep the youngsters warm, and generally speaking, the loss in consequence of the long haul and bad weather is insignificant.

# Great Honors Won by Purebreds at State Fair

THE judges of the livestock classes were unanimous in that breeders of California purebreds are worthy of highest commendation for thoroughgoing work. "Never saw better at any state fair," was a common expression. The best comment which can be made is that by Jack Klein, Prof. Hughes, R. A. Condee and others who give of their observations made through several days of the judging in the different rings. These are especially for Cultivator readers.

We regret that we cannot give all the awards and comments in this issue. A continuation to another week, however, will, we hope, be permitted by our readers. This has been made necessary because of the efficient work of "the boys" who have put in two hard weeks at Sacramento.

## BEEF CATTLE SHOW

The display of beef cattle at this year's fair was short of many former fairs in point of numbers but most of the old time breeders were there even though their herds were smaller than formerly. The quality was exceedingly high and competition in most classes was very keen.

One of the features of the show was the winnings of men who have shown but once or twice before. They cut in on the old timers and in some cases took most of the money.

### Shorthorns

The outstanding feature of the Shorthorn competition was the clean up made by the Caledonia Farms, which took first in every class but two and won all championships. This was not done without competition but was against herds which in former years won most of the money and returned this year stronger than ever. Caledonia was simply invincible and could not be headed. The showing of the calves of Imp. Caledonia, who died last week, mark him as one of the greatest Shorthorn bulls ever in the West. His get of sire were first and second and the first get included both the grand champions.

Pacheco, Straloch and Tom Miller were consistent contenders and won most of the balance of the money.

Exhibitors: Caledonia Farms, West Sacramento. Edinger Johnston Co., Hood. T. S. Glide, Davis. Thos. T. Miller, Hollister. Pacheco Cattle Co., Hollister. Straloch Farm, Davis. Howard Vaughn, Dixon.

The awards follow:

Three bulls owned by exhibitor—1 and 2, Caledonia. 3, Straloch. 4, Pacheco. 5, Miller.

Two bulls bred and owned by exhibitor—1, 2 and 3, Caledonia. 4, Pacheco. 5, Miller.

Aged bull—1, Caledonia on Gainford Matchless. 2, Miller on Milmar Matchless. 3, Vaughn on Clarion.

Two year old—1, Caledonia on Caledonia King 2nd. 2, Straloch Farm on Imp. Braywood Collynie. 3, Pacheco on Pacheco Lad 215th. 4, Miller on Milmar Sultan.

Senior yearling bull—1, Caledonia on The Caledonian. 2, Glide on Hilcrest Lord. 3, Miller on Stamp of Milmar.

Junior yearling bull—1, Straloch Farm on Helmsman. 2, Miller on Milmar Sultan. 3, Pacheco on Pacheco Lad 284th.

Senior calf bull—1, Caledonia on Caledonia Omega. 2, Caledonia on Caledonia Emblem. 3, Caledonia on Caledonia Supreme. 4, Straloch Farm on Village Cumberland 107. 5, Pacheco on Pacheco Lad 314th. 6, Miller on Sultan Milmar. 7, Glide on Lord Perfection 2nd.

Junior bull calf—1, Caledonia on Caledonia Commander. 2, Straloch Farm on Straloch Marquis. 3, Pacheco on Pacheco Fairplay. 4, Miller on Milmar Stamp 6th. 5, Edinger Johnston on Rosebud Ensign.

Aged cow—1, Caledonia on Glenbessie 3rd.

Two year old—1, Caledonia on Glenbrooks Memory 43rd. 2, Miller on White Briar Milmar.

Senior yearling heifer—1, Pacheco on Knights Lassie. 2, Caledonia on Caledonia Queen. 3, Straloch Farm on Straloch Maria. 4, Caledonia on Caledonia Rosetta. 5, Miller on White Milmar. 6, Miller on Choice Beauty Milmar 4th.

Junior yearling heifer—1, Caledonia on Caledonia Mischief 2nd. 2, Caledonia on Caledonia Countess. 3, Pacheco on Pacheco Lass 280th. 4, Glide on Village Lassie 2nd. 5, Straloch on Silver Missie H 51. 6, Glide on Village Rose 2nd. 7, Miller on Milmar Mistletoe 2nd. 8, Glide on Lady Sweetheart 2nd.

Senior heifer calf—1, Pacheco on Silver Beauty. 2, Caledonia on Matchless Missie. 3, Miller on Beauty Milmar. 4, Straloch on Straloch Fashioness No. 62. 5, Straloch on Missie of Straloch No. 55. 6, Glide on Cheerful Maid 6th. 7, Straloch Farm on Straloch Fashion No. 588, Pacheco on Silver Beauty.

Senior and grand champion bull—Caledonia Farms on Caledonia King 2nd.

Junior champion bull—Caledonia Farms on Caledonia Commander.

Senior champion female — Caledonia Farms on Glenbessie 3rd.

Junior and grand champion female—Caledonia Farms on Caledonia Mischief 2nd.

Aged herd—1, Caledonia.

Yearling herd—1, Caledonia. 2, Pacheco. 3, Straloch Farm. 4, Glide.

Calf herd—1, Caledonia. 2, Pacheco. 3, Straloch Farms. 4, Glide.

Get of sire—1, Caledonia Farms on get of Caledonia. 2, Caledonia Farms on get of Caledonia. 3, Miller on Milmar. 4, Straloch Farms.

Breeders young herd—1, Caledonia Farms. 2, Pacheco. 3, Straloch Farm. 4, Glide.

### Herefords

The Hereford show was the strongest in the beef breeds and the prize money was well distributed. William Briggs and Son, who are comparatively new breeders, won grand champion bull and C. S. Howard, showing for the second time, had the champion female.

Cazier and Bunting were also strong and took many ribbons. The get of Beau Blanchard 76 won for him, showing that he is a great breeding as well as show bull.

Exhibitors: H. A. Baldwin, Pleasanton; Wm. Briggs & Son, Dixon; J. A. Bunting, Mission San Jose; G. W. Burgess, Casa Grande, Arizona; California Polytechnic School, San Luis Obispo; Jno. H. Cazier & Sons Co., Wells, Nevada; G. W. Emmons, Danville; H. H. Gable, Esparto; C. S. Howard, Willitts; E. A. Noyes & Sons, Sutter; Chas. Rule, Jenner.

The awards follow:

Three bulls owned by exhibitor—1 and 2, Cazier. 3, Howard. 4, Bunting. 5, Gable. 6, Noyes. 7, Briggs.

Two bulls bred and owned by exhibitor—1, Cazier. 2, Cazier. 3, Bunting. 4, Noyes. 5, Briggs. 6, Cazier. 7, Gable.

Aged bull—1, Briggs on Lincoln Domino. 2, Rule on Roehampton 34th. 3, Burgess on San Carlos.

Two years old and under three—1, Gable on Real atrician. 2, Howard on Mischief Fairfax. 3, Noyes on Milo Corker. 4, Gable on Aristocrat. 5, Noyes on California Mischief.

Senior yearling bull—1, Cazier on Beau Utah. 2, Burgess on Beau Boniface. 3, Burgess on Beau Grand Jr.

Junior yearling bull—1, Howard on Beau Blanchard Jr. 2, Cazier on Blanchard 16th. 3, Cazier on Blanchard 23rd. 4, Briggs on Red Rupert. 5, Burgess on Modesty Domino. 6, Emmons on Little Wizard. 7, California Polythechnic School on Blanchard 15th.

Senior bull calf—1, Cazier on Blanchard 32nd. 2, Howard on Beau Perfect 1st. 3, Cazier on Blanchard 27th. 4, Bunting on Mission 2nd. 5, Noyes on Ideal Corker. 6, Cazier on Blanchard 33rd. 7, Bunting on Mission Brummel. 8, Rule on Dandy Domino.

Junior bull calf—1, Briggs on Donald Dare 1st. 2, Bunting on Mission Paragon. 3, Gable on Woodland. 4, Cazier on Lincoln Blanchard. 5, Howard on Prince Mansell 6th. 6, Briggs on Donald Lad 3rd. 7, Gable on Yolo Lad. 8, Baldwin on Anxiety's Lad.

Cows two years old—1, Howard on Lady Fairfax 20th. 2, Baldwin on Aurora 2nd.

Senior yearling heifer—1, Cazier on Aloha 2nd. 2, Briggs on Miss Dare 20th. 3, Baldwin on Princess B. M. 4, Emmons on Diablo Beauty. 5, California Polytechnic School on Loyise 9th. 6, California Polytechnic School on Eulalie 5th. 7, Emmons on Diablo Gladelis.

Junior yearling heifer—1, Cazier on Aurora 3rd. 2, Briggs on Eulalie Velie. 3, Briggs on Susette Velie. 4, Noyes on I. B. A. Mischief. 5, Noyes on May Corker.

Senior heifer calf—1, Baldwin on Lady Dominic. 2, Howard on Bonnie Rupert 2nd. 3, Rule on Gingerbread 19th. 4, Cazier on Venetia 7th. 5, Howard on Lady Mansell 3rd. 6, Bunting on Mission May. 7, Bunting on Mission Helen.

Senior and grand champion bull—Briggs on Lincoln Domino.

Junior champion bull—Cazier on Blanchard 32nd.

Senior and grand champion female—Howard on Lady Fairfax 20th.

Junior champion female—Baldwin on Lady Domino.

Yearling herd—1, Cazier.

Calf herd—1, Cazier. 2, Bunting.

Get of sire—1, Cazier on Sire Beau Blanchard 76th. 2, Bunting on Sire Mission 2nd. 3, Cazier on Sire Beau Blanchard 76th. 4, Noyes on Sire Pacific Corker. 5, California Polytechnic School on Sire Harris Standard 2nd.

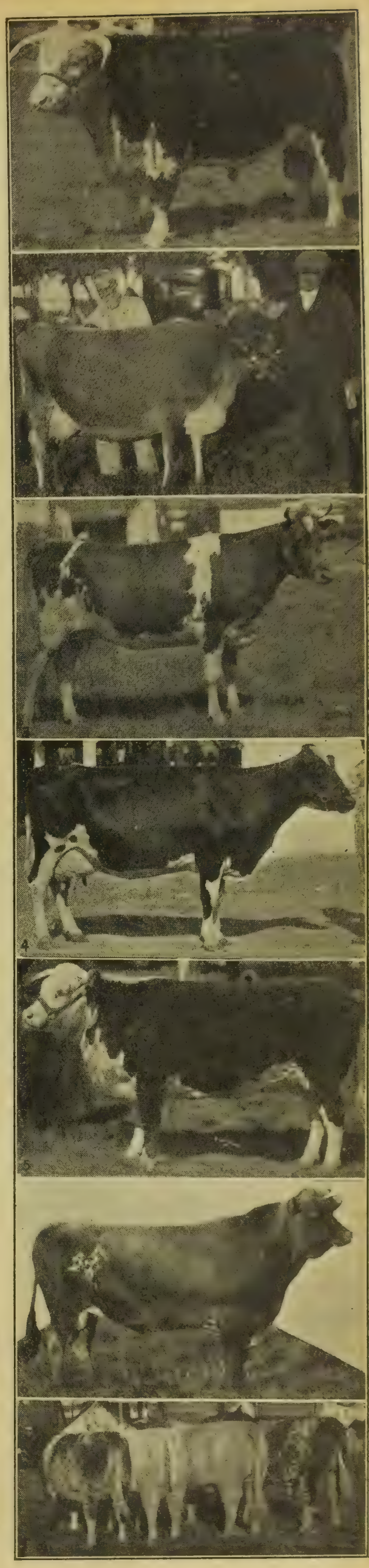
Breeders young herd—1, Cazier.

### Fat Cattle

All breeds competing.

Steer one year and under two—1, Bunting on Mission Jim. 2, Caledonia on Village King. 3, Straloch on Straloch Corporal 95. 4, Vaughn on Cumberland Lad. 5, Noyes on Bob.

(Continued on Page 295)



State Fair Super Quality Dressed in Its Prettiest

Senior and Grand Champion Hereford bull, Lincoln Domino, owned by Wm. Briggs & Son.

Senior and Grand Champion Jersey cow, Salome of Mossdale, owned by Jas. Thorp. Salome has five times won grand championships. Guy Miller standing at her head; Locke of Lockeford in the background.

Grand Champion Guernsey cow, Mayhew's Bonnie Lass, owned by A. B. Humphrey.

Grand Champion Holstein cow, Ava Model Hengerveld 2d, owned by Fred Hartsook.

Senior and Grand champion Hereford female, Lady Fairfax 20th, owned by C. S. Howard.

Senior and Grand Champion Jersey bull, Financial Corrector, owned by Waterloo Jersey Farm.

First prize get of sire on get of Caledonia, owned by Caledonia Farm. Bull at right, Caledonia King 2d, is Grand Champion bull while the second heifer from the left, Caledonia Mischief 2d, is Grand Champion cow.

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877 Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, Sept. 16, 1922

OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## EDITORIALETTES

The six illustrations on the cover give the Cultivator readers a look-in at the state fair. We are denied the odors of the pines and the fruits which pervaded the atmosphere of the great horticultural building but the fair is visualized. The upper left photo shows the Pacific Gas and Electric and the Northern California Counties Association exhibits. Modoc, Lassen, Shasta and the other northern counties are there represented. Those two exhibits, as they were placed in the horticultural building, were worth hours of study. Next picture below shows the Tulare foothills where thousands of cattle roam and where citrus orchards are crowding in at every point. Below on the plains are thousands of acres of meadows and the tiny train loaded with statistics of the county's productions and the caboose of Prosperity at the end of the train. In the immediate foreground are the production of orchard and vineyard. Lower left photograph shows Fresno County's great diversity. That county is a wonder as a raisin producer yet, anxious to show her diversity, she allowed plums, peaches, apples, pears, figs, nuts, pumpkins and grains to fill the cases, tables, shelves and the big glass jars until raisins seem secondary.

* * *

Several exhibits were sent up from south of the Tehachapi. We have the photograph of but one. It is of Los Angeles County and is shown in the upper right hand photo on the cover. There are Sunkist oranges, Sunkist lemons, Diamond Brand walnuts. There are chayotes, cabbages, squash, certified potatoes, "egg fruit," roselle—but why mention everything grown in California? The next photograph below is that of Kern County. She exhibits mountains of fruit. The artist helps a little by the cloud effect he has worked in but primarily the fresh products of orchard, vineyard and farm constitute Kern County's mountains. The North Bay Counties Association tops the photograph in lower right corner. In that space Sonoma, Napa, Lake, Mendocino, Humboldt, Del Norte and other counties made a forest of beauty with exhibits of their farms. San Joaquin County is in the foreground with her exhibits of grain and all kinds of fruits. Note that San Joaquin features in the very center of its exhibit a great top made of the county products in proof that San Joaquin is the "top county of the San Joaquin Valley."

* * *

All Southern California united in an industrial exposition which has been held in Los Angeles during the last two weeks. Agriculture did not hold a very important position although the exposition was held in the greatest of agricultural counties. Agricultural implements and equipment, and especially farm power exhibits, were, however, numerous. Viewed from the standpoint of "All produced in California," it was a most striking exhibit. One immense tent was filled with exhibits of farm power and farm equipment. In addition there were many booths constructed in which there were exhibits and demonstrations of labor saving appliances. Now comes the announcement that California manufacturers may soon be supplied with pig iron from furnaces on the coast, ore being shipped from the mountain states.

## RACING WITH GAMBLING"

The gamblers are certainly making desperate efforts to bring back old time racetrack conditions with gambling as the principal feature. They have secured sufficient signatures to put on the ballot this fall the initiative measure known as "Horse Racing with Gambling Bill."

The Pacific Coast Jockey Club, devoted to clean sport, is in the field emphatically opposing the proposed bill. Secretary Spreckels of that organization writes:

"We desire to inform the voters of California that we are unalterably opposed to the adoption of that measure or any like attempt to introduce gambling on horse races. It is the aim of the Pacific Coast Jockey Club to promote clean sport for the people and to encourage breeding of thoroughbred horses in California. It is the opinion of the Pacific Coast Jockey Club that the adoption of the Horse Racing with Gambling Bill would seriously interfere with these high aims and that it would again bring horse racing into disrepute in this state. Those who are connected with our organization are moved by a desire to restore horse racing on a legitimate basis and as a public benefit. We ask those voters who agree with the racing principles of this association to vote against the adoption of the Horse Racing with Gambling measure."

## COOPERATE

The poultrymen have reached the stage of "hanging together or hanging separately." A large number of them have been hanging together very nicely in the great cooperative egg marketing associations which have succeeded in saving the industry during the past few years. We believe implicitly in these associations and the great work that they have done. The industry has increased wonderfully during the past few years, yet, handled through the association, the egg and broiler output has resulted in fair return to the producer. Curious because of the success of California poultrymen, Prof. James E. Rice, head of the poultry department of the New York state college of agriculture, has been in California looking us over. He has observed California's standardization methods. He remarked that the success of our standardized eggs in the eastern markets has waked up the eastern poultrymen to the necessity of improving their grading and putting their eggs on the market in more attractive shape. They are now beginning to do this extensively and consequently are giving us serious competition in those markets. If we are to retain our hold there, it is, in Rice's judgment, entirely up to the Pacific coast producer to give strong support to the marketing associations on which rests his only hope of continued prosperity. Those who are not in the associations should get in, and all those who are in should do their best to produce and deliver eggs of the best quality.

Again he said: "The entire future of the rapidly growing poultry industry of the Pacific Coast depends absolutely upon the continued success of the cooperative egg marketing associations, which in turn depends upon the support given to these organizations by the poultrymen."

Poultry producers who have been members have stood the gaff and put up the money to support cooperative marketing, but there is so much of unfairness on the part of those who refuse to cooperate that the cooperators feel that they should have a measure of support from those who have disposed of their products in a way which has helped hammer the life and cooperative spirit of those who were endeavoring to uphold the industry. There are times when cooperation proves a testing of loyalty, public spirit and even permanent self interest.

It's easier to count the extra penny today, grab it and put it in the pocket than it is to stick with other cooperators and save the industry which means golden dollars—more comfort and competence. But while it's easier it is to be hoped that poultrymen not now cooperating will count the ultimate cost of their independence. Their productions are not simply an inert substance pushed out of the way as it is sold, for it then becomes a mighty club to beat the life out of the market into which cooperative eggs are thrown.

## IT PAYS

Does it pay to cooperate? We have tried many times to show wherein there may have been disappointment in minor matters of cooperation and wherein the immediate penny had been lost, but ultimately an industry had been saved. Further, that ultimately dollars have been directly saved because of the pennies temporarily lost. But here is an incident which shows direct action. The dollar saved has been immediate and satisfactory. It is only about $50,000 but that is a snug sum. And the fellows who are "holding the sack" are the winners.

W. T. Webber, sales manager of the California Walnut Growers Association, figures that the associated growers in that organization are $25,000 ahead, and R. L. Churchill, manager of the California Lima Bean Growers Association, estimates that the growers in that association are at least $15,000 to $20,000 ahead, because cooperative buying made it possible to lay in a supply of bags before the market took a jump.

Most of the burlap used by the walnut and bean growers is made from jute grown in India. This year the crop of jute was far below normal. Early in the year there was constant talk of a high import duty on jute. Everything indicated that the price would shortly advance sharply. When this fact became apparent, the California Walnut Growers Association and the California Lima Bean Growers Association laid in their supply of burlap bags for the fall harvest.

It looks as though the growers who market their crops cooperatively are about $50,000 ahead on bag buying alone, and they can charge this big saving up to the fact that cooperation put them in position to do their purchasing on a wholesale price basis. It goes without saying that the grower who markets his beans or walnuts independently has to buy his sacks from dealers at the current market price, and the dealer's selling price this year will be many notches above the figure at which the cooperative association bought its big supply a few months ago.

The California Fruit Growers Exchange has saved millions over a period of years in which it has owned lumber mills in the North. This through the making of its own box shook at prices less than half those demanded by lumber dealers. Manager Churchill of the Bean Growers says that association members get 60 cents out of the consumer's dollar, while it is stated that last year a lot of Lima bean growers sold to speculators and received only 36 cents of the consumer's dollar.

It pays to c-o-o-p-e-r-a-t-e.

## NEW MENACE

California is celebrating this week with great joy the installation of new steamship service between California and the Hawaiian Islands. The two steamers, "The City of Los Angeles" and "The City of Honolulu," are to give regular service between Los Angeles harbor and Honolulu. These steamers are said to be the finest on the Pacific. The initial trip of the "City of Los Angeles" is now being made with every berth filled and a waiting list for the Honolulu which is to leave a couple of weeks later.

While the rejoicing because of this extension of service is general those who know of the fruit growing conditions in the Hawaiian Islands and the fruit growing conditions in California are thinking of the added menace which this increased service brings to California orchards. The Mediterranean fruit fly and other pests, which have been kept from this state for many years, is now offered opportunity by this new service which has not obtained heretofore. Vessels in the past have nearly all entered the San Francisco harbor. The port there has been thoroughly guarded by a corp of eight or ten inspectors, besides conditions surrounding the harbor are not so favorable in its opportunities to perpetuate the fruit fly as they are at Los Angeles harbor. At Los Angeles harbor there are fruit trees almost within stone's throw of the vessels as they enter the harbor. The plant quarantine service is installed at present with only two inspectors, or rather, one inspector beside the quarantine official in charge. Of course when the big vessels in the Hawaiian service make their return trips other state quarantine officials, also the Los Angeles County horticultural commission, will aid in the inspection. Director Hecke is endeavoring in every way to put the service in the best possible condition and, so far as he can command the means, has succeeded most admirably.

The service should have the fullest support of the state in order that our fruit industry may be preserved.

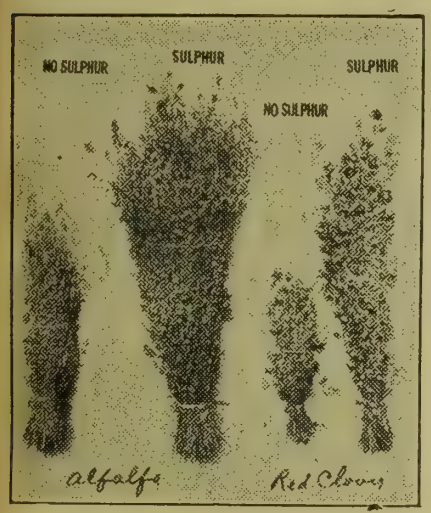
# Sulphur the Wonder Worker on Alfalfa

**Small Applications Give Enormous Increases on Many Western Soils**

Like begets like to a certain extent in breeding, but it was hardly to be expected that "yellow dust" from a sulphur mine would beget "yellow dust" in the bank. That's the way it appears to be working out for the alfalfa growers. The whys and wherefores aren't all worked out as yet, but the fact remains that increases of one thousand per cent have occurred and that those of one hundred per cent are common where sulphur has been applied to alfalfa.

Sulphur has long been accepted as one of the so called "essential" elements. Every one of them must be present in the soil in sufficient quantity if any crop is to make a normal growth. The trouble with sulphur was that every one thought there was plenty of it in practically all soils.

Almost over night chemists found out that their old methods of analysis were faulty, and that plants actually contained much larger amounts of sulphur than was previously supposed. It was just about as rude an awakening as a man with a joint bank account with his wife finding out that she had been spending one hundred dollars a




How Sulphur Increases Yield of Alfalfa and Red Clover.

week when all along he thought it was only twenty-five.

To carry the illustration farther, our rudely awakened husband starts investigating and finds that his wife has been spending it all along without his knowledge. He checks it up and finds that she can't get along on any less. He must either put more money in the bank or quit trying to support such a profligate wife.

Mr. Alfalfa Grower loves his crop like our friend of financial comparison loved his wife, and so he puts a little sulphur in his soil bank, rather than give her up.

The results of the use of sulphur in many instances sound more like fiction than sound agriculture, but the fact remains that in few instances has any sort of material been added to the soil that has resulted in so large net gains. To think of one hundred pounds of anything giving over one thousand pounds of something else makes you feel like claiming Missouri as your native state. And yet just such results have come from the use of the 'yellow dust' from Texas on alfalfa.

Sulphur as a plant food has a life history somewhat like ammonia. One has to be oxidized to a nitrate, the other to a sulphat. In both cases it is our unseen friends, the soil bacteria, that perform these specific tasks. How they do it is really another story, for it is the crop above ground that brings in the money, and in which the farmer is most interested.

What does sulphur actually do to the plant and to the soil? In the first place sulphur enters into the composition of the plant just the same as nitrogen or phosphoric acid do. If there is a lack of sulphur the whole plant is small in size, the leaves pale in color and the root system correspondingly ill developed.

In the soil it may operate directly or indirectly or as a soil conditioner, or all three combined. Where there is an actual poverty of sulphur in the soil or where the sulphur present is bound up in unavilable combinations the sulphur acts directly in supplying a definite need.

Again there may be no especial lack of available sulphur and the sulphuric acid formed in the soil through the oxidation of sulphur tends to liberate and render available other forms of plant food which cause increased growth.

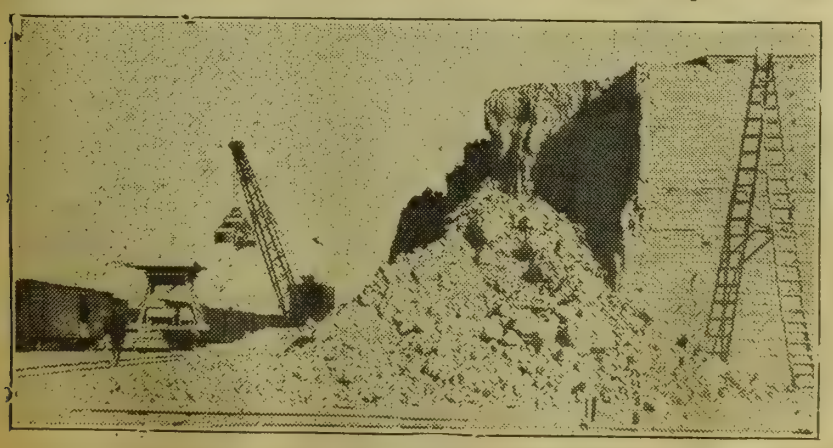
Many western soils give a pronounced physical response to the application of sulphur. Heavy adobe and gumbo soils are rendered granular and open. The soil becomes better ventilated and the activities of the soil bacteria are greatly increased. The tilth of the soil and its moisture absorbing capacities are altered so that the beneficial results of its application may be due to a combination of causes.

The source of the sulphur used in many of the tests has varied considerably. Acid phosphate, which contains its sulphur as calcium sulphate; gypsum, which likewise contains its sulphur as calcium sulphate; ammonium sulphate, iron sulphate and free sulphur have all been used. No doubt exists but that it is the sulphur in all of these materials that has given the uniformly good resuts. From the practical standpoint the use of free sulphur presents the greatest economies. Sulphur as obtained from the mines in Texas runs over ninety-nine and a half per cent pure. One hundred pounds of free sulphur is the equivalent of about six hundred pounds of gypsum, eight hundred pounds of acid phosphate or three hundred and fifty pounds of sulphate of ammonia as far as the content of sulphur is concerned. In most cases any of these materials are carried a considerable distance from the point of manufacture to the consumer, so that from the standpoint of freight charges, the pure sulphur is without competitor.

The residual effect, or the extent to which the influence is exerted over several years after the sulphur carrying materials are applied, is greatly in favor of the pure sulphur. Oft times the pure sulphur makes its most pronounced increase the second year. In this connection it may be that the use of inoculated sulphur, rather than the crude, will prove advantageous.

Sulphur applied to soils is changed over to sulphuric acid or sulphate before it becomes of benefit to the plant. Inoculated sulphur is richly impregnated with the bacteria necessary to perform this important work. Since many soils are not supplied with these organisms it would appear the part of wisdom to supply them by using inoculated sulphur. Experiments have shown that even where soils had a pronounced natural capacity for oxidizing sulphur that the inoculated sulphur was much more quickly converted.

In the east where sulphur is used extensively against potato scab the inoculated form gives much more uniform results and better control. Inoculated sulphur is essentially an agricultural product, designed for action in the soil, and carrying soil bacteria. In view of its universal superiority for agricultural uses it would appear the part of sound wisdom to use the inoculated sulphur on alfalfa.



Loading Sulphur at the Gulf, Texas, Mines of the Texas Gulf Sulphur Company, the World's Largest Producers of Sulphur. —(Adv.)

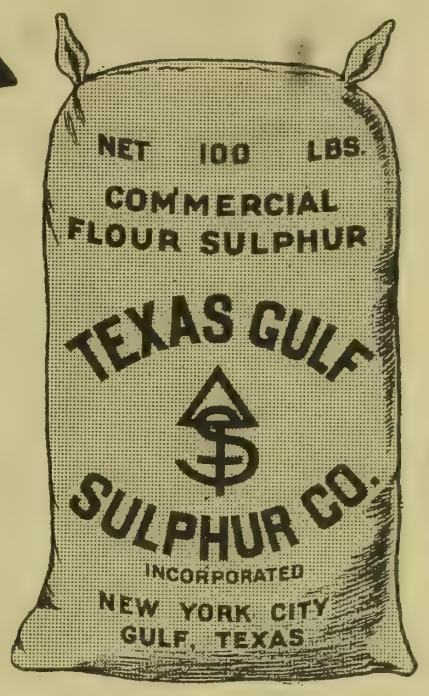

# "Best for Alfalfa"

# TEXAS GULF SULPHUR

(*Identify the genuine by this trademark*)

A better sulphur at a better price direct from the mines of the Texas Gulf Sulphur Co., the world's largest producers of sulphur. In order to fully serve the alfalfa growers in this territory we have established a warehouse in Portland, Oregon, from which we will make quick shipments of the genuine Texas Gulf Sulphur in any quantity. You will find the product, the price and the service right in every respect. No matter where you have been securing sulphur in the past you will find it greatly to your advantage to place your order with us this season.

*Contains 99½% Pure Sulphur*




*Packed in 100 lb. Burlap Bags*

## *Your Choice of Three Forms:—*

### *Crude Sulphur—*

Lump sulphur, 99½% pure, for those who prefer to do the grinding.
In bulk or 150 lb. bags

### *Flour Sulphur—*

Ground to extreme fineness, ready for immediate application to the soil. This product is so finely ground that it is in every respect equal to special brands for which high prices are commonly charged.
In 100 lb. burlap bags

### *Inoculated Sulphur—*

An exclusive Texas Gulf product. Specially ground flour sulphur inoculated with sure-acting oxidizing bacteria which make the sulphur quickly available for plant food. As commercial sulphur is apt to be inert in the soil and its full effects are usually not noted until the second season, we advise the use of Texas Gulf Inoculated Sulphur where quick action is needed, and especially for late applications. In any event, test it on an acre or two this season and compare results.
In 100 lb. burlap bags

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Send us a night letter, *charges collect*, tonight. Tell us your alfalfa acreage, the kind and amount of sulphur you will require, the name and address of your county agent or dealer. Address as below. We will promptly quote prices which will delight you.

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## TEXAS GULF SULPHUR CO.

## *41 E. 42nd St., New York City*

# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Grass for Uplands

I have a mountain ranch, 3700 feet elevation. We have as much as three feet of snow but it usually melts in from three to five days. The soil does not freeze deeply. The summer is cool; sometimes a shower of rain comes. I want a grass that will grow under these conditions. Can you give me information as to best grass, source of supply, amount of seed, cost, etc?—Subscriber, Reedley.

We believe Phalaris stenoptera, known as Harding grass, will best suit your land as it is a cold weather perennial. Prof. P. B. Kennedy, of the state university, recommends it highly as a grass that will keep growing when too cold for alfalfa to grow. Good reports come from many cold Upland sections. Any seed store advertising in the Cultivator can supply the seeds which will cost about $3.50 a pound, postpaid. Usually two to three pounds to the acre are sown any time during winter or spring. Bromus inermis, the Russian brome grass, and Paspalum dilatatum have both done very well under same conditions.

### Peach Scab

I am sending you a peach furrowed and pitted. Would like to know cause and remedy.—Subscriber, Reedley.

Possibly scab, see answer to similar question on page 232 September 2 issue.

### Roses and Basket Plants

When is the best time to move old roses, and should they be cut back heavily? What plants are most suitable in this climate for window boxes and hanging baskets each month or season of the year?—Subscriber, Santa Ana.

Old rose bushes to be moved should not be watered in July, August and September. Cut back heavily, to make a good stubby frame, about three or four weeks before removal, and keep soil dry. The precise time of moving is of far less importance than condition. If nearly dormant they may be moved any time from the present until one week after the first autumnal rain. Your second question does not "fit" the answer. Boxes and baskets are usually planted for permanency, not for a month or season. The latter would require a monthly list of plants and too much work for results obtainable. With such a program the plants in use in the garden at same season should be used, avoiding the large vigorous sorts. Annuals would be best and should be grown in small pots (2 inch) so as to transplant without shock. A change of plants in list would be necessary for either full shade or full sun. Any upright plants of conservative growth will do for general filling, but for trailers to droop over sides there is no better plant than Lotus peliorensis, a scarlet "parrot's bill" flower. Ivy geranium will do for large boxes or baskets. Break up stems of "Wandering Jew," punch holes in the basket with a lead pencil and push cuttings well in. They will grow and cover basket, or can be used for trailer in boxes.

### Leaf Eaters

I am enclosing leaves and a bud from my rose bushes. Some insects are eating the leaves. I have occasionally seen a medium sized pale green spider on the bushes. Please tell me what to do.—Subscriber, Pomona.

The injury is due to beetles (known as lachnosterna) which feed at night and hide during the day, therefore you do not see them. Entomologists state control measures are not satisfactory. The season of injury is very short, and the beetles are seldom present in large numbers; so that it seems of little use to combat them, but if present in considerable numbers spray with basic lead arsenate paste, 5 to 10 pounds; water, 100 gallons. Dry or powdered lead arsenate contains twice as much arsenic as the paste, therefore use only one-half as much in the above formula.

### Moving Large Lemon

I have a large lemon tree in back yard, which I wish to move. Please let me know if it is practicable and some instructions to follow, also time of year to do it. It would mean quite an experiment and I am willing to try it even should it fail. If not movable at this age, I will destroy it.—Subscriber, San Luis Obispo.

By any method, move in March. If boxing is not too expensive a four foot or five foot box should be used. Dig down and cut all side roots at once and fill back soil. Cut the bottom roots and move in March. The top should be reduced to a good framework before moving, with little foliage left. If moved with bare roots use method described in Culivator of June 24, 1922, as practiced on the Limoneira ranch at Santa Paula.

### Growing Peonies

Is it possible to grow peonies in the dry climate of California? Must they have a cool and shaded position? Our water is slightly alkaline. Will that harm? Is this the proper time of year to plant? What varieties would you plant?—Subscriber, San Marcos.

But one point need be kept in mind when handling peonies; the roots should be kept cool and moist. Treatment, position, everything should hinge on this. A deep, light, rich soil, full of organic matter is ideal, for it will best keep cool and moist. Peonies are quite tolerant of alkali. They need full sun. The best we have seen grew in sandy alkaline soil, a dozen miles from the coast, in an open house border on east side of building. Plant any time now. Varieties are of secondary importance. Whites seem to thrive best.

### Budding Peach Trees

I am budding a few hundred peach seedlings, two years old, to peaches. How soon can I unwrap buds and when should I cut off tree above the bud?—Subscriber, Highland.

Three weeks is about proper time to leave wrap before loosening or re-


The New Oakland Six

## The 1923 Oakland is Indeed The Ideal Farm Car

What other car, at anywhere near its price, even approximates the value of the New 1923 Series Oakland Six.

Visit an Oakland salesroom and examine its superior worth. Go over it point by point and your own sound judgment will convince you that here is automobile value without equal.

Note particularly its powerful, quiet, over-head valve, six cylinder engine, so good that *we guarantee its performance in writing for 15,000 miles.* See the unusually roomy body; the deep-cushioned, genuine leather seats. Examine the sturdy chassis construction—the deep frame, long buoyant springs, the size and strength of every moving part.

Consider the many unusual refinements that make country driving safer and more pleasant—the new dimming device, mounted on the steering wheel and controlled by the thumb while driving; the improved carburetor with automatic heat control; the door-opening curtains; the cowl ventilator and many other similar features.

These unusual features, coupled with the known high quality of its construction make this 1923 Oakland an ideal farm car—a car powerful enough to negotiate the roughest roads and the highest hills; sturdy enough to keep running year in and year out with a minimum of service attention; roomy enough for quick trips to market, loaded with grain or produce; economical enough in first cost and in maintenance to be practically indispensable.

The more carefully you examine this New Oakland, the more certain you will be to buy it—not upon our word, but because of its own high quality, quality almost unbelievable in a car that is sold for only $995.

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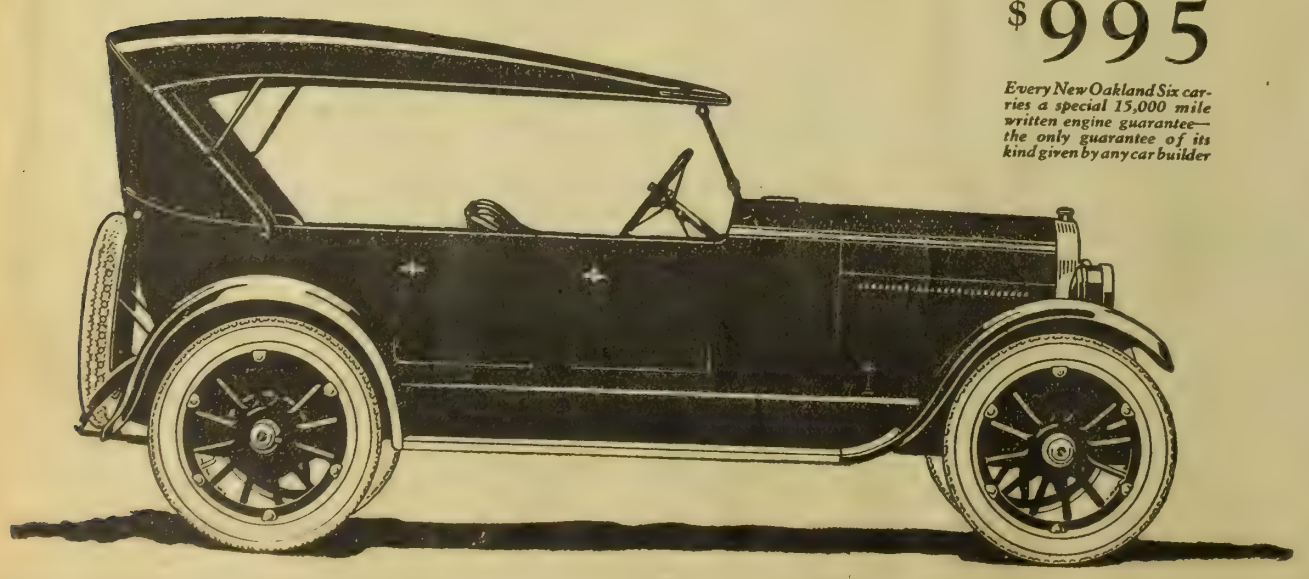
| *Roadster, 2 Passenger - $975* | *Coupe, 2 Passenger - - $1185* | *Sport Car, 4 Passenger - $1165* |
| *Touring Car, 5 Passenger 995* | *Coupe, 4 Passenger - - 1445* | *Sedan, 5 Passenger - - 1545* |

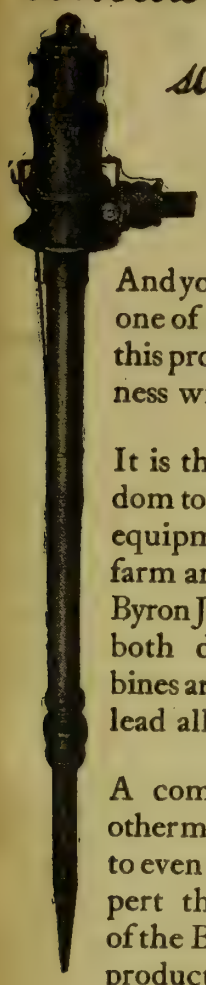
*Prices f. o. b. at Factory*

OAKLAND MOTOR CAR CO., PONTIAC, MICHIGAN
*Division of General Motors Corporation*

Touring Car
$995

*Every New Oakland Six carries a special 15,000 mile written engine guarantee—the only guarantee of its kind given by any car builder*





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And you will find that one of the reasons for this prosperity is business wisdom.

It is the part of wisdom to select the best equipment for the farm and that is why Byron Jackson pumps, both deepwell turbines and horizontals, lead all competitors.

A comparison with other makes will prove to even the most inexpert the superiority of the Byron Jackson product.

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Do not adulterate these sulphurs with any inert material such as Lime or Kaolin, etc. Coating the sulphur particles with an inert material PREVENTS the FUMING ACTION caused by the sun's rays.

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Send for Circulars 6, 8 and 10 about our "Tore" Brand Agricultural Compound and booklet "The Truth About Sublimed Sulphur," also price list.

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moval, unless trees are growing very fast and tighten wraps too much. In this case two weeks only need elapse. Cut off trees next spring (probably in February) just as buds are beginning to swell.

# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Blood in Milk

In the Cultivator, of August 26, we answered a question under the heading, "Blood in Milk," and since have received a communication from a friend giving his experience in several cases of that kind. He says: "I have cured three cows and know of two others being cured of giving bloody milk, and the remedy is so simple I think every one should know about it. Get a small package of poke root at any drug store and divide it into three doses. Give one dose in dry bran at each milking. Three or four doses are all that I ever use. More will not hurt the cow. If the cow will not eat it dry then steep it and use it as a drench. I had one cow that would not take it any other way but three doses cured her. I think the trouble is caused by a bruise of some kind." Such communications are always welcome and we thank the friend for his letter.

### Brain Trouble

About six months ago my 12 year old mare refused to work. She goes crazy when I put on the halter or harness. She is not blind but does not seem to see well. When in the field she walks slowly with her head between her legs. Has lost flesh. Can you suggest a remedy? Subscriber, Lincoln.

The symptoms would indicate pressure of the brain from some cause or other. If it is caused by a tumor there is no remedy. Congestion from some cause might be relieved by giving dram doses of bromide of potash in the drinking water once a day for a week. You might try that but if good results do not follow soon we would advise spending more time with her.

### Lump on Jaw

My milch cow has a hard lump forming under the left jawbone. It is the size of a small teacup. She is fat and eats well. Some needle grass on the pasture. Can you tell the cause and what I should do for it? Subscriber, Morgan Hill.

If the lump is free from the jawbone it may be due to the needle grass getting into the tissue, but if it is a part of the bone itself it may be what is called lump jaw (actinomycosis). If it is free from the bone open it. You will probably find it full of pus. Wash out the cavity with a solution of permanganate of potash. Use a teaspoon to the quart of warm water. If it is a part of the bone write us again, referring to this, and we will give you the treatment for lump jaw.

### Blister for Sidebone

Please print directions for blister for sidebone on draft horse. The horse is quite lame on hard road but works well and is fat. The lameness is in the front foot.—Subscriber, Butte County.

A good blister for sidebone can be made by mixing two drams of Spanish fly (Cantharides), two drams of biniodide of mercury and four ounces of lard. Warm the lard a little and mix thoroughly. When you rub on the blister, warm it in by holding a hot iron near the parts but not near enough to burn. Tie the horse so he can not rub the parts with his nose or he will get the blister on his nose. In 24 hours grease the parts with lard. When the scabs come off, which will be in about ten days, repeat the blister. Several blisters will be required to relieve the soreness in a sidebone.

# What to Expect of Paint

PAINT should serve you—prevent depreciation, save repairs, enhance values—for a long period of years.

It should be easy to apply, allowing a minimum labor cost. It should have excellent covering capacity.

Only the best paints can serve in this way. We have been making best paints for 73 years—to meet the weather conditions in the West.

Fuller's House Paints serve five or more years longer than "cheap" paints. They spread easily. One gallon will cover approximately 300 square feet, two coats, depending upon the condition of the surface.

They contain only the finest materials. We use PIONEER WHITE LEAD, for example. It is super-purified and ground so fine that it will pass through a silken screen which has 30,000 meshes to the square inch. All other materials—pure linseed oil, pure zinc and pure colors—are of the same high quality—the quality which is essential to the making of best paints.

**House Paint:** Fuller's Pure Prepared Paint, Phoenix Pure Paint, for painting houses. The purest, best protective and most durable paint manufactured—32 colors.

**Barn and Roof Paint:** A protective coating for barns, roofs, fences. Dries with a good gloss and wears. Economical in cost and dependable in quality—6 colors.

**Floor Paint:** Fuller's Rubber Cement Floor Paint—a sanitary, waterproof and durable paint for floors of kitchens, closets, etc. Attractive in color and gloss. Dries hard over night—12 colors.

**Implement Paints:** Fuller's Pacific Wagon Paint, adapted for repainting agricultural implements, farm wagons, farm machinery, wind mills. A glossy, durable finish—7 colors.

Also makers of Fullerwear, the all-purpose Varnish, Silkenwhite Enamel, Fifteen-for-Floors Varnish, Decoret, Washable Wall Finish, Auto Enamel, Fuller's Hot Water Wall Finish (kalsomine), Porch and Step Paint, Silo Paint, Milk Can Enamel, PIONEER WHITE LEAD, Tractor Paint, and Fuller's Oil Stains.

**Advice on Painting FREE**

If you want to do your own work and get the best results, ask our Specification Department for *free advice*.

We'll tell you how to treat old paint, how many coats to use, what kind of brush, etc.

Use *Fuller Service* as well as Fuller Paints and Varnishes to insure good work.

**Fuller's SPECIFICATION Farm Paints**

House Paint-Barn & Roof Paint
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Pioneer Manufacturers of Paints, Varnishes, Enamels, Stains and PIONEER WHITE LEAD for 73 years.
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Please send me without charge a copy of your "Home Service" Paint Guide.

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### HORTICULTURE AND ITS IMPLEMENTS ON DRESS PARADE

(Continued from Page 283)

tained special fancy work displays and painted china together with an assortment of jams and jellies. The exhibit of art work is presided over by Mrs. H. W. Adams of Sacramento. The paintings are by noted artists and the collection has a value of over $48,000. The first prize is from the Kanst Art Gallery of Los Angeles and is a $2500 picture entitled "Silver Light Laguna" by Edgar Payne. "The Blue Vase," a $1000 picture, and "The Vista," both by Sandona, received second award. A wonderful display of artistic camera work is participated in by all of the camera clubs of California. This camera work is artistic and so excellently done that it hardly seems possible the camera can render such efficient service.

The educational building contains an exhibit showing achievements of education. The shop work, done by the boys of the manual training school, is particularly creditable and includes cabinets, benches, chests, writing desks, tables, chairs, stools and many other useful articles to adorn the home. The department of household science and art gives the young housewife an opportunity to learn the art of decorating her home at a moderate cost. Basketry and metal work, dressmaking, millinery and practical needlework enable the housewife to save many dollars each year.

The poultry exhibit was one of the best we have ever seen. The main building occupies a space of over 5,000 square feet and each of the two annexes covers a space of over 1,000 square feet. While not all of the classes were filled, the birds on display were of a very high quality.

The automobile tent was the center of much interest. There were the latest models in about 15 different makes of cars. The Manufacturers Building is always one of special interest to the housewife, as it contains furniture, wall beds, cooking utensils in many metals, washing machines and electrical devices, household fittings for every room and sewing machines.

The state fair of 1922 was the best that has ever been held. It eliminated so many of the objectionable features and promoted so many advanced ideas that its educational value cannot be estimated.

### POWER ON THE FARM

By M. C. Holman

THE realization of our hopes came after we had made a careful inspection of that part of the state fair coming under the above heading.

The power on the farm exhibit was quite the largest of its kind that has ever been held in California. Three large tents were necessary to house the exhibits, and there was ground space on the outside that was given to the overflow that could not find a berth in one of the main tents.

Fourteen separate sets of tractors were shown, each set containing from three to six different models. There were 46 separate exhibits in the main tents and five of the larger exhibits had to be accommodated outside.

So that the tractors could be very easily and thoroughly inspected, many of the engines and working parts were entirely exposed and some were even propped up at an angle, with a mirror underneath, to show the working of the parts that are ordinarily concealed but which bear so important a part in the durability and ease of running of the entire machine. There was a desire to exhibit the tractors to the fullest extent, showing that the manufacturers have confidence in the machines they make and feel sure that the purchasers will derive from them the very fullest measure of service.

Like a circus, the great tent was festooned with banners, bunting and flags. Sawdust covered the ground, railings marked off the allotted spaces for the various machines, and the whole atmosphere was one of intense excitement and keen interest.

There was a sense of homelikeness when we observed the old standbys that have made California the greatest agricultural and horticultural state in the Union. We were proud to look upon them in repose. We have seen them so many times proudly turning up the richness of our native state that to see them at their much deserved rest was an unmixed pleasure.

Just at the entrance stood the great Holt exhibit and a feature never before shown was given its first tryout. It consisted of assembling and disassembling of the T 35. On a test of disassembling, or taking down, two men did the complete job in 14½ minutes, laying the parts separately upon the platform. The assembling was done in 26½ minutes. The object of this feat was to demonstrate the accessibility and simplicity of their tractor. It is built in three main units; the motor, transmission and tracks. The demonstration above referred to showed the assembling and disassembling of each part, together with its relation to the whole machine.

This year Holt has placed upon the market a new combined harvester, having all steel equipment, roller bearings, simple construction and light draft. There are two models, No. 32 of 12 foot cut and No. 30 with a 16 foot cut.

These new harvesters are light in weight, with the body of sheet metal. They are light draft, made so by the use of auto friction bearings. They are easy of operation as a result of their simplicity and should give a lifetime of good service by reason of the use of highest grade material throughout.

The big 75; Western ten ton, 60 horsepower; the 5 ton 40 horsepower and the T 35 of 20 horsepower were included in the exhibit.

The Best 30 was admirably represented by two old models that had given two years of faithful service and were still in the ring. They are

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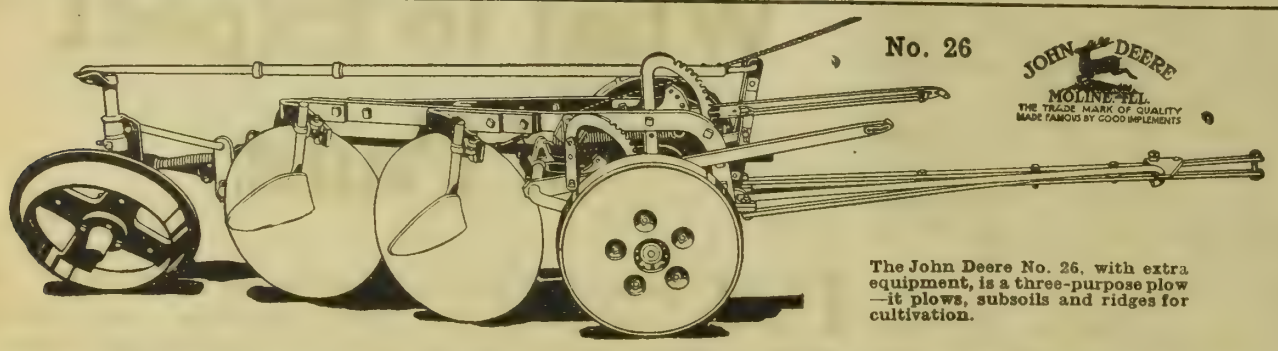
Start Your Orchard Right by Planting the Best Trees You Can Get

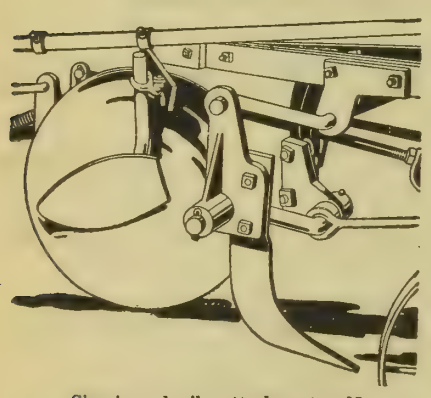
Write for Prices and Information

Beckwith-Hoyer Nursery Drawer 308, Reedley, Calif.




The John Deere No. 26, with extra equipment, is a three-purpose plow—it plows, subsoils and ridges for cultivation.

26 Inches Low—37 Inches Narrow



Showing subsoiler attachment on No. 26 Plow. Replaces one disc. Controlled by power lift. Permits plowing and subsoiling in one operation with small tractor. Subsoiler breaks up plow pan and forms deep bed of aerated mulch—a process that saves much irrigating water and greatly increases crop yields.

Gets Under Low Limbs, Up Close to Row

Unusually low and narrow, the John Deere No. 26 is just the plow you have been needing to meet your orchard plowing requirements.

It works under the overhanging limbs; the levers set down out of the way; no projections above or at the side to catch low limbs or scar tree trunks, and the hitch permits wide offset to right or left of tractor for work close to row.

**Stiff hitch** tends to hold plow in the furrow when offset, and its control of the rear furrow wheel makes possible short turns and close work at ends of orchard.

**Saves roots** — rear end of plow rises over roots without carrying weight of rear wheels, when set-screw collar on rear axle is left loose. You will appreciate the way this feature prevents damage to large roots.

**Does Three Orchard Jobs.** You can plow, subsoil or make ridges for irrigation with the No. 26. Note illustrations showing subsoiler and ridging attachments.

Compound power lift raises discs unusually high. Frame built over discs, providing unusual clearance. Discs and disc bearings same as on large John Deere disc plows.

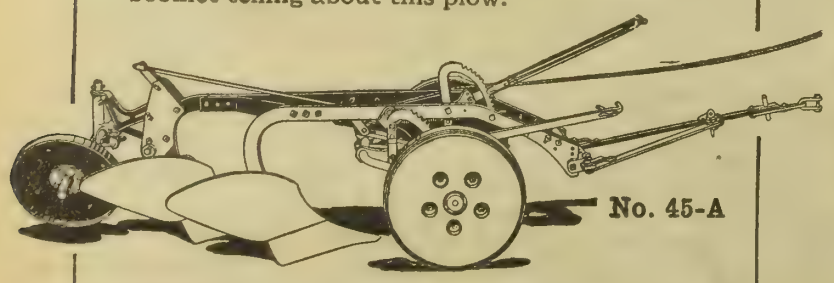
**GET FREE BOOKLET** telling all about the No. 26. Write today—ask for Booklet A-46.

John Deere Plow Co.

San Francisco, Cal.

John Deere No. 45-A

Low and narrow like the No. 26 — only twenty-six inches high when plowing six inches deep — only thirty-seven inches wide. Levers set low when plowing — gets under low limbs. Adjustable hitch permits offsetting plow for work close to row. Pulls unusually light—a real fuel-saver. Great strength — beams are guaranteed not to bend or break. Compound power lift raises bottoms unusually high. Great clearance prevents clogging when plowing deep or when turning under cover crops. Write today for free booklet telling about this plow.



Showing No. 26 with ridging attachment preparing soil for proper irrigation. Attachment costs very little and does away with necessity of buying extra implement for ridging.

JOHN DEERE

THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS

owned and operated by the California Packing Corporation. A complete record has been kept of these tractors when in operation and their record shows the following interesting facts for the seasons of 1921 and 1922.

| | |
|---|---|
| Number of hours running | 1509 |
| Number of acres worked | 6645 |
| Gallons of distillate used | 4112 |
| Gallons of lubricating oil used | 221 |
| Cost of repairs | $21.31 |
| Cost of operation per acre | .26 6/10 |
| Cost of operation per hour | $1 22 3/10 |

The low cost of repairs is a feature worth considering and the cost of operation per acre is quite remarkable.

The new and improved Best 60 shows a pull of 49.5 horsepower at the drawbar with an average load of 7,500 pounds, when traveling at the rate of 2.47 miles per hour, while in low at two miles per hour it pulled an average of 9,280 pounds.

The powerful Best 60 handles successfully all work pertaining to scarifying, leveling, grading, ditching, hauling, belt work and other heavy duty jobs. The success of the Best 60 in road building is due to its wide adaptability, low up-keep, economy and ease of operation. The 60 can be operated under the most adverse conditions, such as soggy land, steep hills, deep mud, loose earth, hard surface, etc., with full load.

The Yuba exhibit featured a tractor completely exposed, showing all working parts. The reversing feature is strongly urged as having great merit. The tracks may be made to run in opposite directions at the same time, thus enabling the tractor to turn on a pivot. The highest grade of nickel chrome, manganese and high carbon steel are used in all wearing parts, giving durability of a high order.

The ability of the Yuba tractor to work successfully under extremes of soil and weather conditions is largely due to the character of its tracks. They are swung from the main axle at a point about one-fifth the distance from the rear and oscillate on powerful vanadium springs, and are protected against sand and dirt.

The model known as the Road Builder is 25-40 horsepower, while the smaller model is the 15-25.

A tractor that is rapidly coming into prominence is the H. P. 40 made by the Hadfield-Penfield Company of Bucyrus, Ohio, and sold in California by the Pacific Tractor and Machinery Company, of Sacramento, formerly the Henneuse Tractor Company. Their first tractor, a Henneuse 40, made at Sacramento in 1920 is still in use and in perfect running order.

The power plant of the H. P. 40 consists of a Stearns engine having a five inch bore and a six and a half inch stroke. It has a hot box manifold and is especially designed for burning kerosene. The transmission consists of an entirely separate self contained unit securely bolted to the frame and to the engine flywheel housing. The engine clutch is the dry plate type and is controlled by a double acting pedal.

The distribution of the power to the tracks is controlled by two multiple disk clutches running in oil, one for each track. Each clutch is operated by a hand lever, one being mounted at the right and the other at the left of the gear shift lever. A light forward pressure on a lever engages the corresponding clutch. Pulling a lever back releases the clutch and applies a brake to the track on that side. The front wheel turns on a ball bearing circle of large diameter. The H. P. has a rating of 45 horsepower at 850 revolutions per minute.

The same exhibit also contained their H. P. tracks, which are made for use with small wheel tractors. They enable them to operate on wet, soft roads and in deep sand as well as over rough, hilly ground.

A very prominent space was used by the Cleveland Tractor Company in showing their new model F, together with their old standard line. Simplicity of design has marked this new model. While it weighs only 1820 pounds, it is capable of hauling two 12 inch plows in any ordinary soil, turning over six to eight acres a day.

The engine is a 4 cylinder L head type with 1600 revolutions at a speed of three miles per hour. The whole machine is a snappy little job, with lots of power and plenty of stamina and economy of operation. It has an automatic lubricating system, which will be appreciated by the operator. Just occasionally fill the oil supply reservoir and you need have no further worry about proper lubrication.

The new Case 12-20 was much admired as it marks another advance in supplying dependable power farming machinery of the highest possible efficiency.

This tractor will develop at least 24 to 25 horsepower on the brake, maximum. It will handle a 22 by 36 thresher with attachments in ordinary threshing. It will operate a No. 12 or 14 silo filler, elevating to the average silo. It will develop as high as 16 horsepower on the draw bar, on good ground. It will easily handle three 14 inch plows under ordinary conditions, plowing 7 inches deep. In breaking or in heavy plowing two 14 inch bottoms are recommended. It will handle an 8-foot double disk in high gear in the average field. It will also pull a 12-foot grain drill and an equal width of harrow in high gear.

Power is transmitted from the engine crankshaft to both drive wheels with minimum loss through a train of cut steel, hardened spur gears running in oil. The gear shafts run in large Hyatt roller bearings so that the friction loss is slight. Bearings are contained in the frame casting, making it impossible for them to get out of line. The transmission cover can be readily removed, giving access to transmission. The sliding gears in transmission are of chrome steel, drop forged, cut and hardened. The high and low speed gears are drop forged with cut teeth. The shaft which carries these two gears also carries the bull pinion and runs in large Hyatt roller bearings. The bull pinion is drop forged of chrome nickel steel. This pinion meshes with the bull gear which is likewise of steel with machine cut teeth. All gears are properly treated

(Continued on Page 298)


# I CAN TELL YOU JUST WHAT YOUR FENCING SHOULD COST

HARRY BAYLIES
"The Fence Man"

"Fencing Products Known To The Nation."

Many farmers when they start to build a fence have no idea what it is going to cost them. True enough, they know what the actual material will cost, but when it comes to the question of time, labor, and length of fence service, they are all at sea. I can tell you within a few dollars what the complete job should cost, AND HOW much your fence should COST PER YEAR; which is the way to figure and the only way to buy fence material.

Ask any dealer about my steel fence materials. He will tell you they are the strongest, most durable, most economical materials you can use. They are known throughout America—RED TOP STEEL FENCE POSTS, PACIFIC STIFF-STAY FENCING, MONARCH WRAP-STAY FENCING and SQUARE DEAL GATES.

These materials carry not only the guarantee of reliable well known manufacturers, but they carry also my personal guarantee—any of my many farmer friends will tell you what THAT means. THEY KNOW THAT I LIVE UP TO EVERY CLAIM I MAKE.

Send for my free book, "Fencing Facts for Farmers," it will show you how to find out just what your fence should cost and how you can save money. It is chock full of other valuable information for the farmer. EVERY MAN WHO OWNS A FARM SHOULD HAVE THIS BOOK. Fill in the coupon for this free, interesting illustrated book.

## HARRY BAYLIES

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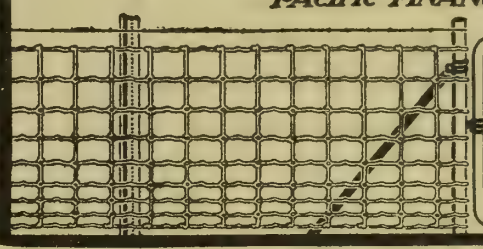

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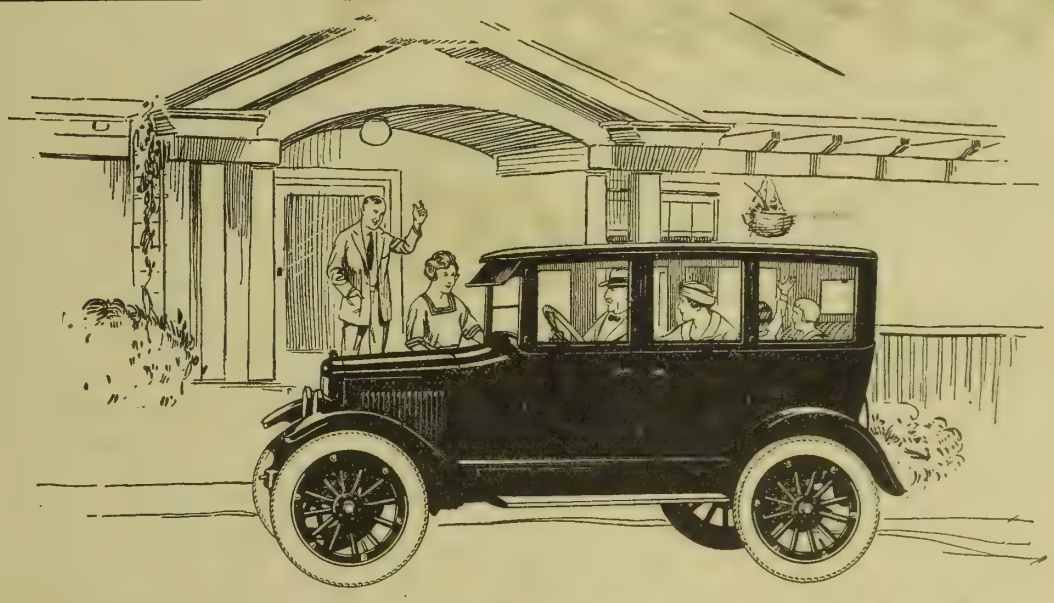

# The Overland Sedan—the Ideal Family Car

For the farmer who must get about quickly and without delay—for the housewife whose visits to town must be made in all kinds of weather—for the entire family who want a smart, light, economical and comfortable car, there is nothing that fits their needs quite as well as the Overland Sedan, now priced at $895.

*Triplex Springs—real riding comfort; 27-brake h. p. motor; U. S. L. Battery; Auto-Lite Electric Starter; Demountable Rims; Tire Carrier. Every driving and riding convenience.*

Today's Overland at $895

TRADE MARK REG.

TOURING $550

SEDAN

Roadster $550
Coupe . . $850

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Champions
For Every Engine Everywhere

Insure Your Engine

Champion Regular now 75c
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Champion accuracy in construction assures absolute uniformity of spark in each cylinder; consequently a more perfect timing of the engine

Ask your dealer to sell you a full set.

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The Greatest Radio Offer of the Year—Absolutely Complete, $49.50

This special receiving outfit will give as good results as any outfit of this improved type on the market. It is absolutely complete, there is nothing extra to buy. We include everything—you simply put up the aerial, connect the instruments, which is easy to do, and in less than half an hour you can be receiving signals, radio music, lectures, stock reports, market reports, or any other radio program sent out.

In making tests with this set in Chicago we regularly heard Detroit, Pittsburgh and other stations were often tuned in. Of course, atmospheric conditions affect the range of this or any other receiving set made.

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This outfit will equal in results any outfit of this type regardless of price. It is especially made for us and has behind it the fifty year old guarantee of Montgomery Ward & Co.: "Satisfaction guaranteed or your money back." You take no risk whatever in ordering this set.

Long Distance Vacuum Tube Receiving Set

The complete outfit includes our special Combined Tuner and Detector; Special 2000 ohm Double Head Set; Radio Storage Battery; one Detector Tube, one "B" Battery; and complete antenna and connecting equipment including 150 feet bare copper wire and 25 feet insulated wire, porcelain tube; double throw switch; 2 antenna insulators; lightning protector; ground clamp, 2 screw eyes and 25 feet of wire for instrument connections.

Order this set at our risk. It will be packed carefully and shipped immediately from our nearest house.
Shipping weight 40 pounds.
563Z599—Complete Outfit..... $49.50

Order this outfit today and start at once enjoying in your home the most marvelous invention of the age.

Price of receiving Set without batteries, head piece, switch and aerial, shipping weight 8 pounds: 563Z598—$27.50.

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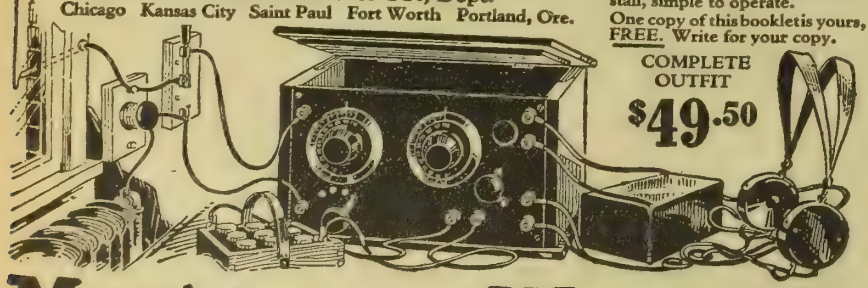

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AT DEALERS EVERYWHERE

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# Household Department

### IN DEFENSE OF NELLIE

Eatin' her head off, is she;
Too old to be any good;
If you was me, you'd sell her?
Mebbe you would!

You and your derned machinery;
Grease it and make it pay,
Use it 'til it begins to wear—
Throw it away!

Mebbe your way is business;
That's nuther here nor there;
I ain't a-talking business;
That's my mare!

When I bought this place, I got her;
She helped to clear this land;
And she carried me to see your mother—
D'ye understand.

And I'm never gonna sell 'er,
Nor either give her away,
And she'll get her oats, young feller,
Twice a day!—R. L. in Extension Service News.

### HINTS FROM HOUSEKEEPERS

#### Recipes and Suggestions

The enclosed recipe for Swiss cookies was asked for in recent Cultivator and this one for Brioche some months ago by "A Mother" whose boys were "Over There." I hope she will see this recipe and make the boys happy by giving them the real "Brioche a la France."

Swiss Cookies—One pound flour, one-half pint milk, 3 ounces butter, 1 egg, 2 ounces sugar, pinch of salt, 1 tablespoon baking powder. Rub butter into flour, add sugar and baking powder (rubbed through a sieve), mix into a light dough with egg and milk. Roll out and cut into small rounds, brush over with egg and bake 10 minutes in quick oven.

Brioche—One cup scalded milk, ¼ cup egg yolks, ½ cup whole eggs, ⅔ cup butter, ½ cup sugar, 2 yeast cakes, ½ teaspoon extract lemon, 4⅔ cups flour. Cool the milk, when lukewarm add yeast cakes. When they are dissolved add the remaining ingredients and beat thoroughly with the hand for ten minutes. Let rise for six hours. Put in cold place (preferably ice box) over night. In the morning turn on floured board, roll in long rectangular piece, spread with melted butter, fold from side to side to make three layers. Cut off pieces three-fourths inch wide, leave on board in warm place, cover and let rise. Take each piece separately and twist from ends in opposite direction, coil and bring ends together on top of cake. Let rise in pans and bake in moderate oven for 20 minutes. Brush over with powdered sugar moistened with water. The making of brioche is quite a ritual in France, and even the poorest homes will make them on feast days—Easter and Christmas. They should turn out like puff paste rather than coffee cake.

Boiled Salad Dressing—One-third teaspoon salt, ½ tablespoon flour, 1 teaspoon mustard, yolks of 2 eggs, 1½ tablespoons sugar, 1½ tablespoons butter, few grains cayenne, ¾ cup milk, ¼ cup vinegar. Mix dry ingredients, add yolks of eggs slightly beaten, butter, milk, and vinegar very slowly. Cook in double boiler until thick. If lumpy strain, cool and keep in jelly glasses or empty olive or mustard jars. Covered with wax paper it will keep a long time.

Keeping Butter—Cleaning Windows—A little hint on how to keep butter cool may come in handy. Soak a large size flower pot in cold water over night and in the morning tilt it over the butter dish. The easiest way to clean windows is to wipe over with powdered Bon Ami moistened with water and rub off with a rag and polish with another. No effort, no smears and windows can be cleaned any time with the sun on them or not.

Tile Sink—A tile sink is the very least of any to be serviceable, for it breaks more dishes than any other, besides getting cracked, and greasy looking.—Mrs. W. Rogers, Biggs.

#### "Drying" Figs

I am drying figs in this way and they are fine. I make thick syrup and after boiling it for a few moments I drop in figs so the syrup will cover them, then cook for 15 minutes. Set aside and cook next day 15 minutes after boiling point. Take out with fork and put in colander to drain, then lay on plates to dry and keep in sun for five or six days, then take them in and let set inside a day or so. Put in jars and put lids on them. These figs are picked a little solid and used as picked with skins on. They are fine this way. This is a recipe of my own.—Mrs. R. S. Vliex, Orange.

#### Making Old House Comfortable

Have just been reading "Subscriber, Woodlands" letter in issue of Sept. 2. I had just such a house. I saw one that had been papered by putting cheesecloth next the boards, but my walls had 2 by 4 pieces of lumber standing out into the room on the walls. I tacked burlap, stretching from one 2 by 4 to another and tacking a thin wood strip over the seams. It was a dark room and I put on an almost orange color and it was very satisfactory indeed.

For a floor, French gray paint is a fine color which does not betray dust. It is fine to have so much expert advice about painting. Please keep it up. I have put a commercial varnish stain in French Gray on much of our shabby furniture and it looks very well and is very serviceable where one has not much time for cleaning.—Subscriber, El Centro.

### HOUSEHOLD QUERIES

#### Watermelon Pickles

Please publish recipe for making watermelon pickles in the Cultivator.—Subscriber, Livermore.

Two very good recipes are given on Page 204 of the Cultivator of August 26. No doubt the inquirer overlooked them.

#### Tomato Catsup

Would you kindly publish a recipe for making tomato catsup? The Cultivator is very helpful along this line.—Subscriber, Livermore.

Directions will be found on page 85 of the Cultivator of July 22. Copy has been mailed this inquirer.

#### Canning Egg Plant

Has anyone ever tried canning egg plant? I would like to put up some if they are good.—Subscriber, Ceres.

We pass this up to our readers.

#### "Take Good Care of Baby"

I am very anxious to get a poem that I used to know. Will you kindly print it in the Cultivator for me? It is entitled "Persimmons." I do not know the author. It commences like this:

"Persimmons was a colored lad
Way down in Louisianny,
And all the teaching that he had
Was given him by his Granny."—Subscriber, Arroyo Grande.

The title to the poem requested is "Take Good Care of Baby" instead of "Persimmons."

#### "TAKE GOOD CARE OF BABY"

Persimmons was a colored lad,,
Way down in Louisiana,
And all the teaching that he had
Was given him by his granny;
But he did his duty ever,
As well as you, it may be;
With faithfulness and pride always
He minded missus' baby.

He loved the counsels of the saints,
And sometimes those of sinners—
To run off 'possum hunting and
Steal "watermilyun dinners;"
And fervently at meeting, too,
On every Sunday night,
He'd with the elders shout and pray
By the pine knots' flaring light;
And sing their rudest melodies
With voice so full and strong,
You could almost think he learned them
From the angels' triumph song.

SONG

"We be nearer to de Lord
Dan de white folks—and dey knows it,
See de glory gate unbarred,
Walk in, ,darkies, past de guard;
Bet you dollar he won't close it,
Walk in, darkies, troo de gate,
Hear de kullered angels holler,
'Go 'way white folks, you'se too late,
We'se de winning kuller; wait
'Till de trumpet blows to foller.' "

He would croon this over softly,
As he lay out in the sun,
But the song he heard most often,

## Oil Light Beats Electric or Gas

### BURNS 94% AIR

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal oil).

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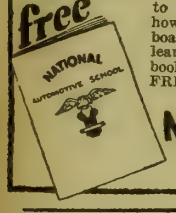


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Headquarters for everything needed in the care of bees. Send for late price list and free booklet.

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PACKERS OF AIR LINE HONEY

Extra parts are always available without delay for standard advertised machinery. This class always found in the California Cultivator.


His granny's favorite one,
Was: "Gawge Washington
Thomas Jefferson
Persimmons Henry Clay, be
'Quick, shut de do,'
'Get up off dat flo,'
'Come here and mind de baby.' "

One night there came a fearful storm,
Almost a second flood,
The river rose, a torrent swollen,
Of yellow, beaten mud.
It bit at its embankments,
And lapped them down in foam,
Till, surging through a wide crevasse,
The waves seethed round their home.
They scaled the high veranda,
They filled the parlors clear,
Till floating chairs and tables,
Clashed 'gainst the chandelier.

'Twas then Persimmons' granny,
Stout of arm and terror proof,
By means of axe and lever,
Pried up the veranda roof,
Bound mattresses upon it,
With stoutest cords of rope,
Lifted out her fainting mistress,
Saying, "Honey, dar is hope.
"You Gawge Washington
Thomas Jefferson
Persimmons Henry Clay, be
Quick on dat raf,
Don't star' like a calf,
But take good care ob baby."

The frothing river lifted them
Out on its turbid tide,
And for awhile they floated in
Together, side by side,
Till, broken by the current strong,
The frail raft snapped in two,
And Persimmons saw his granny
Fast fading from his view.
The deck hands on a steam boat
Heard, as they passed in haste,
A child's voice singing in the dark
Upon the waters waste,
A song of faith and triumph,
Of Moses and the Lord,
And throwing out a coil of rope,
They drew him safe on board.

Full many a stranger city
Persimmons wandered through,
"A-totin' ob de baby," and
Singing songs he knew.
At length some City Fathers,
Objecting to his plan,
Arrested as a vagrant
Our valiant little man.
They carried out their purposes;
Persimmons " 'lowed he'd spoil 'em;"
And sloping from the station house,
Stole baby from the 'sylum.
On that very afternoon,
As it was growing dark
He sang beside the fountain,
In the crowded city park,
A rude camp meeting anthem
Which he had sung before,
While in his granny's fragile raft
He drifted far from shore.

SONG

"Moses smote de water, and
De sea gabe way,
De children passed ober, for
De sea gabe way.
O, Lord, I feel so glad,
It am always dark fo' day,
So, honey, don't be sad,
De sea'll gib away."

A lady dressed in mourning
Turned with a sudden start,
Gave one glance at the baby,
And caught it to her heart,
While a substantial shadow,
That was walking by her side
Seized Persimmons by the shoulder
And while she shook him, cried;
"You, Gawge Washington
Thomas Jefferson
Persimmons Henry Clay, be
Quick, 'splain yourself, chile,
Stop dat ar' fool smile,
Whar you done been wid baby?"—St. Nicholas.

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### Grape Juice

I wonder if some one will give a good recipe for grape juice like the stores carry. I would like to know a sure way to make and keep the grape juice.—Subscriber, Orange.

Directions for making grape juice such as is sold in stores may be found on Page 180 of the Cultivator of August 19, in response tc inquiry from a Yorba Linda subscriber. This is the grape juice bottled without sugar. Directions for making grape syrup from which beverages may be made were given on Pages 157 and 158 of the issue of August 12.

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### "Them Is the Cruelest"

Of all sad words that make men blue,
The saddest are these: "The rent is due."

—Milwaukee Sentinel.

"The rent is due"—sad words, we know,
But sadder are these: "We're out of dough!"

—S. F. Chronicle.

---

### OR ELSE "WHAT?"

Questionnaire issued by the University of Wisconsin includes this query: "Is Ireland a republic, a free state, a dominion, or what?" Obviously, the answer to this at the present time is "Yes"—(Boston Transcript.


## The Cap that never fits

"NO harm can come to *me* from coffee or tea," is what so many people say. Yet those same people are often quick to note the signs of coffee harm in others.

How familiar the danger signals are—upset digestion, sleepless nights and irritability—all warnings of the nervous breakdown that lurks just a little way ahead. How easy and how delightful the escape—by drinking delicious Instant Postum instead of the beverages that contain the irritant caffeine.

Instant Postum is the tempting cereal drink made from roasted wheat. It is prepared instantly in the cup by the addition of boiling water. Its snappy flavor is not unlike that of coffee.

It is safe for everybody in your household including the children, and there's nothing in Postum to keep you awake even if you drink it at midnight.

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*"There's a Reason"*

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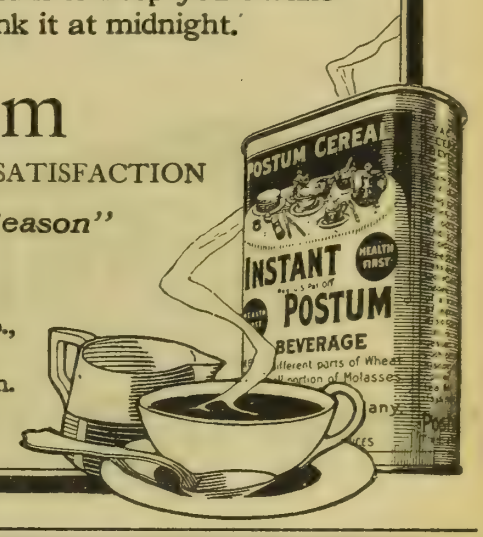


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Oil an Aermotor once a year and it is always oiled. Every moving part is completely and fully oiled. A constant stream of oil flows on every bearing. The shafts run in oil. The double gears run in oil in a tightly enclosed gear case. Friction and wear are practically eliminated.

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# Livestock News Notes

LIVESTOCK SALE CALENDAR

Holsteins

September 21, Dispersal, E. Maracini, Dos Palos.

September 28, Dispersal, Carl Ray, Lankershim.

October 26, C. W. Anderson, Burbank.

November 16, Dispersal, Arthur & Maxfield Holstein Co., Hanford.

There was a large attendance of Holstein breeders on Monday when their favorite breed was being judged. The meeting of the state association which was held that evening also acted as a drawing card.

It looked at first as though there might be trouble because the state fair board had not come out definitely and said that only tuberculin tested animals could be shown. Men who have tuberculin tested herds feel that they should not be called upon to use the same barns with cattle of which there is a doubt and they are right. The state department of agriculture is fighting tuberculosis in cattle tooth and toe nail and it is up to the fair board to back them up by refusing to admit animals which are not accompanied by a certificate from a recognized veterinarian guaranteeing them clean. Riverside and Pomona have come out for tuberculin tested animals in no uncertain words and the state fair—which should have been the leader—should be quick to get into line. If this is not done there will be a number of herds missing next year.

The Holstein show ring was interesting in show men as well as animals. Many old timers, some of whom have national reputations, were holding the cattle. Pete Ledgaard, who has shown all through the East for the Maxwell Farms, was in charge of Hartsook's herd with Dick Ulken, Earl Sturgis and Harry Redd to help show it. Johnny Dugan was with the Millbrae herd, and Jack Shillcock helped the Junior Republic boys. Harry Wilson, formerly with Schroeder and later with Bridgford, has charge of the Berylwood show string. With a multitude of tip top animals and these boys to show them the ring took on the appearance of a national show.

Fred Hartsook's Toggenburg milk goats won 77 per cent of the money offered for that division. His nine quart doe, El Chivars Helenka, was senior champion.

The American Jersey Cattle Club exhibit occupied a separate tent and was in charge of Mr. Astroth, who represents the club on the coast.

E. L. Westover, the western field man for the Guernsey Cattle Club, was present all week.

Alfred Elliott, who was showing the Poland China herd owned by the Tagus Ranch, bought the first prize junior yearling boar, Westerner C, from Starlock Farms. He will use him on a few fine gilts which he reserved when he sold his herd.

Mrs. Charles Virden of San Francisco, bought the great senior yearling Berkshire sow, Festline's Rival 2d, from Alex Wilson of the Italian Vineyard Company. This sow was first in her class and was reserve grand champion sow, being beaten by her dam Violets Festline, who has never been defeated. Mrs. Virden arranged with Mr. Wilson to have Festline's Rival 2d shown at Riverside, Pomona and Portland before being shipped to her.

Judges Painter and Patterson, who handled the beef cattle, were exceedingly well pleased with the animals on which they passed judgment.

The Dairy Shorthorns were judged under the new classifications adopted last year by the national association. They are entirely different from the regular classifications used by the other breeds. Thos. Harrison showed both grand champions and junior champion bull. Innisfail Betty, junior champion female, was shown by J. D. Rowe & Sons.

## STANISLAUS COUNTY CALF CLUB

Thursday, August 17, everyone had an opportunity to see the class of Jersey cattle bred and raised in Stanislaus County, the breeders and the calf club holding a great parade. The calf club members each led his own calf. Frank B. Astroth, field man of the American Jersey Cattle Club, judged the calves after the parade, the winners to go to the state fair. The parade was headed by police escort, then the boys' band, next Mayor Ulrich and John Dillon, secretary of chamber of commerce, also Mr. Astroth and County Agent A. A. Youngerman, while Frank Spurrier, assistant state leader of the extension department of agriculture of the University of California and Assistant Farm Advisor Donald Smith escorted the calf club members with their calves. Next were the breeders. The club winners were:

Junior yearling heifer—1, Elmo High; 2, George Gilman; 3, Daniel Conant.

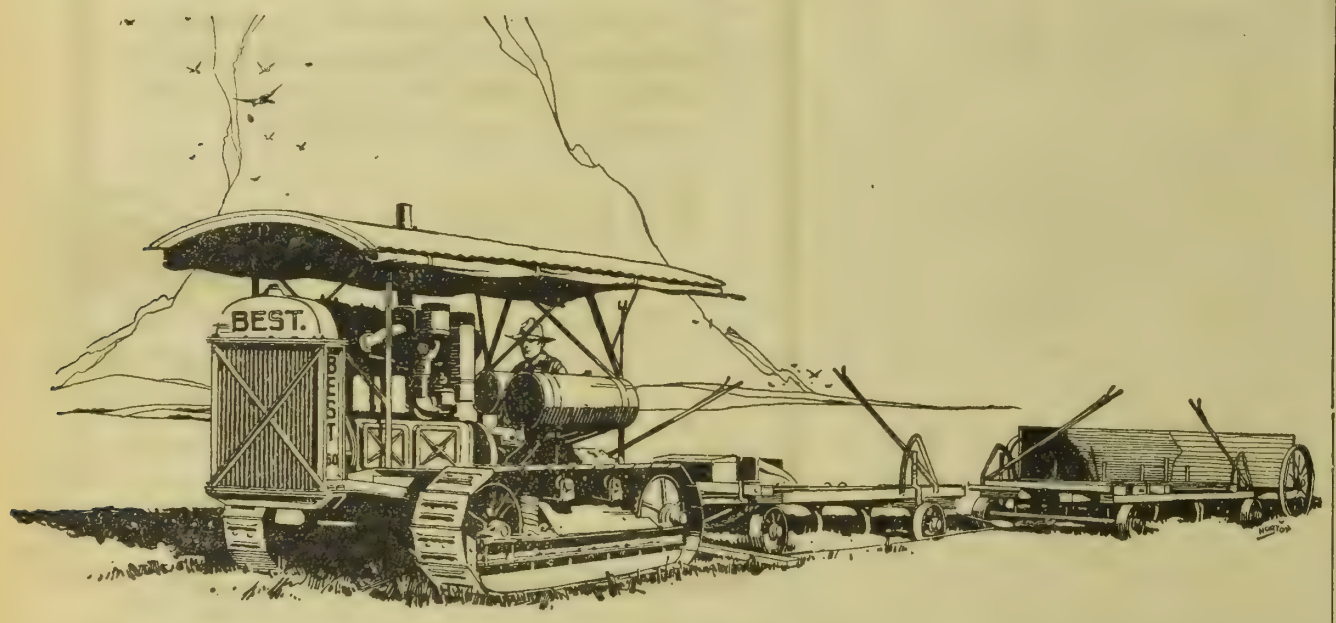
Heifer in milk—1, Marguerite Conant; 2, Jesse Henry; 3, Jewel Campbell.

Heifer and calves under one year—1, Jonk Mier; 2, Jesse Henry; 3, Bertha Mier; 4, Ruth Wilson; 5, Jack Sampley.

Grand champion, Marguerite Conant, heifer in milk Reserve champion, Elmo High with heifer over one year.

At Modesto high school auditorium at 8 p. m., with Guy H. Miller as chairman, George T. McCabe, secretary of Stanislaus County board of trade was introduced as first speaker. He spoke on the dairy industry in early times and down to date. Frank Spurrier of the University spoke to the calf club members. Then followed the stereopticon lecture by Mr. Astroth, the field man. He had slides with all the famous registered Jerseys. Their records of butterfat, pedigrees and type were explained. The advantanges of raising Jerseys in comparison with other breeds were explained, also the low cost of producing a pound of fat alongside of some other breeds were depicted on the slide.

The committee from the breeders association was composed of W. J. Hackett, Guy H. Miller, J. A. Goodall, D. F. Conant, C. L. Jarrett and C. D. Hayworth, and from the calf club Elmo High, Dan Conant, George Gillman, Jesse Henry, John Mier and Gordon Campbell. The mayor of Modesto, the chamber of commerce and the county board of trade did all they could to make it a great day, the chamber of commerce paying for the prize ribbons.—C.

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Best Tractors are not only a good investment this year; their long life and dependability keep them in service for many seasons, so that the first cost is spread out over several years, each year paying a profit.

Best Tractors are more than a combination of metals shaped and fastened together to specifications drawn to meet a price. They are the product of years of experience in building *successful tractors.* Experience that has developed a correct and balanced design—that has taught the use of special heat treated steel here—drop forgings there—anti-friction bearings at other places and so on. Just as a clean limbed horse comes into the thoroughbred class through careful breeding and rearing over a period of years—so Best Tractors have reached the top of tractor perfection.

There are two models of Best farm tractors, the "Sixty" and the "Thirty," Let us send you full information on both and the name of our nearest dealer.

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BEST TRACTORS

## GREAT HONORS WON

(Continued from Page 285)

Steer under one year—1, Briggs on Donald Lad 1. 2, Bunting on Mission Don. 3, Gable on Foxy. 4, Glide on Surprise.

Carload—1, Kern Co. Land Co.

Grand champion steer—Bunting on Mission Jim.

### DAIRY CATTLE

**Jerseys**

An even 200 animals, the largest number ever at a California fair, was the contribution of the Jersey breeders to this year's state show. The quality was not in keeping with the quantity, and sometimes the judge was at a loss to find enough animals to fill his awards. It was a wonderful turn out of the breed and is to be commended. A little more feed when the animals are young, a little better fitting and training of the candidates and more attention to showing would have worked wonders in the contest. Judge Brandt is from Oregon where Jerseys are plentiful and where the breeders fit and show like veterans, and he was somewhat disappointed in the way some of the California men show. He was much pleased with many of the animals and spoke highly of them.

The classes were all large and from 12 to 27 were the rule. The tent provided for the judging was much too small and the judge was often forced to make his preliminary pick of the class and send the balance to the barn in order to have sufficient space in which to work.

Size and great individuality, combined with promised production, were the points most closely watched. The aged cow class of 23 was topped by Salome of Mossdale who was later made senior and grand champion. This 12 year old cow has had championship honors numerous times but never looked better than this time. She calved at the Stockton fair and was shown in full bloom. Harry Cook of Chino, showing at the state fair for the first time, was highly successful, and his sweet senior heifer calf was junior champion.

There was considerable rivalry between Thorp's Jolly Senator Raleigh, who has many times been champion, and Financial Corrector, the two year old owned by the Waterloo Jersey Farm for senior championship. The young bull is a hard one to beat and vanquished his aged contender. He was also made grand champion over Guy Miller's senior bull calf, the junior champion.

The awards were well distributed showing that no breeder has a corner on the best animals in the state and everyone was well satisfied.

Exhibitors: Ferdinand R. Bain, Los Angeles; C. E. Barrows, Orland; Mrs. C. E. Barrows, Orland; Barrows & Rider, Orland; California Polytechnic School, San Luis Obispo; Daniel F. Conant, Jr., Modesto; Marguerite A. Conant, Modesto; Harry H. Cook, Chino; W. D. & C. O. Day, San Luis Obispo; M. Fortini, Orland; W. G. Gurnett, Orland; W. J. Hackett, Ceres; Charley F. Krause, Orland; N. H. Locke Co., Lockeford; Guy H. Miller, Modesto; N. S. Nelson, Orland; John A. Norton, Sacramento; Harry L. Perkins, Orland; Judge Peter J. Shields, Sacramento; J. Rudolph Tanner, Morro; J. E. Thorp, Lockeford; Waterloo Jersey Farm, Lockeford; J. E. Wherrell, Riverside.

The awards follow:

Aged bull—1, Thorp on Jolly Senator Raleigh. 2, Nelson on Dairy Maid's Gay Prince. 3, Barrows & Rider on Samuel's Noble Foxhunter. 4, Hackett on Romulus Interest. 5, Thorp on Biddy King of Mossdale.

Two year old—1, Waterloo Jersey Farm on Financial Corrector. 2. Thorp on Fairy Boy of Mossdale.

Senior yearling bull—1, California Polytechnic School on St. Mawes Flying Owl. 2, Bain on Gamboge's Majesty's Falcon. 3, Thorp on Biddy's King of Mossdale Jr. 4, Wherrell on Snowdrop's Oxford Prince.

Junior yearling bull—1, Gurnett on Foxy Prince of Orland. 2, Cook on Fern Bettie's Champion. 3, Hackett on Leonard Farm Graces Majesty. 4, California Polytechnic School on Poppy's Lady Glow Boy. 5, Locke on Financial Topsy Is King.

Senior bull calf—1, Miller on Marigold Altama Owl. 2, Locke on Combination's Judge of L. 3, Locke on Rhyme's Judge of L. 4, Wherrell on Eminent Polly's You'll Do. 5, Shields on Riga's Lord Karnak.

Junior bull calf—1, Miller on King's Perfection Owl. 2, Fortini on The Nobleman of Tintagel. 3, Gurnett on Foxy Gordon of Orland. 4, California Polytechnic School on Unnamed. 5, Marguerite Conant on Betty's Laddie Boy.

Aged cow—1, Thorp on Salome of Mossdale. 2,Thorp on Goldies Nehalem Cowslip. 3, Waterloo on Valets Grace Dereed of L. 4, Bain on Wizz's Tessa May. 5, Cook on Shylock's Maid.

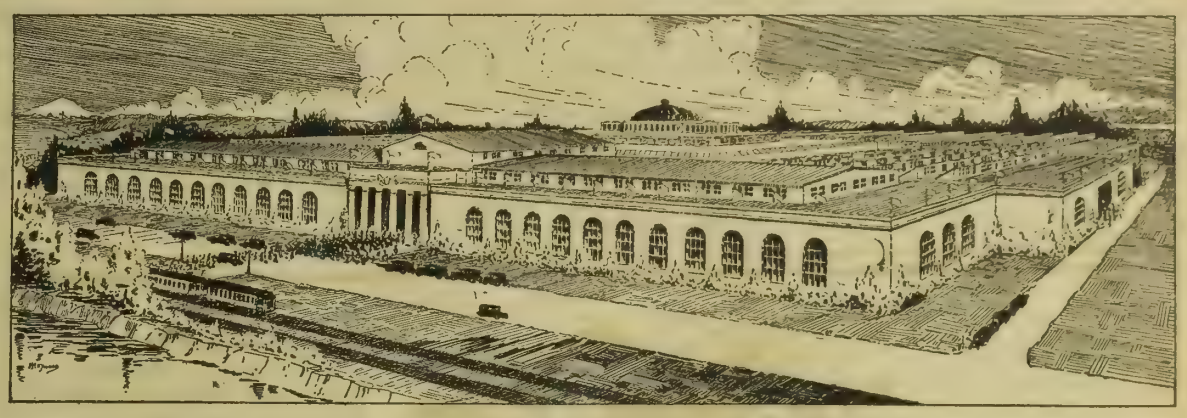
Three year old—1, Bain on Violet of Mossdale. 2, Gurnett on Foxy Lass of Orland. 3, Harry H. Cook on Imperial


# See the Champions

## of All Breeds at the

# Pacific International Live Stock Exposition

## November 4-11, 1922



The above reproduction shows the buildings of the Pacific International Live Stock Exposition, located at North Portland, Oregon. This building covers ten acres of ground under one roof and is the largest live stock building in America (perhaps the world) and houses more than 3,500 pure bred live stock in addition to more than 2,500 chickens and rabbits. Practically all breeds of dairy cattle, beef breeds, swine, sheep, goats and horses are exhibited annually, also Dairy Products, and Manufacturers' and Land Products Shows.

### Our 1921 Show

The 1921 Pacific International Exposition was reported to have been the best live stock show of all breeds in America. This not only means the best show of any one individual breed, but for all breeds. It was truly an exposition for "champions" which were shown. In addition to the 3,500 animals on exhibit and 2,500 rabbits and chickens, the Night Horse Show was an added attraction, which was equal to any in the country. The attendance in 1921 was 101,400. Many of the big breeders came out from the East to see this show. We recall one instance where two special Pullman cars were chartered to bring a group of Holstein breeders to the exposition. Everybody was most enthused over the possibilities of the Pacific International Show.

### Brief History of Pacific International

Not so many years ago a group of live stock breeders gathered at Portland, Oregon, and brought the winners of the various state fairs together for exhibition purposes in a tent. There were only a comparatively few animals that year entered for premiums, but they saw the possibilities of holding a big live stock show after all the other fairs and dairy shows had been completed. At that time they organized what is known now as the Pacific International Live Stock Exposition Company, a non-profit organization. Between $300,000 and $400,000 was subscribed by breeders, farmers and business interests of Oregon, Washington, Idaho, California, Montana and British Columbia for original plant of five acres. In order to put up additional buildings the Oregon State Legislature granted them $100,000 and in addition they then went among their friends and sold bonds. Today they have approximately $750,000 invested in buildings, and the Exposition Company is operated in much the same manner as a regular mercantile business—operated solely for the upbuilding of the live stock industry, not only on the Pacific Coast, but throughout America.

The following men, officers and directors of the Pacific International Live Stock Exposition Company give their time in directing the affairs of the Exposition and have invested considerable money and serve to the best of their ability without compensation.

E. A. Stuart, President, Seattle, Washington.

Chas. H. Carey, Vice-President, Portland, Oregon.

Wm. Pollman, Vice-President, Baker, Oregon.

Frank Brown, Vice-President, Carlton, Oregon.

Frank Robertson, Treasurer, Portland, Oregon.

The Directors are:

W. B. Ayer, Portland, Oregon. Shorthorns and Hampshire Sheep.

O. V. Battles, Yakima, Wash. Aberdeen-Angus.

Frank Brown, Carlton, Oregon. Show Ring Judge—Shorthorns.

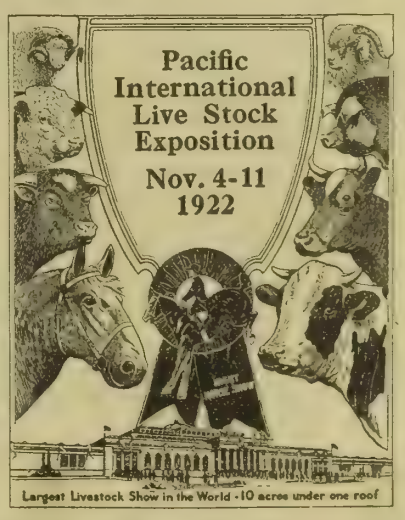
Chas. H. Carey, Portland, Oregon. Horses.

A. D. Dunn, Wapato, Wash. Shorthorns.

Ray J. Fox, Lyons, Oregon. Poland China Hogs.

C. L. Hawley, McCoy, Oregon. Lincoln Sheep and Guernseys.

Wm. M. Ladd, Portland, Oregon. Jerseys.




Roderick Macleay, Wedderburn, Oregon. Cattle and Goats.

Walter A. Moore, Hollywood, Wash. Holsteins and Poultry.

Thos. T. Miller, Hollister, Cal. Shorthorns.

Wm. Pollman, Baker, Oregon. Range Cattle and Horses.

Frank Robertson, Portland, Oregon, Shorthorns.

F. M. Rothrock, Spokane, Wash. Shorthorns.

A. C. Ruby, Portland, Oregon. Horses.

H. E. Sellwood, Portland, Oregon. Poultry.

E. A. Stuart, Seattle, Wash. Holsteins.

Henry Triessen, Sweetwater, Ida. Herefords.

Oswald West, Portland, Oregon. Night Horse Show.

### Our 1922 Show

The prospects for the 1922 Show look even brighter than the 1921 Show. There will be approximately $75,000 given out as premiums, including the Night Horse Show.

Our liberal advertising appropriation will assure a larger number in attendance this year than last.

### An Educational Vacation

Judging from the enthusiasm shown by visiting breeders last year, many of them are planning on taking their annual vacation and coming to the Pacific Coast at the time the Show is on, namely November 4th to 11th.

If you are not planning on bringing a Show string to the Pacific International, plan on visiting the Show and bring your family and tell your neighbors to do the same. Special certificate may be had by writing O. M. Plummer, entitling members of breeds and allied associations to one and one-half railroad fare for round trip.

### Premium List Ready

Breeders thinking of exhibiting at the Pacific International are requested to write for premium list which has just been received from the printers. This gives full information as to the closing dates, classification, etc.

**ADVANCE INFORMATION**

**Any Further Information Regarding the Pacific International can be had by Writing**

**O. M. PLUMMER, General Manager and Secretary, 211 Northwestern Bank Building, Portland, Oregon**

Bertha. 4, Cook on Shylock's Marquisa Interest. 5, California Polytechnic School on Miss Sargent's Queen.

Two year old under three—1, Waterloo on Goldie's Dame Onota. 2, Thorp on Girlie of Mossdale. 3, Marguerite Conant on Fox's Sunshine Betty. 4, Hackett on Oxford's Zalema Gold. 5, Krause on Pearl of Willowood 3rd.

Senior yearling heifer—1, Bain on Gamboge Majesty Red Feath. 2, Hackett on Eliza's Oxford Girl. 3, Waterloo on D. L's Aljibe. 4, Wherrell on Fawn Lass Dottie Bell. 5, Thorp on Wardress of Mossdale.

Junior yearling heifer—1, Cook on Fern's Interested Violet. 2, Thorp on Kings Miss of Mossdale. 3, Hackett on Kings Zalema Rosa. 4, Miller on Signet of Venadera. 5, Peterson on Pilots Induction of Waikiki.

Senior heifer calf—1, Cook on San Aloi's Rexie. 2, Waterloo on Financial Corrector's Fozola. 3, Wherrell on Gold Links Mabel. 4, Waterloo on Financial Corrector's Viola. 5, Hackett on Bess Baen Belle.

Junior heifer calf—1, Locke on D. L. K.'s sunshine of L. 2, Hackett on L. F. Lady's Flapper. 3, Bain on No. 258, Unnamed. 4, Waterloo on No. 267, Unnamed. 5, Cook on San Aloi's Lady's Supreme.

Senior and grand champion bull—Waterloo Jersey Farm on Financial Corrector.

Junior champion bull—Miller on Marigold Altama Owl.

Senior and grand champion cow—Thorp on Salome of Mossdale.

Junior champion cow—Cook on San Aloi's Rexie.

Aged herd—1, Waterloo. 2, Thorp. 3, Cook.

Young herd—1, Cook. 2, Miller. 3, Wherrell.

Calf herd—1, Wherrell. 2, Thorp. 3, California Polytechnic School.

Get of sire—1, Locke on get of Imp. King's Valet. 2, Miller on get of Jap's Perfection Owl. 3, Waterloo on get of Financial Corrector. 4, Cook on get of Sans Alois Brightness.

Produce of dam—1, Gurnett on produce of King's Lass of S. B. 2, Cook on produce of Shylock's Financial Lady. 3, Thorp on produce of Salome of Mossdale. 4, Wherrell on produce of Fern Oxford's Snowdrop.

Five cows in milk—1, Cook. 2, Thorp. 3, Locke.

### Holsteins

The black and white cows were not so numerous as in some former years, but the quality was superb. Of the 106 head shown, nearly three-fourths were from Southern California, where the best in Holsteins are being assembled. Fred Hartsook with 37, Berylwood with 27, and George Junior Republic with 18 made up the bulk of the show. The Millbrae herd from the peninsula south of San Francisco was the principal contender from the northern part of the state.

Among the 18 aged cows led out there were more high record cows than were ever shown in one ring anywhere in the world. The entire show was an example of the doctrine that great individuality and high production do go together. The grand champion cow, Ava Model Hengeveld 2d, has a yearly record of 1129 pounds butter and the grand champion bull, Prince Aaggie of Berylwood, is the highest record bull for an average of his seven nearest dams, in service in the world.

The second prize aged cow was later first in the county cow testing association show where conformation and production are combined to score and all breeds compete. In this class Fred Hartsook's cows ranked 1-2-3-4.

The third prize aged cow, Fay Tritomia Hengerveld Walker, owned by Berylwood Stock Farm, is the state champion four year old for 305 days.

The class for five cows in milk was a sensation and for the first time in history one man won first and second. Hartsook showed ten wonderful cows, most of them high record, but his entries were closely pushed by the Berylwood and Junior Republic entries, which were 3 and 4, respectively.

Hartsook's get of Tritomia Pietertje Ormsby, sired by last year's champion bull of the National Dairy Show, was head and shoulders above all others in that class. This get won last year in a number of shows for the Maxwell Farms.

The produce of Snowflake Juliana Fobes of Rock won for the Junior Republic over the Hartsook entry of produce of K. S. P. Lily McKinley. This was a wonderful class and Berylwood was close behind with the produce of Miss Bracelet Fobes Korndyke and of Fay Tritomia Hengerveld Walker.

In the aged bulls the Hartsook entry won over the Millbrae bull, who was grand champion many years ago, and Dichter Spofford Korndyke Lad 5 owned by the Junior Republic, who championed last year's show, but he was unable to defeat the great young Berylwood bull for the grand championship honors.

Junior championship in the females went to the Junior Republic on Fobes Dichter Juliana, a wonderfully sweet senior yearling heifer.

The grand champion cow was also first in the advanced register class where record and conformation both count.

Exhibitors: Earl Ahmaun, Bakersfield; Samuel Baecke, Galt; Berylwood Stock Farm, Hueneme; Ralph Bisnett, Turlock; Frank Breseiani, Petaluma; California Junior Republic, Chino; California Polytechnic School, San Luis Obispo; Varian Costa, Galt; V. F. Dolcini, Davis; Fred Hartsook, Lankershim; J. A. McCormack, Oxnard; Millbrae Dairy, Millbrae; F. Pfeiler, Oxnard; R. C. Rasmussen, Petaluma; Baird Snodgrass, Hueneme; Ellis Snow, Bakersfield; Marjorie Walters, Santa Paula; Harold A. Wood, Modesto.

The awards follow:

Aged bull—1, Hartsook on Major Korndyke Pontiac Fobes. 2, Millbrae on King Pontiac Musa Netherland. 3, Junior Republic on Dichter Spofford Korndyke Lad 5th.

Two years old and under three—1, Breseiani on Sir Ormsby Korndyke Fern. 2, Rasmussen on Sir Highland Skylark. 3, Dolcini on Sir June Acres Aaggie Mead.

Senior yearling bull—1, Berylwood on Prince Aaggie of Berylwood. 2, Junior Republic on Republic Spofford Ida Lyons.

Junior yearling bull—1, Hartsook on Tritomia Pansie Ormsby. 2, Berylwood on Prince Alcartra Walker Segis.

Senior bull calf—1, Hartsook on Meadhart Aaggie Mead Ophelia. 2, Hartsook on King Artis Segis Pontiac. 3, Millbrae on Millbrae Therese Korndyke. 4, Junior Republic on Republic Dichter Julian. 5, Berylwood on Count Alcartra Veeman.

Junior bull calf—1, Millbrae on Millbrae Pontiac Olive Korndyke. 2, Hartsook on Meadhart Aaggie Mead 7th. 3, Berlywood on Prince Fobes Korndyke. 4, Hartsook on Meadhart Aaggie Mead. 5, Hartsook on Meadhart Aaggie Mead 6th.

Aged cow—1, Hartsook on Ava Model Hengerveld 2nd. 2, Hartsook on Lady Cornucopia Mercedes. 3, Berylwood on Fay Tritoma Hengerveld Walker. 4, Hartsook on Bessie Snowball DeKol.

Three years and under four—1, Hartsook on Jessie Fobes Snowball. 2, Hartsook on Sarcastic Dulcina Jewell. 3, Junior Republic on Lady Dichter Juliana. 4, Berylwood on Arcula Alcartra Mead. 5, Junior Republic on Coliana Snowflake Korndyke.

Two years and under three—1, Millbrae on Millbrae Pontiac Sarcastic Maid. 2, Hartsook on Lily McKinley Ormsby. 3, Berylwood on Holland Pietertje Fobes. 4, Hartsook on Wadnah Ormsby Skylark. 5, Junior Republic on Handsome Tuebie Spofford.

Senior yearling heifer—1, Junior Republic on Fobes Dichter Juliana. 2, Hartsook on Ragapple Tritomia Ormsby Segis. 3, Berylwood on DeKol Sunshine Creamelle. 4, Hartsook on Cornucopia Paul Segis Fayne. 5, Berylwood on DeKol Creamelle Sunshine.

Junior yearling heifer—1, Hartsook on Caroline Wayne Fayne. 2, Berylwood on Lassie Mercedes of Ions Home. 3, Baird Snodgrass on Pearl Aaggie Hengerveld Segis. 4, Hartsook on Lilly Tritomia Pietertje Ormsby. 5, Hartsook on Flush Ormsby Tritomia.

Senior heifer calf—Hartsook on Meadhart Mary. 2, Millbrae on Millbrae Antoinette Pontiac. 3, Junior Republic on Queen Dichter Pontiac. 4, Hartsook on Nancy Calmo Korn 2nd. 5, Berylwood on Lady Anonis Segis.

Junior heifer calf—1, Hartsook on Meadhart Jocaba Pontiac. 2, Millbrae on Millbrae Babronia Pontiac. 3, Berylwood on Piebe of Berylwood. 4, Hartsook on Meadhart Eva Boba. 5, Millbrae on Millbrae Pontiac Francine 2nd.

Cow having official yearly record—Hartsook on Ava Model Hengerveld 2nd.

Senior champion bull—Hartsook on Major Korndyke Pontiac Fobes.

Junior and grand champion bull—Berylwood on Prince Aaggie of Berylwood.

Senior and grand champion cow—Hartsook on Ava Model Hengerveld 2nd.

Junior champion cow—Junior Republic on Fobes Ditcher Juliana.

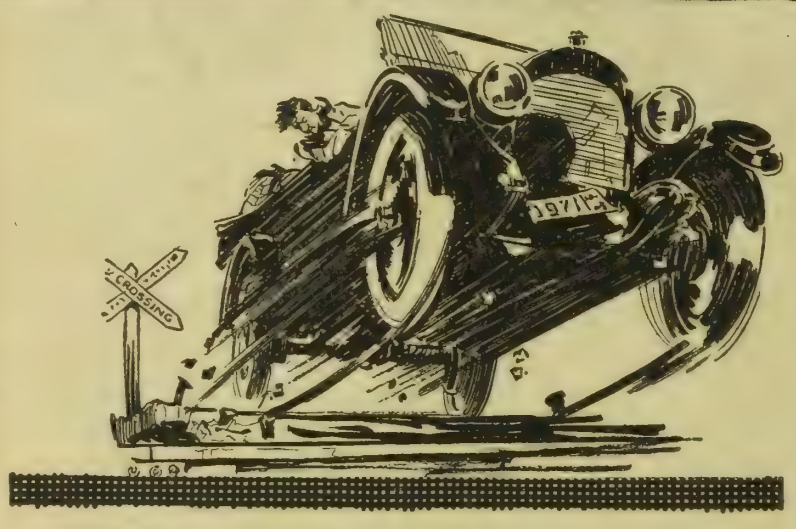
Aged herd—1, Hartsook. 2, Millbrae 3, Junior Republic.

Breeders young herd—1, Hartsook. 2, Junior Republic.

Calf herd—1, Millbrae. 2, Hartsook.

Get of sire—1, Hartsook get of Tritomia Pietertje Ormsby. 2, Millbrae get of King Pontiac Musa Netherland. 3, Hartsook get of Sir Aaggie DeKol Mead. 4, Ventura County Calf Club get of Pearl King Segis Pontiac.

Produce of dam—1, Junior Republic produce of Snowflake Julian Fobes of Rock. 2,, Hartsook produce of KSP Lily McKinley. 3, Berylwood produce of Miss Bracelet Fobes Korndyke. 4, Berylwood produce of Fay Tritomia Hengerveld Wal-

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ker.

Five cows in milk—1, Hartsook. 2, Hartsook. 3, Berylwood. 4, Junior Republic.

**Guernseys**

The Guernsey show at the state fair seldom equals in numbers the shows of the southern part of the state. This year only two herds plus a single individual appeared but the quality was a decided improvement over many previous years. The Italian Vineyard Company of Guasti, showing for the first time, bumped up against by far the best herd A. B. Humphrey of Escalon has ever shown, and gave him real competition. Four of the blues and junior champion cow went to the Southern California herd.

Humphrey's get of sire by Nobleman of Maple Hill was about the finest one that has been shown in years. This bull who was again grand champion has proven to be a great sire.

The senior and grand champion female, Mayhew's Bonnie Lass, is one of the grandest two year olds ever shown anywhere. She had a strenuous time defeating the Italian Vineyard Company's entry, a daughter of the great cow, Caroline of Chilmark, in her class but after this award was made there was no question as to which animal would be grand champion. A little better heart girth was the only advantage she had over the Caroline heifer.

The Italian Vineyard Company has been in Guernseys only a year and was shut out of some classes on that account but it proved that it had many animals of the highest type and quality.

Every animal but the aged bull shown by Humphrey was bred by him and the herd can certainly be an object lesson to men who are or want to become breeders. The advancement has been apparent through the past few years and the owner can certainly feel a great pride in what he has accomplished.

Exhibitors: Italian Vineyard, Guasti; Arnold Cattani, Bakersfield; A. B. Humphrey, Escalon.

The awards follow:

Aged bull—1, Humphrey on Nobleman of Maple Hill. 2, Italian Vineyard on Cherubs Sunny Jim of Revada.

Two year old and under three—1, Italian Vineyard on Carl E. King of Hollow Hill Farm.

Senior yearling bull—1, Humphrey on Escalon Princess White Face. 2, Humphrey on Escalon Favorite.

Senior bull calf—1, Humphrey on Escalon Riccardo. 2, Humphrey on Escalon Golden Noble. 3, Italian Vineyard on Twilight Topper. 4, Italian Vineyard on Ruben L. King of Hollow Hill Farm.

Junior bull calf—1, Humphrey on Escalon Senator.

Aged cow—1, Humphrey on Phillys of Mayhews. 2, Italian Vineyards on Imp. Fan of Bickleigh. 3, Italian Vineyards on Revada's Princess Pat.

Three year and under four—1, Italian Vineyards on Rosie E. King. 2, Cattani on Glenrose Hope. 3, Humphrey on Escalon Daisy.

Two year and under three—1, Humphrey on Mayhews Bennia Lass. 2, Italian Vineyards on Caroline E. Langdon of Hollow Hill Farm. 3, Italian Vineyards on Jewel Langdon of Hollow Hill Farm. 4, Italian Vineyards on Lillia of Navarino.

Cow, senior yearling heifer—1, Italian Vineyards on Karmaletia of Calimono. 2, Humphrey on Escalon Nancy. 3, Humphrey on Escalon Pearl. 4, Italian Vineyards on Azucena Langdon of Hollow Hill Farm.

Junior yearling heifer—1, Humphrey on Escalon Joan. 2, Humphrey on Escalon Naomi. 3, Italian Vineyards on Cherubs Daisy of Castleview.

Senior heifer calf—1, Italian Vineyards on Guasti's Violet. 2, Humphrey on Escalon Pollyanna. 3, Humphrey on Escalon Lottie.

Junior heifer calf—1, Humphrey on Escalon Valentine. 2, Humphrey on Escalon Beauty.

Senior champion bull two years old or over—1, Humphrey on Nobleman of Maple Hill.

Junior champion bull under two years—1, Humphrey on Escalon Riccardo.

Senior champion cow two years old or over—1, Humphrey on Mayhew's Bonnie Lass.

Junior champion cow or heifer under two years—1, Italian Vineyards on Guasti's Violet.

Grand champion bull—1, Humphrey on Nobleman of Maple Hill.

Grand champion cow or heifer—1, Humphrey on Mayhew's Bonnie Lass.

Graded herd—1, Humphrey. 2, Italian Vineyard.

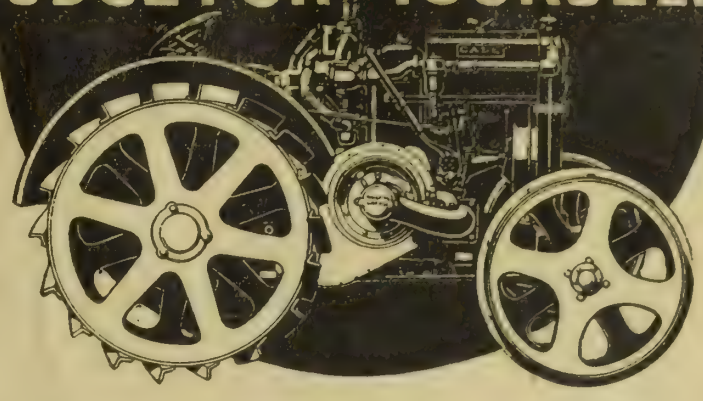
Breeders young herd—1, Humphrey.

Calf herd—1, Humphrey on Escalon Lottie.

Get of sire—1, Humphrey get of Nobleman of Maple Hill. 2, Humphrey get of Nobleman of Maple Hill. 3, Italian Vineyards get of King of Hollow Hill Farm. 4, Italian Vineyards get of Effie's King of Hollow Hill Farm.

Produce of dam—1, Humphrey produce of Grape Wild Jewel. 2, Italian Vineyards produce of Caroline of Chilmark. 3, Humphrey produce of Imp. Daisy H of


**JUDGE FOR YOURSELF**



THE qualities that insure you a profit from the use of a tractor are: General usefulness, economy and durability. Case Farm Tractors meet all these requirements fully. Judge for yourself.

**Usefulness:** A size for every farm, each size equally well adapted to field or belt work. Ample clearance. Safe to operate on side hills. Practical traction speeds. Power in reserve to meet emergencies. Easy to turn, to steer and to handle in small fields, orchards and around buildings.

**Economy:** Four cylinder, vertical, heavy duty engine operates on low grade fuel. A fuel system so efficient that Case tractors have won first place in practically every important test in which they have been entered. Full power of engine delivered at belt, and an unusually large percentage at the drawbar because of the Case spur gear transmission.

**Durability:** Rigid frame holds all gears, shafts and bearings in permanent alignment, preventing unnecessary wear and strains. All bearings, gears and working parts fully enclosed, protected from dust and dirt, and positively lubricated. All working parts easily accessible and replaceable in case of accident or for adjustment. Removable cylinder barrels. Patented Case air washer. Gears of special steel. High grade roller and ball bearings.

Our new booklet, "Better Farming with Better Tractors," tells in fullest detail why and how Case tractors are profitable machines for farmers to use. Write for it.

J. I. CASE THRESHING MACHINE COMPANY
*Established 1842*
Dept. W4 Racine Wisconsin

**Meadhart Holstein Herd**
We are trying to have nothing but the greatest in Holstein type and production and experts tell us we are succeeding.
Visit our show herd at Stockton, Sacramento, Tulare, Hanford, Fresno, Ventura, Riverside and Pomona.
Lankershim Calif. *Fred Hartsook* RANCH We Will Welcome You

**"ALL DEAD ABOVE THE EARS"**
is the only possible explanation as to why the man who has money doesn't buy ranches or cattle at their present prices.
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Ranches, Feeders, Beef and Carlot Dairy Cows
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NEVER HAS HURT A COW
Inexpensive Operation ~ Long Life
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have sold more than $500,000 worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.
California Breeders Sales & Pedigree Company
C. L. Hughes, Sales Mgr. Sacramento, Cal.

**Mt. Lowe**
MILE HIGH WONDER TRIP $2.50
Pacific Electric Railway

# Do You Want Duty-Free POTASH?

If so, write at once to the Representative from your Congressional District, and also to both of the United States Senators from your State, and urge them to ask the members of the Conference Committee, which is now considering the Tariff Bill, to agree to the Senate amendment which leaves Potash on the Free List, where it always has been.

Briefly, what has happened is this:—

The Tariff Bill passed by the House imposed a duty of $50 per ton on fertilizer Potash. The Senate restored fertilizer Potash to the Free list, and voted down a proposal to pay a bounty of $50 per ton on Potash produced in the United States. The question now before the Conference Committee is simply whether fertilizer Potash shall remain on the Free List or shall pay a duty of $50 per ton. This duty would double the price of Potash to the farmer.

The House of Representatives did not vote on fertilizer Potash as a separate item, although many members wished to do so. There will now be a chance for such a vote, when the Conference Committee makes its report.

**The proposed duty would make farmers pay over sixty million dollars ($60,000,000.00) more for the same amount of Potash that they have been using in the past.**

The promoters of the speculative Potash enterprises in this country maintain a very active organization in Washington, and will spare no effort to induce Congress to impose this enormous burden on the farmers of the country.

The Washington representatives of the Farm Organizations oppose this duty and will welcome your help.

Write to your Congressman and Senators today, and let them know how *you* feel about it.

**SOIL & CROP SERVICE, POTASH SYNDICATE**
H. A. HUSTON, Manager
42 Broadway New York



*Mr. Farmer!*

*The Biggest Snap You Ever Saw*

A CARLOAD OF

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Selling Regularly for $225.00

A SNAP $150.00 EACH
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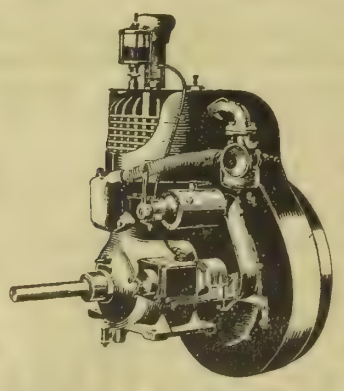

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WILLOWS, CALIF.

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the Courtil Honchin. 4, Italian Vineyards produce of Twilight of Glenfield Springs.

**Ayrshires**

The Ayrshire show was made up of but two herds, one from the Le Baron Estate at Valley Ford, and the other from the H. G. Ranch in Santa Barbara County.

These herds had met at Stockton the week before, much to the advantage of the H. G. herd. Judge John L. Smith at the state fair saw them differently and the Le Baron herd won most of the blues and all of the championships.

A grand two year old bull, Middlesex Royal Champion, was made grand champion without much opposition from his junior champion herd mate, Narabel Constable.

Grand championship on the aged cow, Princess Maggie was placed without her presence as she decided to calve just at the time she should have been taken into the ring. However, she was an outstanding individual and was awarded the palm anyway. Narabel Cherry, the senior yearling heifer was junior.

## POWER ON THE FARM

(Continued from Page 291)

to make them wear resisting and as nearly permanent as possible.

The Schmeiser Manufacturing Company displayed their track wheel attachment for small tractors. The track is 12 feet long and 10 inches wide, giving a ground bearing surface of 300 square inches. The drive sprocket is 40 inches in diameter, made of chrome steel and bolted to the hub. If desired a complete fender covering the entire length of the tracks may be had.

Some of the Good Things scheduled for this week's Cultivator but necessarily held over are a portion of accounts and awards at the state fair. Wood's account of the Central California Citrus Institute at Lindsay, Braunton's account of Walnut Institute at Santa Barbara and other interesting material.

One of the most attractive showings was made by the H V. Carter Company which embraced the large Allis-Chalmers tractor and the small garden Beeman. So many uses are to be found for a small tractor that one could profitably be placed on every farm in California. They are needed in the truck garden and the home garden, the orchard, the field and every place where a single horse drawn implement is used. They require so little fuel that their cost of operation is almost a negligible factor.

In the Allis-Chalmers tractor we find an 18-30 tractor that has many features to recommend it to the careful buyer. The power plant consists of a four cylinder vertical, valve-in-head type engine designed for kerosene. The motor is equipped with a Kingston double bowl carburetor fed by gravity. Power is transmitted through an expanding clutch which is simple and easy of adjustment. The drive wheels are fifty inches in diameter with a twelve inch face.

Aside from the tractors the power on the farm tent contained exhibits of power sprayers, plows, harrows, seeders, rakes, sub-soilers, mowers, and in fact, almost every conceivable implement that is ordinarily used in conjunction with a tractor.

The exhibit of the John Deere Plow Company contained many new and valuable improvements. The new Hoover potato digger with its adjustable rear rack agitation not only cleans the potatoes but throws the vines to one side. A new grape and vine hoe may be so adjusted as to place the dirt toward the vines or away from them according to the needs.

The Deere Model W reversible disk harrow may be used as a ridger by a slight movement of one of the levers. The small eight walking plow has a swivel beam which permits close work near vines and trees.

Knapp Ploy Company of San Jose featured their light draft subsoil plow which is used in conjunction with a tractor. This is a very fine single standard plow for both power lift and auxiliary hand screw lift for adjusting depths and for use when the plow is not in motion. The axle is above the beam which prevents clogging under the beam. The frame is a very rigid construction, as is necessary for heavy sub-soil work. The land shoe is extra heavy and is strongly riveted to the standard, making it possible to shear off the rivets.

This sub-soil implement should find popular favor.

Greater crowds gathered around the exhibits than at any previous fairs, indicating that a keener interest is being taken in power as applied to successful agriculture.


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Sweeter, larger and proven by demonstration as the "Prune preferred" in every way. Illustrated literature and details of our Special Plan FREE upon request.

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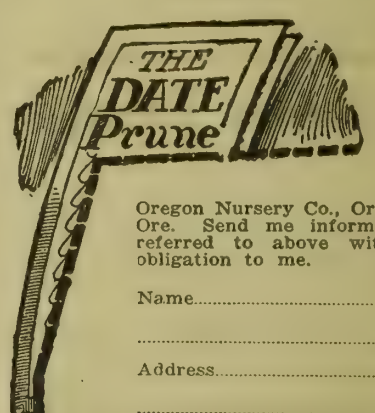


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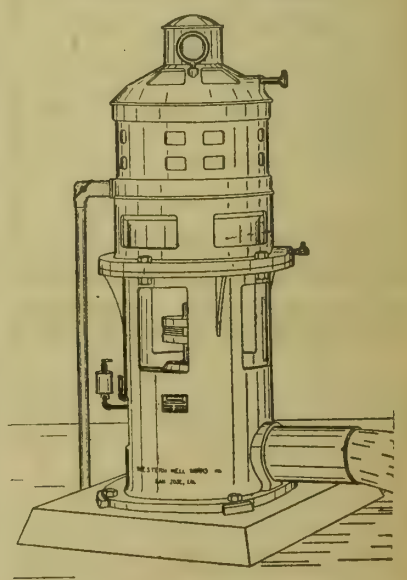
## Western Turbine Centrifugal Deep Well Pumps



represent a highly developed construction of a simple practical pump. They are manufactured to meet rigid inspection and deliver long uninterrupted service. The cost of maintenance is very small over many years of severe use.

**Made in capacities from 100-4500 G. P. M.**

**WESTERN WELL WORKS, Inc.**
SAN JOSE, CALIF.



## Investigate Concord Grapes

FOR NEXT YEAR'S PLANTING NOW. Sixteen pound crates sold last week on L. A. Market for $3.00. I have select vines for 1923 delivery.

**FRED W. KELSEY, Nurseryman**
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**The direct selling method from producer to consumer, and a clearing house for California's prosperous farmers. Weekly liner rates: Each insertion 4½ cents per word. No ads accepted for less than ten words. Cash with order. Mail all classified copy to Los Angeles Office.**

## POULTRY

**Profitable Poultry News**—Capacity 200,000 Chicks—off every week of year. Now booking delivery every fall, winter, spring month. Why? First half each week's delivery booked ahead at substantially reduced price; further, it's impossible to supply demand for our 189-290 egg Leghorns, Reds, Rocks, Anconas, Minorcas, Wyandottes, Orpingtons, Brahmas, Ducks, Turkeys. For quarter century imported, trapnested, selected for vigor, growth, beauty, eggs. Large, rapidly growing chicks reasonable now for fryers, roasters. Pullets, breeders, reasonable. Write Profitable Poultry, 13 North Fair Oaks, Pasadena.

## BABY CHICKS

**Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.**

**Write for prices.**

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**640 So. Main St. Los Angeles**

**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

BABY CHICKS
**White Leghorns, Anconas, R. I. Reds.**
Order now for Fall and Spring delivery

THREE MONTH OLD PULLETS
All selected—no culls

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ORANGE COUNTY HATCHERY
Santa Ana, California

**Certified White Leghorn Baby Chicks** hatched in the world's largest electric hatchery. Choice free range, high egg producing breeding flocks inspected by the Sonoma County Farm Bureau. Safe arrival guaranteed. MUST HATCH INCUBATOR CO., 438 Seventh St., Petaluma, California.

**The Archibald Hatchery** will supply through September and October White and Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons and Wyandottes. Our folder may interest you. B. W. Archibald, Soquel, Santa Cruz County, California.

**Baby Chicks** from my pure-bred flock of S. C. White Leghorns, carefully bred and selected for laying and standard qualities good, vigorous fall chicks at reasonable prices. Write for particulars. J. R. Heinrich Poultry Yards, Arroyo Grande, Calif.

**Baby Chicks**—Reds, Rocks, Anconas, and White Leghorns. Hatches every week after August 1st. Write at once for price list. Place your order at once, as we have several thousand now sold to old customers. Est. 1915. Hargett & Son, Route 2, Box C, Compton, California.

**White Leghorn Baby Chicks.** From free range Hoganized stock. Breeding flocks inspected by Sonoma County Farm Bureau accredited hatchery inspector. Full count and safe arrival guaranteed. For price write to the Lafranchi's Hatchery, Petaluma, California.

**Fall Chicks**—Hatches every week. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. Stubbe Poultry Ranch and Hatchery, P. O. Box 67-E, Palo Alto, California.

**Union District Hatchery** is booking orders for the fall chick. Chicks from the best tested layers at right prices. White Leghorns, Rhode Island Reds, and Barred Rocks. F. & L. Downing, Los Gatos, California.

**Watch Us Grow**—We are now booking orders for fall chicks. Brown and White Leghorns, Rhode Island Reds, Barred Rocks and Anconas. Ohlen's Hatchery, Campbell, Calif.

**Fall Chicks Pay**—Order now for September and October delivery. White, Brown, Buff Leghorns, B. Rocks, Reds, Anconas, B. Minorcas. McDonald Poultry Ranch, Rt. 1 Box 246, San Jose, California.

**White Leghorn Baby Chix for summer and fall months from stock Accredited by Sonoma County Farm Bureau.** We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Booking Orders Now for Fall and Spring** delivery. Order now, prompt delivery. Rhode Island Reds and White Leghorns. All orders given prompt attention. Oroville Hatchery, Irene Uren, Prop., Oroville, California.

**Eastman's Bred-to-Lay** Hoganized and Trapnested Barred Rocks. September chicks. Fairmead Poultry Farm, Fairmead, California.

**White Plymouth Rocks** April hatched cockerels $2.50 each or $25.00 per dozen. Cocks $3.00 each. Mrs. B. M. Jesch, Fallon, Nevada.

**Pit Games—Old and young trios. R. H. Crane, Santa Rosa.**

## POULTRY

**Slightly Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

**For Sale**—White Leghorn pullets, 75 cents each. H. E. Gleason, Madera, California.

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SUTTER BASIN LANDS
In the heart of the Sacramento Valley, rich, deep "river bottom" soil, with a complete irrigation system is offered to good farmers. Any crop you may want to grow will find a good home here. Most liberal terms.
SUTTER BASIN COMPANY,
304 California Fruit Bldg.,
Sacramento, California.

**Ranch of 10½ Acres,** second house from Escondido Depot on paved road. 7 acres is level alfalfa land, 3 wells, 5 H. P. motor—unlimited water. Plenty firewood. Long, free lease 5 acres adjoining. Small house, barn and 3 chicken houses. Am going East. Price $3000. F. C. Kilbourn, R 2, Escondido, California.

**For Sale or Exchange** all or part of 320 acres level land. Suburban to Vancouver, city water, near electric car lines, can clear loan, and assume mortgage on California or Pacific Coast improved country or city property. Owner, J. D. Westenhaver, 2048 Stevens Street, Vancouver, British Columbia.

**For Sale**—160 acres, 8 miles east of Coalinga, fenced, 2 room house, poultry houses, excellent poultry ranch, good market for everything at Coalinga. Oil rights go with it. Account illness will sell reasonable. E. V. Molette, La Habra, California.

**For Sale**—Five acre home in prunes, olives, fruit and alfalfa. Modern 8 room house, phone, bath room and screen porch. Electric pumping plant and two wells. Plenty of water. One-fourth mile from city limits. Also ten acres of grain land. Owner, Mrs. E. Winnie, Corning, California.

**For Sale**—97 Acre Prune and Olive Orchard interplanted with seedless grapes, bearing. Modern Bungalow and pumping plant for irrigation. Located near Woodland on paved highway. Price $30,000—terms if desired. Call on or write Wm. Gould, Woodland, Yolo County, California.

**For Sale**—Five acres in bearing trees, half cots then peaches, with olive border. Full water right on good street three miles east of Hemet, California. Price $3750. Terms cash. F. W. Henley, owner, Hemet, California.

**Paradise, The Orchard Home Place**—Water, electricity, telephone, good roads, healthful climate, reasonable prices. Box C. Publicity Committee, Paradise, California.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## GOVERNMENT LAND

**Attention:** Million acres Government land for farming, grazing, timber. Near R. R. Plenty water. Send for folder. Rally, 1111 So. Alvarado, Los Angeles, California.

## MACHINERY

**Rebuilt Windmills, Pumps,** new and used tanks, cylinders, irrigat. pipe guaranteed do same work as new ones that cost so much. Over 12,000 sold. Ask anyone who has one. Tanks: 25,000-gal. fine Redwood, $135 on cars; 50,000-gal. $250 on cars; 9,000, $68; new galv., 1,000-gal., $35.25; 2,000, $48.25. New Galv., surface irrigat. pipe, 3, 4, 6-inch, for less. When its Tanks or Mills see DEMMITT CO., 120 N. Main, Los Angeles.

**For Sale**—New DeLaval Separator No. 15 with belt power attachment, used only three months. H. H. Sisson, Willits, California.

## SHEEP

**For Sale**—650 ewes, in lots to suit. Very large. Will shear 9 pounds wool. No old sheep. Price $8.50. Also 28 splendid rams at $10 to $20. Several Dorset and Shropshire rams. Sampson B. Wright, Santa Rosa, Calif.

HAMPSHIRE DOWNS
STRALOCH FARM
Two and one-half miles west of Davis, Calif. on Highway, C. Harold Hopkins, Woodland, California

**For Sale**—500 EWES bred for early lambing to Shropshire bucks. Delivery any time. Price, $9.00 per head. No broken months. Address Route A, Box 227, Redlands, California. Phone Suburban 9152.

## SEEDS AND PLANTS

**Carolina Strawberry Plants for Fall Planting**—the most prolific and best berry. Gives crop the first year. Postpaid $1.50 per hundred. Write for prices on larger quantities. G. M. Hawley, El Cajon, Rd. No. 2.

**For Sale**—2000 ragged robin rose bushes $150.00 per thousand. 2000 Fan palms $1.00 each. 2000 Phoenix Canariensis Palms, big fine ones $125.00 per hundred. F. A. Tetley & Son, Riverside, California.

**Superb Everbearing Strawberry Plants** $15.00 per thousand. Write U. S. N. Johnson, Nevada City, California.

## CATTLE

**Jersey Bull Calf For Sale.** Dandy bull calf whose sire traces six times to Financial Count in five generations. Dam is Financiers Lady Joy who has a R. M. record of 423.67 pounds of fat at 2 years of age. Again on test and has made 327 pounds fat in 5 months. A splendid bull priced to sell. Grant A. Brown, El Monte.

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys — Grape Wild Farms — Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Registered Guernsey Bull Calves for Sale** from A. R. Dams and Sires. This herd passed the State Tuberculin test on July 10th, 1922, making one of the longest continuous T. B. free records of any Guernsey Herd on the Coast. James A. Brown, Capitola, California.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

SHORTHORNS STRALOCH FARM
Two and one-half miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

**Aberdeen-Angus Cattle**—Registered bulls; heifers always on hand. Everything priced to please buyer. Brook Hollow Farm, Hollister, California.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Herefords**—"Veramont Stock Farm," H. M. Barngrover, Prop., Stockton, California.

**For Sale**—50 head Aberdeen Angus breeding cows—young stock. Apply Eagle Ranch, Atascadero, California.

**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

**Registered Herefords**—Anxiety IV strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

## WANTED

**Wanted Throughout California,** men with autos to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call. J. H. Yetter, 317 Central Ave. Los Angeles.

**Wanted to Buy** dried apricots and peaches. Please mail samples to W. A. Collins, Box 397, packing house at Santa Fe Depot, Santa Ana, California.

**I Want Farms** for cash buyers. Will deal with owners only. R. A. McNown, 870 Wilkinson Bldg., Omaha, Nebr.

**Wanted**—D. Lotus Seedlings large enough to graft next spring. Fred W. Kelsey, El Monte, California.

## MISCELLANEOUS

**Natural Leaf Tobacco.** Chewing 5 pounds $1.75; 10 pounds, $3.00. Smoking, 5 pounds, $1.25; 10 pounds, $2.00. Send no money. Pay when received. Tobacco Growers Union, Paducah, Ky.

**Natural Leaf Tobacco**—Chewing, 5 pounds, $1.75; 15 pounds, $4.00. Smoking, 5 pounds, $1.25; 15 pounds, $3.00. Send no money, pay when received. Farmers Tobacco Association, Paducah, Kentucky.

**Smoked Salmon**—5 pound box, $1.25; salt salmon bellies, 5 pounds $1.25, delivered by mail. Coffin Fish Co., Seattle, Washington.

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Leaf Tobacco**—good for smoking or to use in hen nests. Fifteen cents pound—express paid on 10 pounds or more. Grant, P. O. Box 466, Fresno, California.

**Peach Tree Borers** killed by Krystal Gas (P-C Benzine). Pound tin $1.00; five pounds $3.75, postpaid or C. O. D. Home Products Inc., Rahway, New Jersey

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**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

**For Sale**—2 Bourbon Red Toms $15. 3 large rabbit does $2.50 each. Rasdall, Shawmut, California.

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**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St., Los Angeles.

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**For Sale**—3500 Washington Navel trees; two year old sour stock root. 1500 Washington Navel trees; one year old sour stock root. 2000 Eureka lemon trees, one year old, sour stock root. F. A. Tetley & Son, Riverside, California.

**For Sale**—Grafted walnut trees, also citrus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**For Sale**—Grafted Walnut Trees for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**For Sale**—5000 Placentia Perfection Walnut Trees, northern black root stock. Grafts were taken from one of the best producing groves in California. F. A. Tetley & Son, Riverside, California.

**For Sale**—Hachiya Persimmon Trees, grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**For Sale**—Avocado trees, seedlings ready to bud. G. P. Sherwood, Baldwin Park, California.

**Beeman Tractor Cheap** — Young man learn trade. Cash Nursery, Sebastopol.

## GOATS

**For Sale**—Several very fine pure Toggenburg does, bred to my celebrated buck. Also buck kids. C. U. Widmer, Upland, California.

## PATENT ATTORNEYS

**WEBSTER, WEBSTER & BLEWETT,** Savings and Loan Bldg., Stockton, California. **Established 50 years. Send for free book on patents.**

## HOGS

**Tamworths, The Bacon Breed...** James J. Summerfield, Santa Rosa.

## DUROC-JERSEYS

**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

**Winsor Ranch Durocs**—The best of stock at reasonable prices. BONITA, CALIFORNIA

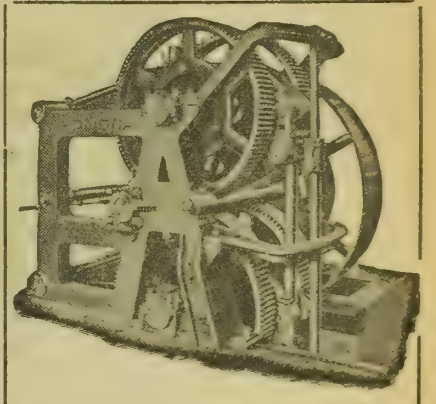
## POLAND CHINAS

POLAND-CHINAS STRALOCH FARM
Two and one-half miles west of Davis, Calif. on Highway, C. Harold Hopkins, Woodland, California.

### WEATHER REPORT

San Francisco, Cal., Sept. 9, 1922.

| Stations | Week | Season | Norm. | Max. | Min. |
|---|---|---|---|---|---|
| | —Rainfall— | | | —Temp.— | |
| Eureka | .02 | .05 | .37 | 70 | 50 |
| Red Bluff | 0 | .30 | .11 | 104 | 56 |
| Sacramento | 0 | T | .06 | 102 | 54 |
| San Francisco | 0 | T | .01 | 92 | 52 |
| San Jose | 0 | T | .08 | 94 | 46 |
| Fresno | 0 | T | .0 | 100 | 56 |
| San Luis Obispo | 0 | T | .05 | 82 | 50 |
| Los Angeles | 0 | T | 0 | 86 | 58 |
| San Diego | 0 | .01 | 0 | 78 | 62 |



# THE POMONA

## Duplex Plunger Deep Well Pumps

are solving the pumping problems for many users during the period of low water levels. They will lift the water to the surface, and, if desired, deliver it to high elevations above ground and at lower power cost than any other system of pumping water.

**Pomona Manufacturing Co.**
POMONA, CAL.
Manufacturers of the
POMONA Irrigation Gates and Valves

# Poultry Queries

(Conducted by Jean A. Koethen)

### Depluming Mite

I enclose samples of tail feathers eaten off by something. What is the remedy?—Subscriber, Santa Cruz.

The feathers are being eaten off by the depluming mite, a parasite which lives among the masses of epidermal scales near the stumps of the eaten-off feathers. Any one of the following ointments may be rubbed on to kill these pests: Oil of caraway, 1 part oil to 5 parts vaseline; Balsam of Peru; zinc ointment and vaseline, equal parts; a sulphur ointment made by mixing flowers of sulphur, 1 dram, carbonate of potash, 20 grains and lard or vaseline, 1 ounce.

### Probably Cholera

I have lost three chicken hens and a turkey hen with diarrhoea. They sit around and combs turn black. Have saved one by giving Epsom salts. They have free range, milk, kale and grain.—A Satisfied Reader.

This looks like cholera, which is more often than not due to unsanitary conditions. A thorough clean-up is the best cure. Dr. Salmon recommends treating the sick birds with 2 to 4 teaspoons of carbolic solution twice a day. The solution, which is ½ per cent, is made by 1 part of the 5 per cent solution to 9 parts water. They should also have sour milk. If the birds do not quickly respond to treatment, kill all that are sick, and give the well ones 2 doses daily of the carbolic acid solution for two or three days. Houses and yards should be thoroughly cleaned and disinfected.

### Feeding Pullets

Why do so many of my pullets go to roost with a partly filled crop. The condition is generally accompanied by a withered looking comb and width of only one finger between pelvic bones. Can the Hogan test be successfully applied to these seven months old pullets? If so, would you cull them at once? In the evening I feed 40 per cent soaked barley, 60 per cent grain. They scorn the grain and wait for the barley. Would you approve of feeding soaked grain at night and hard grain in the morning.—Subscriber, Ontario.

Your pullets are not getting the proper ration, and it looks as if they were molting as well, a thing which is to be expected in February pullets, though not usually so early as August. It is absolutely essential that every pullet go to roost with a full crop, and to this end some poultrymen give a moist mash the last thing before the pullets go to roost, following the regular meal of scratch grain at 4 o'clock. Suppose you try this ration: Sprouted barley in the morning; green feed about the middle of the forenoon; dry commercial mash before them all day; all the hard grain they will eat and a little more at 4 o'clock. Moist mash just as they start to roost. Make the grain feed a mixture of wheat, barley and cracked corn, with the corn about 50 per cent. Give a little more than they will clean up so that there may be some left for morning. There is nothing to be gained in soaking grain. Use either whole or rolled barley, and be sure that the corn is sweet and yellow. Do not try to cull till you have tried this full ration. Early pullets often molt in the fall in spite of the best of care, and are worth keeping for all that. If there are any that have not begun to lay by the time they are eight months old—have not laid at all, I mean—you can safely let them go.

## EGG LAYING CONTEST—AUGUST REPORT

Santa Cruz: The third California Farm Bureau Egg Laying Contest is now entering the last month lap and preparations are under way for the opening of the fourth contest, October 1.

Alex Stewart, Santa Cruz, 2476 2/3; Hanson's Poultry Farm, Corvallis, 2342 2/3; J. J. Shore, Santa Cruz, 2200; L. A. Thornewill, Santa Cruz, 2135; D. B. Walls, Petaluma, 2078; C. H. Russell, Santa Cruz, 2073; Sunrise Poultry Farm, Santa Cruz, 2051 1/3; W. J. Neef, Santa Cruz, 2047; Hollywood Farm, Hollywood, Washington, 2041 1/3; Corbett, Santa Cruz, 2037.

### High Hens to date

Stewart, 300; Thornewill, 226; Stewart, 279; W. H. Marshall, Santa Cruz, 266; Walls, 266; Stewart, 257; Hanson's, 257; Stewart, 255; Russell, 255; Hanson's, 253.

### High Pens for Month

Stewart, 250 1 3; Thornewill, 246; Hanson's, 244 1/3; Thos. Stewart, Santa Cruz, 219; Hollywood, 213 1/3; W. H. Marshall, Santa Cruz, 212 1/3; Sunrise, 210 1/3; Shore, 209 2/3; R. H. Young, Santa Cruz, 204; S. L. Gibson, Santa Cruz, 202 2/3.

### High Hens for Month

Stewart, Santa Cruz, 28; Stewart, Santa Cruz, 28; Hanson's, 28; Corvallis Poultry Farm, Corvallis, 28.

## SONOMA EGG LAYING CONTEST

Report, November 1, 1921 to August 15, 1922. All entries are White Leghorns.

### Highest Hens

H. R. Thomas, 238; G. E. Mahoney, 221; Thomas, 214; C. H. Purvine, 214; Des Praetzel, 209; F. J. Kohnke, 207; E. O. Hussey, 203; Brown Bros., 201; Peck's Poultry Farm, 199; J. W. Kock, 199; W. B. Hussey, 198; Thomas, 196; D. E. Cox, 196; J. J. King, 194; T. B. Purvine, 193; J. F. Kohnke, 192; A. M. LaFranchi, 188; J. J. King, 187; Garich & Sarich, 187; Hussey, 187; D. Ingwerson, 187; A. M. LaFranchi, 187.

## STORRS EGG LAYING CONTEST

Storrs, Connecticut, August 29, 1922—Report for week ending August 28, 1922:

With now nine weeks to go there is a very respectable chance for the Leghorns to finally defeat the Wyandottes that have been leading the contest at Storrs for the past several months. A year ago at this time Hollywood Farm's Leghorns from Holywood, Washington, were 83 eggs behind the leaders, but finished the year with only 16 eggs less than the winners. In the present contest Hollywood's birds are now only 39 eggs back of first place and gaining steadily. Either the Wyandottes or the Leghorns look equally good bets.

The four leading pens in each of the principal breeds are as follows:

### Plymouth Rocks

Harry G. Culver (Barred), 1823; W. H. B. Kent (Barred), 1777; Ontario Agricultural College (Barred), 1663; Purdue University (Barred), 1645.

### White Wyandottes

Frank P. Matteson, 1877; Woodbridge Orchards, 1820; Walter Bradbury, 1728; Clemens J. Diemand, 1581.

### Rhode Island Reds

The Orchards, 1660; John Z. Labelle, 1629; Charles D. Peirce, 1607; F. S. Chapin, 1525.

### White Leghorns

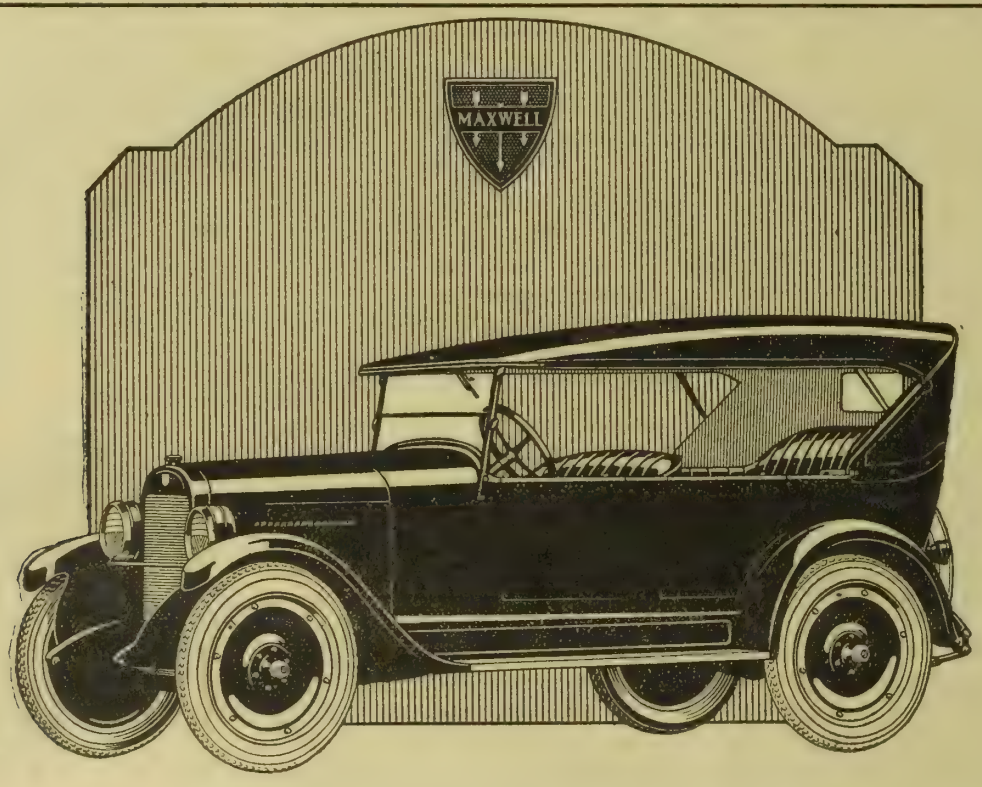
Hollywood Farm, 1838; Goshen Poultry Club, 1707; J. Frank Dubois, 1700; Rapps Leghorn Farm, 1679.

## MARKET PROSPECTS ON LIMAS

MANAGER R. L. Churchill, of California Lima Bean Growers Association, has just returned from a 30 days trip during which he visited the principal cities of the South, East and Middle West. Mr. Churchill brings a message of hope and cheer to California Lima and Baby Lima bean growers.

General business conditions are decidedly promising. Merchants, bankers and financial experts are almost unanimously looking for a brisk trade and free movement of all staple commodities this fall. Basic manufacturing industries are becoming active, and for the first time in two years many retail merchants are booking orders for tneir future requirements.

Stocks of all varieties of beans, both at points of production and at distributing markets, are almost entirely cleaned up. This is very different from the situation the past two or three years when the beginning of new crop harvest found large quantities of old crop holdover remaining on hand unabsorbed. One year ago the largest markets of the country, which are on the Atlantic seaboard, were so heavily stocked with old crop Limas that but few of the new crop were purchased by them until after the first of the year. Now, these big markets are bare and anxiously waiting for new crop supplies. The foregoing applies to both domestic and foreign imported beans, excepting a few thousand bags of Roumanian beans, recently imported because of real scarcity




A kind of value not to be duplicated, in the kind of a car the farm needs. Long mileage on gas and oil and tires. Genuine comfort on the road. Ease of handling, even in rough going. Beauty that makes people turn to watch it go by.

Cord tires, non-skid front and rear; disc steel wheels, demountable at rim and at hub; drum type lamps; Alemite lubrication; motor-driven electric horn; unusually long springs; deep, wide, roomy seats; real leather upholstery in open cars, broadcloth in closed cars; open car side-curtains open with doors; clutch and brake action, steering and gear shifting, remarkably easy; new type water-tight windshield. Touring Car, $885; Roadster, $885; Sedan, $1335; Coupe, $1235. Prices F. O. B. Detroit, revenue tax to be added

MAXWELL MOTOR CORPORATION, DETROIT, MICHIGAN
MAXWELL MOTOR CO., OF CANADA, LTD., WINDSOR, ONT.

*The Good*
MAXWELL

of and extremely high price of small white beans in this country, but these cost importers mostly between $5.50 and $5.85 delivered duty paid, New York, and will not compete with new crop Michigan pea bean or California Large and Small Whites which are being quoted and sold at somewhat lower than the above prices.

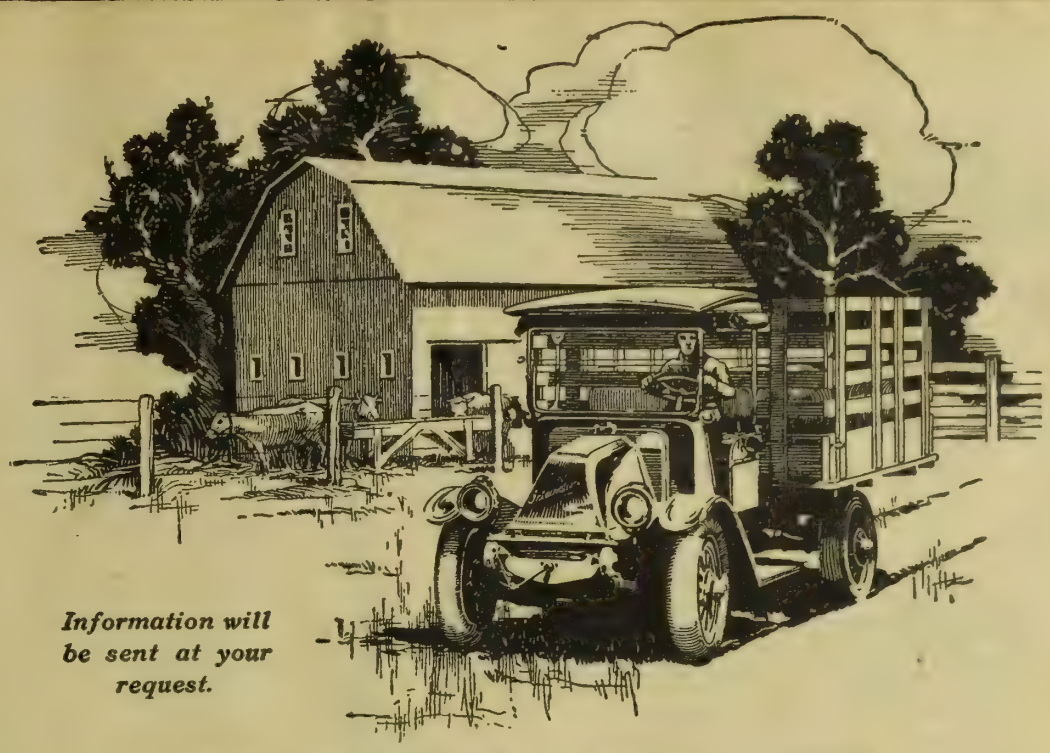
An unusually large quantity of new crop Limas and Baby Limas have already been sold as "futures" for September and October shipment, (undoubtedly more than 250,000 bags), which it is expected will prove more than one-fifth of the entire production. It seems reasonable to assume that at least an equal additional amount will be purchased by the jobbers during this same period, and it would keep all the warehouses very busy to clean and ship 500,000 bags in September and October. Aside from the association, the bulk of the sales made to date have necessarily been "shorts" and the volume of buying from growers that will be required to fill these sales should, commencing with the latter part of September and extending throughout October, be sufficient to create good local demand at fair prices, even though the supply is considerably larger than last year. Most of the sales already made as "futures" have been on basis of $6.50 to $6.75 for September shipment and from $6.00 to $6.50 for month of October shipment. Lower quotations are being made by certain shippers, presumably with the idea of getting the margin between the buying price (from growers) and the shipping price (to jobbers) as large and as profitable as possible.

The shipping prices just named will permit a retail price to the housewives of around 10 cents to 11 cents per pound, according to location of market and type of store which is as low as usually prevails when f. o. b. California shipping price is 5 cents, and growers price considerably less. A retail price of from 10 cents to 11 cents per pound, would be 33 1-3 per cent reduction from the 15 cents to 16 cents per pound, retail price which has been generally current in recent months, and Limas and Baby Limas move into consumption very freely, according to past observation and experience, at around 10 cents per pound to the consumer.

Michigan pea beans (Small Whites) and Colorado Pintos have been selling (old crop) at very high prices this spring and summer, but fortunately for all concerned prices on new crop have been declining very rapidly recently. The opinion of the largest and best posted dealers in those states seems to be that their beans will mostly move at from $5.25 to $5.50 for September shipment and around $5.00 for October and November shipment. As California Limas ordinarily obtain at least $1.50 per cwt, higher price f. o. b. cars, this again indicates that shipping price of $6.25 on California Limas would continue to be reasonable and in line, even if Michigan and Colorado prices should get down to $4.75.

The United States government's official forecast (as of August 1) for 1922 bean crop, in the principal bean producing states, which are California, Michigan, New York, Colorado, New Mexico, Idaho and Arizona, shows an estimated total production of 12,800,000 bushels as compared with a total of 9,100,000 bushels total in 1921, or a prospective increase of about about 33 1-3 per cent. This is not a large increase to absorb when we commence with a bare market; particularly when this same government report states that the average consumption for the past four years has been 12,630,772 bushels annually. It will be noted that when cleaning loss and seed requirements are deducted from this year's estimated production, the remainder is considerably less than the average annual consumption.

From all these facts and conditions, it would appear that growers of Limas and Baby Limas, should obtain more than 6 cents for September shipment and not far from 6 cents for October-November shipment. They can thereby stabilize the market upon a fair and proper basis. Such a condition will be so much more sensible and satisfactory than a declining and chaotic market which would cause grief and loss to growers, shippers and distributors, with no probable resulting market benefit to consumers.

*Information will be sent at your request.*

## Haul the Modern Way—with International Motor Trucks

THOUSANDS of farmers in America have invested in motor trucks because they have found that the use of horses for hauling is an extravagant waste. Time is too valuable to spend behind slow-plodding horses, and the owners of farm trucks have taken the surest way to increase their productive time. They have advanced a long way toward farming efficiency.

On the basis of the established reputation of International Motor Trucks for dependable, low-cost service in city and country hauling, we urge you to consider the present line of Internationals. Sizes range from 2000-lb. Speed Truck to the 10,000-lb. truck for heavy duty work. Bodies can be furnished for hauling fruit, milk, stock, grain, feeds, vegetables, etc. Figure out the cost of your present hauling system. It is likely you can save many dollars with International equipment.

INTERNATIONAL HARVESTER COMPANY
CHICAGO OF AMERICA (INCORPORATED) U S A

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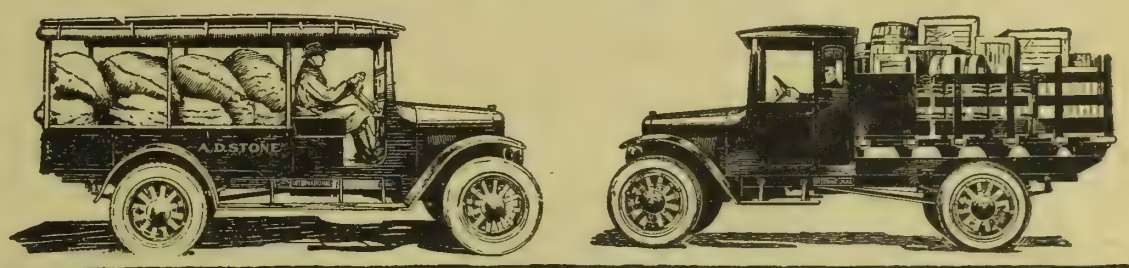


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Best Roofing and preservative paint under sun sold direct to you by the manufacturer for only 15c a gallon. Write for particulars and free sample of Asphaltoid. Special Barn Paint 45c a gallon. Paints & Stains 85c & 55c a gallon. Full line paints from 15c to $2.90 a gallon.

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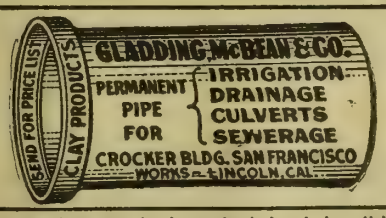
Los Angeles, Cal. Phone 52342

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Capacity 200,000 Eggs
WHITE LEGHORN CHICKS ONLY
Order Fall Chicks Now

We are the pioneers in fall hatching—others follow. Largest, Finest Hatchery in Southern California.
We have open dates and can supply our chicks when you want them.

We are exclusive hatchers for Fall of 1922 for; F. R. Richardson, Geo. J. Richardson, G. A. Saylor, F. C. Barker, J. H. Tumbach, L. G. Hack, San Marino Poultry Ranch, Geo. L. Miller, James Poultry Ranch, R. C. Gibson, C. W. Phelps being the product of 30,000 Selected Breeding Hens.

I supply you with accurate information on construction and ventilation of Pride of Petaluma Brooder Houses; also carry a full line of stoves and parts.

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Visitors Welcome Except on Sunday

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FOR GREATER EGG PRODUCTION
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GRIT BOXES

Practical, economical feeders for grit, shells, and charcoal. Keeps your birds in prime healthy condition.

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$8.50
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For small Poultry Plants. Made of the best material and fully guaranteed. Cuts dry or green feed. Weight, 15 pounds, crated. Ask your dealer or write for circular. If your dealer can't supply you order direct.

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**Our patent Oscillatory Standard installed on all plows is an added feature not found on any other tool of this type.**

Lister attachments, special or regular. Built to fit the plows.

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TOWNER'S

SANTA ANA CALIFORNIA

FRUIT TREES

*Write for Our Price List!*

The Fresno Nursery Co.

FRESNO CALIFORNIA

# Los Angeles Markets

Los Angeles, September 13, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 48 cents.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 43; case count, 37; pullets, 32.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, September 12, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: San Pedro: Kentucky Wonders, 7; Limas, 3@4.

Bunched Vegetables: Per dozen bunches: Turnips, beets, parsnips, 30@35. Parsley and radishes, 15; spinach, 25.

Cabbage: Market steady, quality generally good. Field cr., best mostly 2.25@2.50.

Cauliflower: Per doz., 90.

Cucumbers: Local, lug, 1.00@1.15; Pickling, 2.25@2.50.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, best, 3.00; poorer, 2.50@2.75.

Corn: Green, local, best, lug, 75@1.00.

Eggplant: Local, 3@4.

Lettuce: Market steady. Locals: Ordinary, leafy, 90@1.00 cr.

Okra: Lb., best, small, 6@7.

Peas: Best, Northern, lb. few best, 10@12; poorer, low as 6.

Peppers: Locals: Bells mostly, 3@4; Chilis, 3@4 lb.; Cherry, 7; Fla. Gems, 7; Pimentos, 8.

Squash: Market steady. Locals: Summer, lugs, 45@50; Italian, lugs, 65@70.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs, best pink, 50@65; ripe, 40@50.

### FRESH FRUIT

These are actual prices obtained September 12 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurans, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Gravensteins, loose, 2½@3 lb.; packed, fancy, 1.25.

Crabapples: Northerns, 4@5 lb.

Cantaloupes: Tip Top and Paul Jones, 50@75; few best, 1.00.

Grapes: Demand slow, market steady. Northerns and Locals: Malagas, 4; Muscats, 3; Tokays, 6@7 lb.; Black Hamburg, Rose of Peru, 4@5; Black Prince, 6.

Peaches: Market steady. Locals and Northern, freestone and cling, all varieties, 3@4 lb.

Pears: Demand good, market steady. Northern: Bartletts, mostly 4@5; locals, 4@4½.

Plums: Demand and movement slow, market steady. Per lb.: Locals 2@4; Northerns: Various varieties 3@4 lb.

Watermelons: Local Klondike, best, 85@1.00; poorer, low as 50.

### GRAIN

California Farm Bureau Marketing Exchange reports:

Barley: Indications are that not over 20 per cent of the total California barley crop has been marketed so far this season. Usually, a considerable quantity in excess of this amount has changed hands. Very little exporting has been done so far. Southern California, however, has cleaned up fully 50 per cent of the barley crop, including the Imperial Valley, and will have to draw from distant points and will, consequently, have a generally higher range of values than San Francisco during this season. Present values are around $1.22½ to $1.25 for No. 1 feed and as high as $1.27½ for good clean barley, f. o. b. Los Angeles.

Wheat: Wheat values have somewhat stiffened owing to the fact that California farmers are letting lose very slowly and are not selling any faster than the demand will take it. This is likely to result in California farmers taking some lower prices for later shipments owing to the lower prevailing Eastern prices which, when their movement of wheat becomes free will bring wheat into California terminals at less than present California values. Present markets are about $1.85 for No. 1 hard white wheat and $1.80 to $1.82½ for soft white and Sonora, subject to federal grades and discounts.

# San Francisco Markets

San Francisco, September 12, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 47 |
| Extras | 45 |
| Prime Firsts | 40 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 43½ |
| Extra Pullets | 34½ |

### FAT HOG AUCTIONS

| No. Hogs | Av Wt | Dock | Price |
|---|---|---|---|
| **Wasco, September 2** | | | |
| 73 | 173 | .... | 11.50 |
| 90 | 177 | .... | 11.50 |
| 59 | 145 | .... | 11.35 |
| 6 | 211 | .... | 10.50 |
| 2 | 335 | 30 | 8.50 |

240 hogs
3 cars, 19 consignors, $4,615.15.

| | | | |
|---|---|---|---|
| **Modesto, September 6** | | | |
| 83 | 174 | .... | 11.00 |
| 13 | 148 | .... | 10.50 |
| 14 | 217 | .... | 10.50 |
| 1 | 510 | 20 | 8.00 |

111 hogs
1 car, 19 consignors, $2,154.37.

| | | | |
|---|---|---|---|
| **Chowchilla, September 7** | | | |
| 99 | 173 | .... | 10.75 |
| 24 | 168 | .... | 10.75 |
| 19 | 134 | .... | 10.25 |
| 10 | 239 | .... | 9.75 |
| 2 | 325 | 40 | 7.75 |
| 1 | 460 | .... | 4.00 |

155 hogs
2 cars, 15 consignors, $2,847.16.
Totals: 6 cars, 506 hogs, 53 consignors, $9,616.68.

### FRESH FRUIT

Apples: New crop, green, 75@1.25 lug box. White Astrachans, 1@1.50; Gravensteins, fancy 3½@4 tier, 1.50@2.00; Alexanders, 4@4½ tier, 1@1.50 box. Crabapples, 50@1.00 lug. Bellflowers, 1.10@1.25.

Avocados: Fla. and Tahiti, 4.00@7.00; poorer, 75@1.50.

Blackberries: Dr., 20@25.

Cantaloupes: Turlock Standard, 75@1.00; Honeydew and Casabas, flats, 50@75; Persian Melons, 50@85 cr.

Figs: Black, 75@1.00, double layer box; Calimyrna, 60@75 per crate.

Grapes: Thompson seedless, 1@1.10 per lug; large, $1.25@1.50; Malaga, Tokay and Muscat, $1.25@1.50 per crate; do, lug, $2.50@3.25; Rose of Peru and Isabella, $2@2.25 per crate. Wine grapes, per ton; Zinfandels, $85@90; Malagas and Muscats, $40@45.

Huckleberries: lb. 20.

Peaches: 50c@1.00 per basket; 65@$1.00 per crate; 50@75 per Los Angeles lug; do, large, $1.50@2.25 per lug; cling, $1.75@2.50 per large lug.

Pears: Bartlett, $1.75@2 per box; No. 2, $1.00@1.50.

Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.

Plums: Best, $1.00@1.25 cr., 1.00@1.25 lug.

Raspberries: Dr., 50@55.

Strawberries: Local, dr., 45@50.

Watermelons: ¾@1 per lb. and less.

### BEANS

| California Bean Growers f. o. b. Cal. c. r. c. | |
|---|---|
| Large Whites | 5.00 |
| Small Whites | 5.20 |
| Pinks | 4.60 |
| Mexican Reds | 4.25 |
| Red Kidney | 6.50 |
| Cranberries | 5.75 |
| Bayos | 4.85 |
| Blackeyes | 4.00 |
| Henderson Bush Limas | 5.90 |

### HAY AND FEEDSTUFF

A. W. Scott Co. says under date of September 9:

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions.)

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@17.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 14.00@16.00 |
| Wild Oat and Barley | 10.00@12.00 |
| Alfalfa Hay | 13.00@16.00 |
| Stock Hay | 9.00@11.00 |
| Straw | 9.00@11.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 27.00@28.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 29.00@34.00 |
| Millrun | 30.00@34.00 |
| Middlings | 40.00@44.00 |
| Linseed Meal | 55.00@60.00 |
| Cocoanut | 32.00@36.00 |
| Alfalfa Meal | 24.00@26.00 |
| Cottonseed Meal | 50.00@55.00 |
| Molasses Beet Pulp | 34.00@36.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

# Citrus Markets

Los Angeles, September 13, 1922.

Valencias are closing the season with exceptionally satisfactory prices. Auctions are taking everything offered in prices ranging from 4.70 to 10.00. Other markets are ranging from 8.00 to 9.00. Shipments are running between 300 and 400 cars per week.

Exceptionally warm weather has created a demand for every lemon which could be secured. F. o. b. quotations are running around 7.00 to 7.50 on better grades. There will perhaps be between 60 and 70 cars shipped within the next three weeks.

### Citrus Shipments

Shipments of citrus fruits to date since November 1, 1921. Southern California: Oranges, 21,906 cars; lemons, 9,193; total, 31,099. To same date last season: Oranges 36,966; lemons, 10,482; total, 47,448. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,603 cars; lemons, 185; total, 6,788. From Northern California to date this season: Oranges, 372; lemons, 8; total, 380. To same date last season: Oranges, 305; lemons, 5; total, 310.

# Snappy Notes on Livestock

Any error herein is unintentional and subject to correction the following week. This summary is assembled from the best sources obtainable, and both producers and packers can assist by reporting actual sales or buys, giving names, dates and facts, and we will, if requested, withhold names. All we want is fact and a fair deal and correct information for the producers. Address A. L. Spellmeyer, care California Cultivator, 317 Central Avenue, Los Angeles. The Cultivator reaches over 40,000 producing farmers and livestock men.

The report that Los Angeles packers had contracted 1000 Northern Arizona grass fat steers for deliveries starting October 15 at $6.50 per cwt., f. o. b. Northern Arizona has been confirmed.

This price is equivalent to $7.50 for light grass beef delivered Los Angeles,

and has been denied locally, with the statement that the price of $6.50 was paid weighed Los Angeles. To make certain I have the matter confirmed by an officer of the Arizona cattle association of that county, naming in writing the firm buying, the party selling, the number of steers, price and weighing point together with the amount of forfeit advanced. Inyo County men, Utah and Nevada men who have grass steers to sell can well take notice of this price, which is for this grade of cattle the highest price paid for over a year in this market.

A bunch of guaranteed fat Mexican steers 900 pounds offered at 6 cents Los Angeles, was turned down by four local packers. A bunch of 200 guaranteed fat cows was not accepted by several packers at $4.50 range.

Several small lots of fat steers were reported for sale in Inyo County at $5.50 but they will be snapped.

A president of a county cattle group writes me his best personal regards, stating range is fine, and he sold his yearlings at 5 cents Arizona, and a sprinkling of twos and threes which he states will be fat, and is glad the buyer is going to make money. He adds he is certain cattle are now on the up, and a further comment "To H—— with the Los Angeles market, for I sell mine at home."

The pot is boiling on this stockyards question. Relative to the uneven quotations, such as paying $7.50 for light Northern Arizona steers, when delivery expense is figured and offering 5 to 6 f. o. b. Inyo County or 7 cents scant on a delivered basis for better cattle, another man asks, "Will not stockyards cure this very difference and insure better average prices to all producers?" This bulletin attempts to represent, as is, without bias. With or without yards Los Angeles killing needs are 1200 cattle daily. The hot weather slackened up beef a half cent as people eat ham sandwiches instead of rib roasts.

Several Arizona ranchers are figuring to sell their fat cows this fall and replace with equally good thin stock from Texas or New Mexico, as Arizona has an exceptional year.

Carcass prices are stronger and hides are better. There is some purchasing of feeders but California is tailing the other states and will have to finish up in Utah, Nevada and the North to get the right kind it wants. The prices there are going to be higher than 5 cents which California feeder buyers have hesitated to pay f. o. b. range in Arizona. Unless more cattle than I can see show up a 6 cent feeder price is looming and that means 7 cent delivered feeders and 9 cent beef, and that again means if Middle West markets permit.

Northern Arizona is about cleaned up as to steers, and Southern Arizona, from Tucson to the New Mexico line, offers but a comparatively few thousand twos and threes steers left. Drouthy districts of New Mexico and Texas do offer a supply. Utah and Nevada have a strong hand and are waiting and keeping it well covered. The lowest priced feeders and cheapest beef in the West for quality, are in California, especially in the Southern higher mountain, fall delivery districts, and that don't supply over 10,000 with most of them needing yearlings they are not yet buying. A bunch of 2500 good boned Arizona steers lagged all week at $35 and they were long twos and extra good cattle. Specific lots of low priced Arizona, New Mexico and Texas cattle were offered to California buyers last week, and while they stood in their tracks, Colorado and other buying states grabbed all they could borrow or beg money to buy. The open offers of $6.50 delivered Los Angeles for lots of fat grass 1000 pound and up steers, is a joke in view of the $6.50 Arizona beef price paid on an October 15 contract.—A. L. Spellmeyer.

## POWER ON THE FARM

Those who visited the Power on the Farm tent at the state fair could not help but be impressed with the evidence of the rapid growth of the deep tillage idea and the progress that has been made in the construction and improvement of implements.

Competent men explained the operation of the various implements shown and advised farmers of their advantages in solving some of the hard problems of farming.

A number of new types of implements were shown and at new prices.

A few years ago the idea of tillage of the sub-soil was comparatively new, but a gratifying advancement was evidenced this year by the number of farmers who told stories which testify to the advantages of deep tillage in producing increased crops of better quality for them.

A farmer has said, "If I can farm the farm under my farm I double my crops." In a sense this is true. If we want the earth's treasures we must dig them out. The "digging" may be comparatively easy with the right tool. Attendants at fairs this year are seeing these tools.

More power on the farm means more "power" financially.

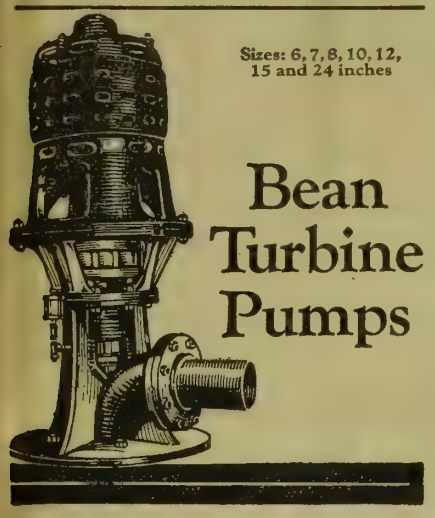
## GREATER EFFICIENCY

In the big Power on the Farm tent at the state fair one of the most interesting exhibits was that of the H. C. Shaw Company of Stockton.

California made implements, designed to meet the needs of farmers in this state, were the dominating feature. Several new tools recently perfected by the Brenneis Manufacturing Company of Oxnard, were prominently displayed. Chief among these was the new single standard vineyard subsoiler and the four gang extention disk harrow. In designing the vineyard subsoiler the manufacturer has given particular attention to the strength of materials and the positive lift will raise the 18 inch blade. The implement is narrow and compact and should prove very effective in deep cultivation.

The Brenneis extended orchard disk harrow is only 20 inches high with all working parts in direct line with the axels and pull. The frame will carry 500 pounds of extra weight. It is equipped with 18 inch cutout disks controlled by a positive automatic shift which sets the disks at any angle. There are no levers or cranks and the disks are covered with shields to protect low growing branches of trees. The harrow is so built that it will work close up to the trees while the tractor operates in the center between rows and side draft has been eliminated.

The Shaw Company also displayed a complete line of orchard cultivators equipped with positive automatic power lift.

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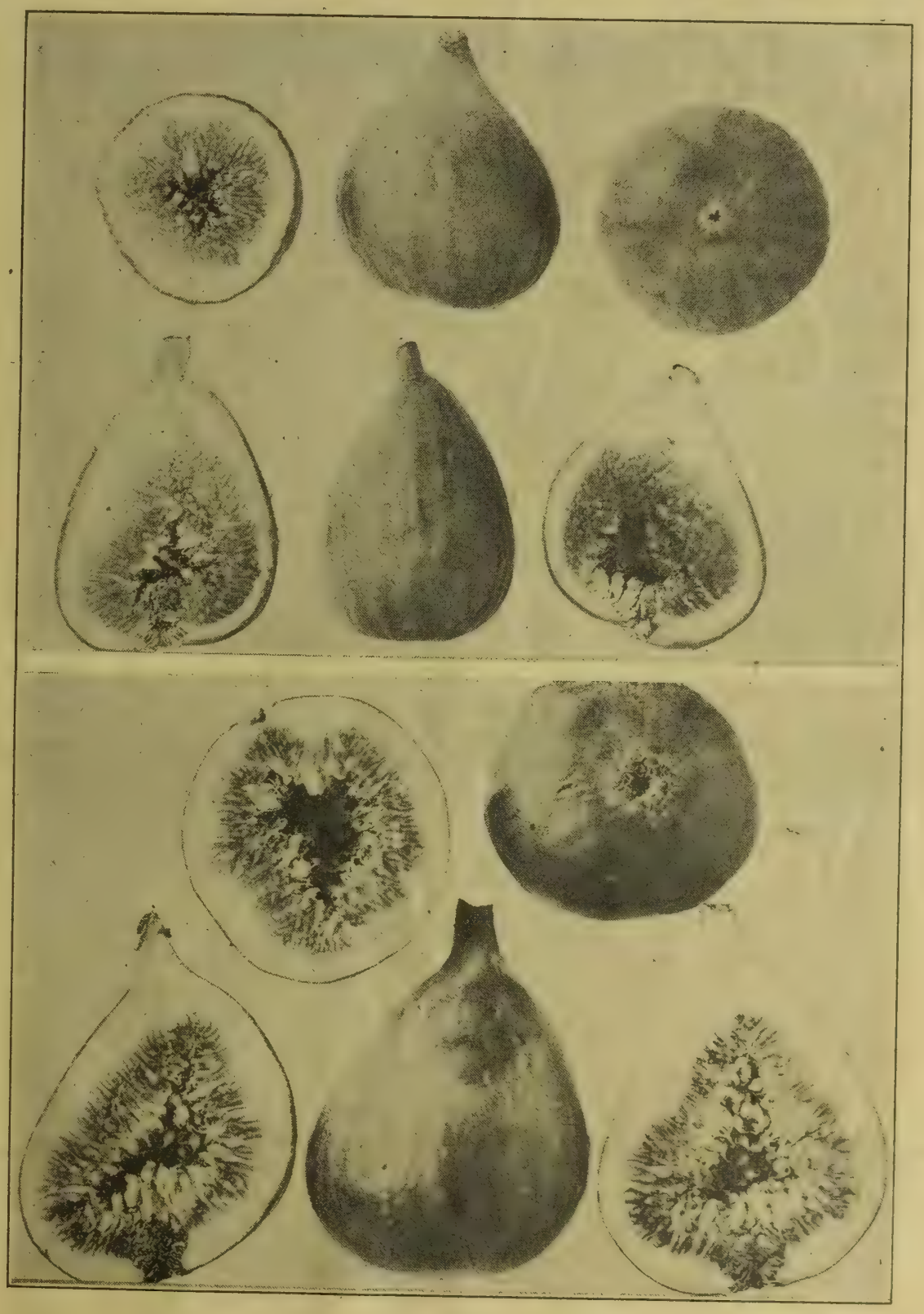
# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — September 23, 1922 — No. 13


# Two Distinct Varieties of Figs, yet Similar



See Article by Ira J. Condit on Page 307

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877. Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, Sept. 23, 1922

OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## EDITORIALETTES

It is asserted that the fig crop of California is one which is not produced in excess of the demand. Like the almond, if it can be given a reasonable degree of protection from some of the cheapest labor in the world, the California grown fig has a fighting chance. This has induced quite general planting during the past few years. The more common varieties planted are those which make the finest dried product. Figs in the form of jams and preserves are more in demand than formerly and we doubt not this will open the way for still greater increase in the industry. The illustrations on the cover and Mr. Condit's article will afford a fund of information for those interested in this phase of the industry.

* * *

In this connection we are reminded that on practically every diner East of the Rockies, on a trip covering nearly 8,000 miles, there were served "figs in syrup." This was a delicious conserve of exactly four little figs served in a very rich syrup in small glass jar. In every case the label indicated the figs were packed in Texas. The four figs including a small jar of cream were served at 35 cents. Several times we called for California figs and once we received the information that "fresh California figs" would be served but that there were none served in syrup. Texas has the advantage of cheaper lands, nearness to market, and possibly other advantages, still we cannot refrain from asking, "Why not California figs in syrup?"

* * *

Washington reports world production of wheat this year, excluding Russia and Mexico, is estimated by the United States department of agriculture at 3,019,526,000 bushels, based on actual estimates from reporting countries and estimates based on condition reports. Production in 1921 was 3,059,596,000 bushels, and for the prewar 1909-13 average 2,890,353,000 bushels. United States, Canada, Japan and British India show great increase while all of Europe shows serious decrease. Russia will not export but it is thought she will be able to feed herself.

* * *

The cotton crop is reported as greatly damaged from drouth, boll weevil, rust and army worms. The production will be much less than the earlier estimates in all of the Southeast. Bumper crop west of the Rio Grande.

* * *

The other day a man in Los Angeles celebrated the hundredth anniversary of his birth. The most pleasing part of the event was the fact that it was not only a celebration because a human being had simply existed for 100 years, but more because of the strength of forceful character and continued activities. The centenarian is Cornelius Cole, born September 17, 1822, and still engaged in the practice of law. Mr. Cole represented California in the United States senate when Abraham Lincoln was president. He was a pioneer, a '49er, a thoroughgoing believer in and a lover of California. The Cultivator has heartiest wishes for the continuation of Senator Cole's useful life. May there be many—very many happy returns of the day.

## FIRES

Fire is sweeping the mountain sides all up and down the state. Every one was started because some human was careless—or worse.

BE CAREFUL WITH FIRE!

## HOT WEATHER

Los Angeles, Riverside, San Bernardino and Orange Counties took their hot weather in a condensed dose last Sunday. Walnuts were burned slightly, perhaps a ten per cent reduction of the crop.

Temperatures ranged from 95 to 110 degrees.

## SAFETY FIRST

For three weeks the world had its eyes fixed on a little community up in the foothills of the Sierra Nevada and prayed that the lives of the 47 entombed miners might be spared. The miners were not spared. Our praying and the action which should go with devout prayers began all too late. For 22 days almost super-human effort was made by the former companions of the entombed miners. Their lives had been smothered out by the deadly gases within a few hours after the fires began. They had endeavored to barricade and keep out the poisonous gas. Now we are asking, "Who is to blame?" Investigators of state and nation will endeavor to answer for us. So far it appears that mine owner, inspectors representing the state of California and others had taken precautions which it was thought were sufficient to prevent any disaster. Yet 47 brave fellows have lost their lives. The discouraging feature of it is that it is simply another case which reminds us of similar occurrences, excepting usually of lesser magnitude. In the one city of Los Angeles alone the deaths caused by traffic accidents during the past twelve months have averaged nearly one every day. "One or two daily" may be hardly sufficient to cause the world to stand horrified and demand that the awful waste of human life be stopped. But when this waste aggregates three or four hundred people within a year, or when a disaster like that at Jackson shocks us into consideration of the awfulness of it, we all begin to ask,

"Who is to blame?"

Quite often the victim. More often not. But in a sense are we not all to blame? Are we not putting too low an estimate on the value of a life? We erect cross arms at every grade crossing on which is painted the command "Stop, Look, Listen." None of us think of stopping, and very few even look or listen. Many are the cases where two or three or possibly a dozen lives have been ended because of lack of one minute's thoughtfulness. We look back only about a twelve month and recall the death of a whole buss load of school children in the northern end of the Sacramento Valley and say, "That was due to the thoughtlessness of a school boy driver." But again we must express the belief that it was as much due to the mental attitude of ninety-nine hundredths of the rest of us humans as much as it was to the one boy.

Let us all have a thought while there is opportunity that it may be of service. Provide beforehand for way of escape from the deadly fire gas and encourage more thoughtful attitude when approaching railway crossings or other places where modern methods endanger human life.

## FORESTRY IN OHIO

Some time ago we were amongst the farmers of Ohio. We asked all kinds of questions. They answered and at times suggested "Why don't you go over to the Wooster Experiment Station? It's only 25 or 30 miles." We went to Wooster. So here are some observations as to forestry practices on the station grounds.

### Forestry

Of greatest interest to me was the forestry work of the station.

In Ohio the department of forestry was established by an act of the legislature in 1906 and given charge of the forest interests of the state. Its duties as prescribed by law are "to inquire thoroughly into the character and extent of the forests of Ohio; to investigate the causes of their waste and decay; to conduct investigations in the several sections of the state in order to determine the species of valuable trees best suited to grow on the various kinds of soil of the state; to ascertain the cost and best methods of propagating, planting, cultivating and managing woodlots and plantations on the various kinds of soil; to determine by investigation the average annual rate of growth of the various species of trees and the relative values of the various kinds of timber for commercial and domestic purposes; to conduct experiments in the treatment of the various kinds of wood for the purpose of increasing durability; to determine by experiment and investigation the kinds of trees and shrubs best suited to the various situations for windbreads and shelter, for beautifying grounds, and the best methods of planting and managing the same; and to determine the needs for the preservation, improvement and development of the forests of the several sections of the state."

The experiment station early recognized the importance of definite knowledge as to the culture and growth of forest trees and had already planted on the grounds, in addition to ornamental groves and windbreaks, experimental plots of catalpa, ash, osage orange, locust, pine, larch, spruce and the various native timber trees.

Part of the rugged woodland on the eastern side of the farm has been cleared and converted into forest nurseries with an annual capacity of 150,000 trees. In addition to supplying the state forests stock is furnished to state, municipal and private institutions, county experiment farms and private landowners for cooperative planting. This affords an opportunity to study the behavior of various species under the different soil types and climatic conditions.

A part of this new ground has been divided into quarter acre plots for separate and mixed plantings of all the best native and foreign species, to test the possibilities of reforesting wholly waste areas. This aboretum now contains more than 50,000 trees of approximately 75 different species.

The mature and weed trees only have been removed from the rest of the woodland, leaving the native growth of young ash, oak and walnut, which growth has been supplemented by planting the best species of evergreen and deciduous forest trees, to determine the practicability of improving woodlots by thinning, replanting and protection. Here, too, is a test of many species under different conditions.

The department immediately after its organization began a survey of the forest conditions of the state to determine the extent and character of its woodlots. This survey has led to cooperation with landowners in applying known forestry methods for the improvement and perpetuation of wooded areas, and it has furnished data upon which a definite forest policy is being formulated.

The department is directing the planting and management of woodland areas of many state, municipal and private institutions and of farmers. The people of Ohio under the leadership of their foresters are face to face with the big problem of improving and maintaining more than 3,500,000 acres of native woodlots and the reforestation of thousands of acres of waste land. A part of the work of the station is to school the people to a realization of the possibilities and vital importance of the forestry work. Every properly planted and protected woodlot, whether the park of a city, the campus of a college or a part of a farm, becomes an example of the possibility of turning similar areas into revenue producing forest tracts which will rival in time the virgin forests felled by the pioneers.

The state and its citizens individually realize the importance of their forests; they see the need for an ample future timber supply, the need for protection to water courses, the wastefulness of idle land and eroding hillsides, and the possibilities of the forest areas as ultimate sources of income.

In 1915 the assembly, recognizing the need of the state's taking the lead in this work, appropriated $10,000 for the purchase of cheap land for state forests. Two tracts, one of 221 acres (the Waterloo forest) in Athens County and another of 1,500 acres (the Dean forest) in Lawrence County, were bought. These have been surhave been made and their development has begun. These forests and the cooperative forests in all parts of the state furnish much needed practical information as to species, natural and artificial reforestation, care of the woodlot and the marketing of its products.

The bulletins published are valuable, the more impressive lessons however are those of the field.

# California Cultivator

Vol. LIX, No. 13 | Los Angeles, September 23, 1922 | One Dollar Yearly

# The Brunswick Fig

By Ira J. Condit, Horticulturist
California Peach and Fig Growers

Illustrations of the Brunswick and Brown Turkey figs may be seen on the cover. The upper group in the illustration shows the Brunswick. Regarding this fig Mr. Condit writes: "The Brunswick fig shown here is identical with the Magnolia fig of Texas. It is a good preserving variety but it does not equal the Kadota in this respect."

"The Brown Turkey figs shown in the lower illustration are very common around Los Angeles at this time of the year."

UNTIL the introduction of the White Adriatic fig, the Brunswick, according to Dr. Eisen, was the most common light or brown fig in California. The trees are small straggling and hardy with deep cut, narrow lobed leaves, especially on the suckers. First crop figs are very large, dingy green or brown, watery, poor in quality, but early and one of the first to appear in the market. The second crop figs are much smaller, more abundant, spherical or somewhat elongated, brown in color, with a hollow center and pink flesh. On account of the uniform medium size, the Brunswick figs have been commonly marketed for preserving. The Vernon Coon's orchard at Elk Grove is the only commercial planting, so far as I know, in the state. Individual trees, however, are common in orchards and gardens.

The Brunswick fig is identical with the Magnolia, the famous preserving fig of Texas. Van Velzer in his book on the fig states that one of the pet names of the Brunswick is the Magnolia. He further states that "those who still contend that the Magnolia is a new variety, distinct from the Brunswick, can discover their error by studying the leaves, bark, wood and fruit, which characteristics and habits distinguish it from all others."

J. L. Nickel writes: "I will add that the Magnolia fig, which I received from two different nurserymen in Texas, also proved to be identical with the Brunswick as received from London and Niles." In reply, therefore, to the common question, "Has the Magnolia fig of Texas been tried out in California?" we can say that the same variety, the Brunswick, has been grown here for at least 70 years, and the results are not encouraging from a commercial standpoint. For preserving purposes, I believe, the Kadota fig is far superior to the Brunswick, as the fruit is lighter in color, more attractive in appearance, both fresh and in glass, and both crops are more abundant.

### Caprification

Caprification changes the character of the Brunswick fruit as reported by Tribble Brothers of Elk Grove in 1912. "The color of the skin was changed from a light brown to a dark purple with nearly black ribs. The size was much enlarged, the quality not much improved, and some of the figs soured on the tree. The dried figs had the nutty flavor, as did the Mission. It was noted that the one or two very light brown uncaprified figs contrasted strongly in the cluster of dark purple figs."

On account of its short, stubby habit of growth and early maturity, the Brunswick tree is hardy and well adapted to the colder sections of California where ordinary fig varieties do not thrive. For most counties in the state, there are several varieties of figs which are more satisfactory both for home orchards and for commercial crops, than the Brunswick.

W. T. Kirkman, Sr. of Pasadena writes as follows regarding the Brunswick: "The Brunswick fig is not uncommon in these parts and is always highly commended by those who know it as the sweetest and more nearly seedless of all figs. One of our cannery men wishes me to locate all of these I can for him. I will say, however, that this fig has its shortcomings here. It seems the more you pet it the worse it behaves. Some of the best cared for trees cast off most all their fruit when half grown, while those without care of any kind ripen a fair crop of smaller figs. I think ordinary field cultivation without irrigation would bring it to its best performance."

### Good Shipping Variety

The nomenclature of the Brown Turkey and the Brunswick figs is considerably confused by growers, nurserymen, and the commission men throughout the state. It is hoped that the illustrations on the cover will help growers to differentiate these varieties more positively. While the true name of a variety does not make much difference to some growers, it does make a vast difference when one variety is ordered for commercial planting and the grower discovers after three or four years that he has an inferior variety to the one he ordered.

### The Brown Turkey

The true Brown Turkey fig is best known in California in the vicinity of Los Angeles, where there are some commercial orchards (notably that of John Schelnik, Montebello) and numerous individual trees. The large dark brown figs are very common on the Los Angeles markets in September and October, and one of the commission men has developed a considerable business in shipping the figs in pony refrigerators to New York and other Eastern cities. I, myself, saw these fresh figs selling as high as $3 per dozen in New York in November, 1919.

The Brown Turkey tree is a much more thrifty grower than the Brunswick, the leaves are larger and not so deep or narrow lobed, and the figs of the main crop are larger and darker in color. The fruit is large and heavy and usually hangs to one side, so that the mature fig is very oblique in shape.

E. R. Thurber, of Vacaville, has a few large trees, probably the Brown Turkey, which mature their first crop shortly after that of the Mission trees. The fresh fruit, therefore, brings attractive prices on account of the scarcity of other figs at that time. The figs of the second crop are inferior for drying as compared to the Mission; they sour more readily and are more subject to the attacks of birds on account of their season. For the production of fresh figs in the southern coast districts the Brown Turkey seems to be an excellent variety. For the interior valleys it should not be planted except in collection of varieties.

# Subsoiling and Deep Irrigation

In a recent issue of the California Cultivator was an answer to a question asked by a Visalia subscriber as to deep irrigation of lands which are "of a cement nature and adobe together with a red sediment mixture. In other words, I want to put my irrigation down in the soil, not on top as previously, and I have peaches, oranges and some vines. I was under the impression that I might use a subsoiler every time I did a job of irrigation, especially the way the land would irrigate, not crosswise, and the crosswise subsoiling would be done every fall. Could I run a subsoiler, single standard, through this space every three to four weeks, and follow in the path with the water, and still not add too much water to the soil or to the trees or vines? Would this deep irrgation and tillage be harmful by cutting feeder roots?"

Mr. Neff answered the question on page 130 of the August 5 issue in effect that a single standard subsoil plow should be used, not necessarily at each irrigation. One subsoil furrow in the center of each tree space and across the furrows carrying the water will be better than to run the water in the subsoil furrow. The single standard subsoiler can be run in both directions once, in the center of each tree space, but in beginning it will be better to go in one direction only the first year. Some of the feeder roots will be cut in any event, but if the subsoiling is practiced the roots of each tree or vine will be confined to its particular square and have the use of as much soil as it would have with longer roots and other trees encroaching on the space around that particular tree, with advantage of more water and better distribution of water. The furrows carrying the water should be made as deep as can be conveniently done.

R. P. Lehr of the Killefer Manufacturing Company and who has made wide observation of soil culture in California with fullest investigation as to needs of orchardist in the matter of tillage implements finds that Mr. Neff's recommendations do not tally with those which Mr. Lehr thinks should be given.

We regret that Mr. Neff is not now in California but he will return from trip to Illinois within a few weeks and, we hope, he will more fully enter into the discussion.

Mr. Lehr writes:

"I am sure that it was the writer's intent to give the inquirer good advice, but in the light of the long experience of the founders of this company, you have instructed him in a way that may reduce his crop eventually and cost him money in the end.

"The best practice in late years has repeatedly demonstrated that far better results are obtained by running water in subsoil furrows, or so-called 'subsoil ditches.' Subsoiling across the flow of water, or 'following the contour lines' is only best in hilly country when water is run down the terraces. Water run in the bottom of a subsoil furrow has many obvious advantages. It leaves the surface mulch dry and no surface moisture is lost to the elements as compared with small trickling surface streams.

"It is a sad but true fact that most 'irrigation pan' has been caused by just such practice as you have recommended; running the water in small streams not more than three feet apart. This practice has been a fine thing for our business, but not for the grower. It has been the cause of our selling a great proportion of our heavy cultivators to break up irrigation pan and hard pan.

"The surface soil, containing its bacteria and humus, is the laboratory for the preparation of plant foods. It is assisted by the sun's warmth and other agencies such as oxygen, nitrogen, carbonic gases, etc., including moisture, and you would be surprised to know what benefits are being obtained by deep subsurface irrigation and deep cultivation over the old method of shallow irrigation and after cultivation to a depth of four to six inches, such as you recommend in the article in question."

Mr. Wood comments:

We quite agree with Mr. Lehr with reference to deep cultivation provided same is practiced from the time the orchard is first started but in the case at point in our issue of August 5 we believe Mr. Neff offers the best solution to the problem, since our subscriber states that his trees are from four to nine years of age and to follow Mr. Lehr's plan of very deep subsoiling after the roots have been allowed to establish themselves near the surface, would, we fear, give the trees a shock.

Grapes and peaches have a tendency to root fairly deep but oranges will send out their feeder roots just under the surface of the ground if allowed to do so and in Florida and some other sections where summer rains make it unnecessary to practice irrigation it is claimed that better results are obtained by very shallow cultivation, in fact some do no cultivation whatever. It is not policy, however, to handle citrus orchards here in this manner but we believe that better results will be obtained by cultivating to a depth of six to eight inches rather than deeper as citrus trees depend more or less on the warmth of the surface soils, especially in the early spring.

# Agricultural News Notes of the Pacific Coast

## Northern California

Contra County has recently shipped 75 cars of grapes and 80 cars of tomatoes.

Alturas, Modoc County, has a new pencil factory, the wood used being native juniper.

Bartlett pears from Placerville, El Dorado County, brought $4.70 a box in New York City.

The Clarksburg district of Yolo County is harvesting more than 5,000 acres of beans.

Grass Valley, Nevada County, reports a heavy crop of pears and plums, but the prices are too light.

Conservative estimates place the shipments of fruits from Placer County this season at 5,000 carloads.

The largest grape crop deal to date is the sale of 65 acres of Zinfandels at Lodi, for $400 an acre, on the vines.

The Coffman orchard at Lodi has an exhibit of peaches which average an individual circumference of 12 inches.

Eureka, Humboldt County, reports a heavy crop of vetch seed, which will not all be harvested before September 20.

Durham, Butte County, shipped 100,000 bags of wheat during the first week in September; also 15 carloads of grain hay.

The big tent for the Glenn County fair at Orland is claimed to be the largest ever made or used on the Pacific Coast.

More than 100 carloads of wheat and barley have been sold this year through the Butte County farm bureau exchange.

Word comes from Marysville that from 500 acres of Bartlett pears, five orchardists have sold more than $300,000 worth of fruit.

The four year old long pruned peach orchard of A. J. Macfarlane at Oroville, Butte County, yielded six tons an acre of Tuscan clings.

The manager of the Glenn-Colusa irrigation district reports water was shut off from 3,000 acres on September 1 and the rice is being harvested.

The residents of Sisson, Siskiyou County, are very indignant because the postmaster general wants to change the name to Mount Shasta.

England is cabling to California for raisins because the European raisin market is demoralized through the Turks beating the Greeks in war.

Traffic Manager Faye, of the Western Pacific, announces a reduction of 40 cents per hundred pounds on eggs shipped to points east of Chicago, effective October 16.

Representatives of the units of the Federation of American Farmers from San Joaquin, Butte, Colusa and Glenn Counties will meet soon to arrange for a state meeting of the federation.

A Live Oak, Sutter County, rancher has a "sport" seedless grape that is as large as a Muscat, and of a flavor different from Thompson seedless, which the vine was supposed to be.

Judge J. H. Logan, of Hayward, who "discovered" the original loganberry growing in his garden, has received an invitation from the governor of Oregon to be a special guest at the state fair on "Logan Day," September 29.

## Central California

The Tulare high school is to institute an agricultural course.

The cooperative cannery at Modesto expects to continue work till October 1.

In 17 days one packing plant at Kingsburg, Fresno County, shipped 57 cars of fruit.

Near Delano, Fresno County, 250 tons of Elberta peaches were picked from 24 acres.

The Oakdale Almond Exchange featured an almond exhibit at Oakdale's district fair, September 12.

Sweet potato growers of Merced and Stanislaus Counties met, September 7, and fixed price at $1.70 per hundred pounds.

The Tulare County prune harvest is now in full swing, with a very heavy crop, the June drop this year proving very light.

The grain harvest in the Tulare basin is over and more than 1,225,000 sacks have been harvested from the lake district.

An experienced lettuce grower from the Imperial Valley has settled near Clavicle, Fresno County, and will grow lettuce there.

Several packing houses in Fresno and adjoining counties opened about September 15 to pack late Malagas and Emperors.

Fruit box factories in the San Joaquin Valley are running 12 hours a day to help overcome the shook shortage in some sections.

Pork producers are going to celebrate a "hog day" at Kearney Park, Fresno, October 20, and $1,000 in prizes will be awarded.

Word has been received at Fresno that owing to the Turko-Grecian war, Smyrna figs are not picked, some destroyed, and the demand for California figs will be strong.

Fresno chamber of commerce received a cable from Turkey: "Raisins sent as gift to starving children unloaded. Greatly needed."

One section of land in the Tulare basin, 608 acres, produced 31.23 sacks of wheat to the acre. Another section yielded 31.12 sacks.

Many Merced vineyardists stopped picking grapes because of low prices in the East, to resume only when advancing prices will justify expenditures.

Turlock grape shippers report slight shortage of cars, also of box shook. Thompsons are bringing around $25 a ton; Malagas and Zinfandels, $50 to $65; Alicante Bouschet, around $100.

The accumulation of California grapes in eastern markets on Saturday, Sunday and Labor Day brought a big slump in prices but Fresno reports that car shortage alone will bring prices back.

At the end of a seven year "scrap" the Miller and Lux estate and the Madera irrigation district have come to an agreement and 80,000 acres of land in Madera County will be irrigated and put on the market.

Agreement has been reached by the Madera irrigation district, West Side storage district and Miller and Lux interests, after years of litigation, which will permit formation of the San Joaquin River water storage district.

## Southern California

Three inches of rain fell at Niland, Imperial County, September 2.

During August 52 carloads of fruits and vegetables were shipped from Imperial County.

Victor Valley, San Bernardino County, will ship 120 carloads of fat cattle this season.

The Orange County bean harvest started September 8 and the crop is estimated at 500,000 bags.

The grape crop of the Fontana district in San Bernardino County, is estimated at 4,000 carloads.

Cotton seed in the Imperial Valley is bringing $20 a ton, an advance of six dollars over the 1921 price.

Imperial County is prosecuting all land owners who allow Johnson grass to mature seeds on their property.

Rialto, San Bernardino County, shipped 12 cars of grapes the first week in September, the first of the season.

Residents of West Covina are up in arms against the establishment of a sewer farm in their midst by the city of Covina.

Livestock market news service has been started at Los Angeles by combined federal and state departments of agriculture.

The Deciduous Fruit Distributors, San Bernardino, offers $50 for the best name for fancy apples shipped from that district.

The Rotarian Club of Orange County is contemplating the purchase of the famous Modjeska ranch for a club retreat.

The Santa Barbara walnut growers have fixed picker's remuneration at $22.50 a ton, ranch weight, and $27.50 per ton warehouse rate.

The Monte Vista Citrus Association at Riverside is erecting a modern citrus fruit packing house. Cost of building and machinery, $75,000.

Several centers of the Ventura County farm bureau are starting Lima bean seed selection to produce more uniform and increased production.

J. B. Vaile, for two years president Los Angeles County farm bureau, has bought a date orchard near Coachella and will move there from San Dimas.

Brant Rancho Guernsey milk won at the state fair first and gold medals in guaranteed milk and cream classes and for highest scoring exhibit of milk and cream.

Under orders from the state railroad commission the Southern Pacific reduced freight rates between Los Angeles and Imperial Valley points, beginning September 20.

Adohr Stock Farms won at the state fair first on certified milk. City Dairy of Pomona and the Italian Vineyard Company won the raw and pasteurized market milk classes.

The state railroad commission ordered the Ventura County railway to reduce rates on carload shipments of beets, from all points to Oxnard, to the rate allowed in 1920.

An inventor has been demonstrating a machine for printing names on oranges, in Orange County, and the machine has been favorably reported on by a Villa Park committee.

A dairy census of Imperial County shows two-thirds of the dairymen are Americans, 47 per cent are owners of the land, and 43 per cent of the bulls used are registered purebreds.

## The Coast and General

The Oregon Milk Producers is considering reopening its plant at Portland.

Flagstaff, Arizona, expects a good yield of potatoes, due to long continued warm weather.

Yakima, Washington, is making plans for an ambitious potato and corn show in November or December.

Idaho sheepmen say they are selling tens of thousands of dollars worth of lambs every week in Chicago and Omaha.

Reports from Flagstaff are to the effect that stock are in good condition and that the range should be in excellent shape by winter.

Agricultural conditions in the Yuma, Arizona, districts are very generally good, though heavy September rains in some places caused crop damage.

Paving of the Salem to Dalles, Oregon, highway in Polk County, Washington, has been completed. It is one of the busiest stretches of highway in the state.

The Yuma County farm bureau has fixed price of $1 per 100 pounds for picking short staple cotton for first picking. Salt River Valley growers fixed same price.

Potato growers of Umatilla County, Oregon, are planning a Potato Day, to be held in Weston some time in October when seed potatoes of certified crops will be displayed and experts and buyers will be invited to attend.

New Mexico this year has the largest acreage of Pinto beans in its history—estimated to be 25 per cent greater than the 1921 acreage. The Mountainaire district leads with 45,000 acres. There are 20,000 acres around Willard.

Torrential rains in the Chocolate Mountains washed out main irrigation canal, cutting off water from the San Pasquale and Yuma valleys of Arizona, but as the rain was general in that district, little damage to crops is expected to result.

Members of the Walla Walla, Washington, farm bureau have announced that they will open a public market this fall. The market has been incorporated under the name of the Producers' Public Market. It is capitalized for $30,000.

Heavy showers have fallen in the north central portion of Arizona and moderate showers over remaining parts of major grazing areas. Range and stock are reported good in the Grand Canyon, Williams, Pinedale and Douglas sections and water supply adequate.

Agreements have been made between the apple growers and the port of Seattle whereby 1,000,000 boxes of this year's apple crop will move to American and foreign markets by steamers. Of the 1921 crop 375,000 boxes were shipped by boat and in 1919 only 2000 boxes were handled over Seattle docks.

Unlike the seasons of 1917, '18 and '19, the passing of summer this year was unaccompanied by damaging winds and rain in Arizona. And, though heavily loaded with green bolls, as a whole the cotton is not tangled and lodged; nor has mildew taken much of the bottom crop. The top branches are set heavily.

# Central California Citrus Institute

By W. R. Wood

THE house was packed to the doors. There were citrus growers from all parts of the San Joaquin Valley. Many have been engaged in citrus culture since the first commercial orchards in the valley were planted. Others have less experience. All were eager to learn what they could concerning the problems confronting the growers.

It was the first Central California Citrus Institute which opened at Lindsay on Wednesday, September 6. C. M. Conner, farm advisor of Tulare County, called the meeting to order and briefly stated its purpose. He told those present that, if in their opinion, this first institute was a success, he would endeavor to make it an annual event.

A glance at the program showing the different speakers and the subjects to be covered by them convinced me that those present were going to hear something worth while. My only wonder was that there were not even more present.

W. B. Kiggins, vice president of the Lindsay Chamber of Commerce, extended welcome. He expressed the hope that this meeting might be of such benefit to those engaged in citrus culture that they would be held annually. The citizens of Lindsay would be glad to have their city selected as the meeting place for future institutes.

R. S. Woglum, entomologist for the California Citrus Fruit Exchange but formerly with the United State department of agriculture, in the study of pest control and fumigation, read a very interesting paper on "The Need of Better Pest Control." To those of us who were acquainted with Mr. Woglum's work, his paper was of particular interest because his long and close study places him in a position to give facts and figures that can be relied upon. He reviewed the pest situation in Central California from the time of the first commercial plantings, when it was thought that, due to the summer heat and low humidity in the valley, no citrus scale could live. He referred to the rapidity with which the citricola (gray) scale had spread over the entire valley, also the spread of the citrus thrips (Euthrips citri). The damage suffered by the industry in the San Joaquin Valley has been enormous. In addition to the loss in quantity, size and quality is very materially lowered.

Prior to the infestation of these two pests it was not uncommon for an entire orange crop to go 90 to 95 per cent fancy, whereas badly infested groves now only produce from 10 to 15 per cent fancy fruit. He stated that the loss due to the work of thrips alone exceeded $200,000 per annum. The effect of citricola scale is hardly less noticeable, as an illustration he gave the production and grades from one orchard. When practically clean it produced 1393 boxes of fruit which graded 70 per cent fancy, 26 per cent choice and 4 per cent culls. The next year the crop was somewhat heavier being 1793 boxes but due to the effect of the scale it only graded 26 per cent fancy, 50 choice and 24 culls. The third year the scale had so reduced the vitality of the trees that they only produced 193 boxes of fruit.

As a control measure for thrips he recommended spraying with a 2 per cent lime-sulphur solution. The addition of nicotine sulphate spray or miscible oil has proven to be helpful in the control of this pest, three applications being necessary if satisfactory results are to be obtained.

For the control of citricola scale he considered fumigation best but by the proper application of sprays it could be held in check, however, two sprayings per year would be necessary to accomplish anything like satisfactory results.

The success of either spraying or fumigation depends upon having the work done at the right time and in an efficient and proper manner. Mr. Woglum urged the adoption of an effective and uniform pest control policy and tried to impress upon those present the necessity of following out such a policy in order to accomplish uniform results.

Frank Brann, horticultural commissioner of Tulare County, read a paper on "Practical Results in Control of Citricola Scale in Central California." Mr. Brann's paper covered the subject so thoroughly that it is given almost entire below.

A. J. Flebut, entomologist for the federal department of agriculture, spoke on "Control of Citrus Thrips." He has been at work for some time trying to find some satisfactory dust spray for the control of thrips and told of his experiments and the results accomplished. Some sort of dust spray is necessary or desirable, he said, on account of the rapidity with which the thrips multiply and spread when once they begin to appear in the spring. Due to rains or irrigation it is often not possible to get into the orchards with the heavy spray rig at the proper time. With the dust spray the equipment is much lighter and easier to handle. A much larger acreage can also be covered than is possible with the liquid spray.

To date, however, they had not been able to get results from the dust spray that would justify recommending its use. The experiments are to be continued, and Mr. Flebut told the growers that they still had hopes of securing effective dust treatment.

Dr. P. A. Boncquet is still at work on his hobby, "Control of June Drop," and read a paper entitled "Progress Report on June Drop." After several years of investigation he has come to the conclusion that the June drop is caused by a fungus, by name, "Fusarium Aurantii" and that by controling this fungus the growers troubled with June drop will be at an end. He stated, however, that the fungus did not cause any serious loss of fruit unless the trees were in a weakened condition and that by proper care and fertilization the trees could be put in shape to resist this fungus. Frost damage, particularly late spring frosts, he stated were conducive to the attack of fungus and in his opinion summer cover crops put the trees in a poor condition to resist frost.

The doctor may be right about this but time will tell as I noticed many orchards with summer cover crops. The

(Continued on Page 310)

# Walnut Growers Picnic

By Ernest Braunton

THE second annual field day of the California Walnut Growers Association was held in Tucker's Grove, Goleta, about seven miles north of Santa Barbara on September 2. The program was carried out nearly as first announced, but regret was expressed by many that C. C. Teague, the president, could not be present. About 825 were present, exclusive of 100 Boy Scouts detailed to wait upon the visitors. An audience of good size listened to the speakers and the only uneasiness it manifested was when the breezes wafted its way the appetizing odor from the barbecue pits.

The address of welcome was made by E. W. Stow, Goleta, who said that Santa Barbara County was the first American home of the Persian walnut. In 1858 Russell Eaton, in Carpinteria Valley, grew the first seedlings, hardshells of course. In the late '70's Joseph Sexton developed the Santa Barbara soft shell, the forerunner of all the present good varieties.

### The Assigned Speakers

Robert W. Hodgson, farm advisor of Los Angeles County, told of the extension work of the state university.

The 1922 season's outlook was presented by W. T. Webber, sales manager for the association: "The citrus, raisin, and prune people ship more dollar's worth of output than the walnut growers, but owing to our perfect organization we are as well known as any of them, for our operations are on a finely organized base. The present crop is the 'largest ever.' The past few days of very hot weather will cause some damage, especially in Los Angeles County. Coastal regions will suffer less. Dark colored meats and stick tights may result, yet still it will be our largest crop."

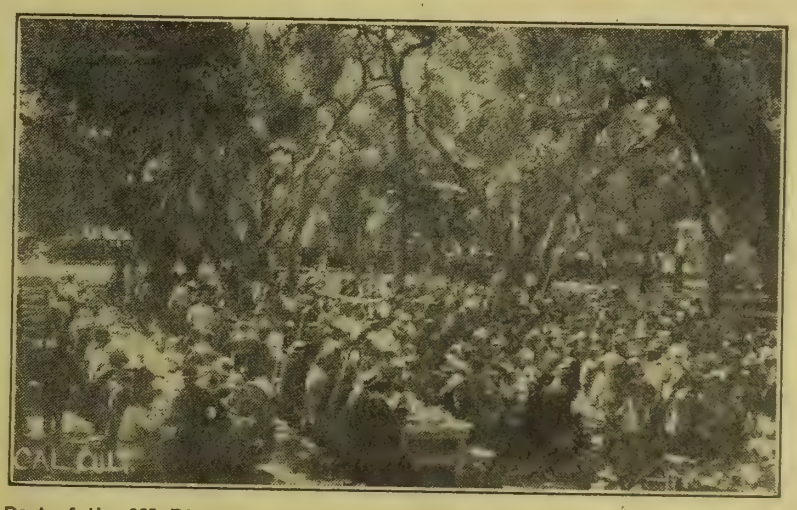
Mr. Thorpe has been visiting in the world's largest walnut districts. He reports that France, the largest producing country, has double the crop of last year, and the same is true of Italy. The Balkan states and Turkey produce many nuts. A few years ago Turkey surpassed California's production but we didn't know it as the crop is marketed as French nuts. Foreign competition will be keen and we need protective legislation. That now pending asks for four cents a pound on unshelled and 12 cents on the meats. Foreign competition is growing each year; foreigners grow for less and the present rates of exchange favor them. The railroad strike, even if settled today, will probably affect the shipping of walnuts. We have secured ample steamer space, if needed, for our full crop, but if a general strike comes the longshoremen will not load the steamers and the steamers cannot transport our crop.

"The 1921 crop was 20,000 tons; the 1922 crop will be 30,000 tons. The sales outlook is puzzling and problematic on account of strike conditions, but prices will be lower than last year. All California products are lower this year as dealers protested first prices and they tumbled. Protests will pull the price of walnuts down five cents, whereas a one cent lower price at the start would have avoided protests, so we shall proceed with caution. Growers should remember that five per cent poor nuts will bring prices down 20 per cent, so be careful of the pack. Appearance, as in all products, is the first consideration. It pays to thin closely planted orchards. Taking out every other tree has resulted in the orchard's biggest crop the second year after the change".

Geo. E. Farrand of the California legislative committee was presented as substitute for C. C. Teague who could not be present.

As his talk was largely along legal lines, and not crop production or marketing, we are not quoting him at length, but he closed with an eloquent plea for an equal chance for all men in every walk of American life, and so impressed the audience that a request was made that his speech be printed in full and mailed to all members of the association.

H. C. Sharp, inspection department of the association, said the 1921 crop was the poorest for many years, especially in quality and size, and the sales had fallen off materially. In January, 1920, there were 100,000 bags unsold. By March all were sold, and eaten. During the same months this year (1921 crop) but 30,000 bags were consumed. Do not let walnuts remain too long on trees, pick when ready and cure properly. No change in treatment has come in late years except less water is being used to hull nuts. The water stains the meats and shells and makes curing more difficult. The present most pressing need is better methods of curing. Artificial drying plants are increasing in number.



Part of the 825 Diners at the Recent Walnut Growers Field Meet at Goleta
After cracking walnuts figuratively, speakers and listeners lunched literally.

### Field Demonstrations

After the "big feed" Prof. R. E. Smith of the state college of agriculture told of the latest development in dust spraying for control of insect pests. A machine near by gave a practical illustration of orchard spraying.

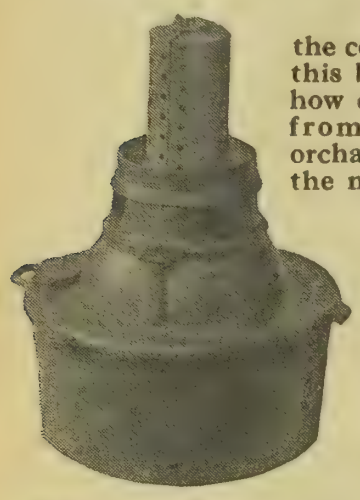
E. S. Kellogg, horticultural commissioner of Santa Barbara County, showed in the orchard the results of using different stocks and the behavior of the leading varieties on those stocks.

Prof. J. W. Nelson of the state college of agriculture held his usual large crowd of interested growers by his simple but forceful explanation of soil problems. He said all orchards need irrigation. About July 10 unirrigated trees cry for water and roots travel far, too far, to reach it. A trench dug in a near by alfalfa field showed walnut roots were plenty, though nearest tree was more than 100 feet away. Every orchard not now irrigated is needing it badly right now. Irrigation would greatly increase the state's output which now averages but 600 pounds an acre. Irrigation could increase this by at least 200 pounds, and at 20 cents a pound this would mean $40 an acre greater income. The great needs are water and organic matter. The tree top continues to function 100 per cent. but in the unirrigated orchard but 30 to 40 per cent. of the roots can function from now to shedding of leaves. So trees are forced to reduce their demands and thereby suffer heavily. Some use too much water. One ranch in Inyo County was shown to be using 15 acre-feet this year. Professor Nelson advocates both summer and winter cover crops, as a single crop but holds soil in present condition.

# THIS ORCHARD HEATER

## Makes No Smudge

No Soot Forms in the Burner Pot or Stack.



Study the construction of this burner. Note how different it is from any other orchard heater on the market.

## The KELL-OIL Heater

### HAS WON THE CONFIDENCE OF GROWERS IN ONE MONTH IN SOUTHERN CALIFORNIA

Down in the Citrus groves of Florida the Kell-Oil Heater is well known and is the only heater in general use there.

It has been in use there for several years, and its high quality and complete efficiency are recognized.

But only recently has the Kell-Oil Heater been introduced in Southern California. Notwithstanding this fact it has been received with enthusiasm by growers here, and wherever shown it has demonstrated conclusively, under the closest observation, its superiority to any other heater now in use.

Many growers concede that had their groves been equipped with Kell-Oil Heaters last winter the saving to them would have more than paid for the equipment in the one season.

We have conducted exhaustive experiments with various heaters in comparison with the Kell-Oil Heater and, this also has been done by others who are experts in the citrus business and we know that because of its widely different principle of construction and the seven inch stack used that it delivers 40% more heat and radiation and delivers the heat closer to the ground with less fuel consumption than any other heater yet placed in competition with it.

The economy of Kell-Oil Heaters goes farther than the mere saving of fuel. It requires less heaters to the acre to produce the necessary amount of heat to raise the temperature above the danger mark and thereby reduces the cost of operation and labor. Kell-Oil Heaters are built in three sizes and have capacity to burn from eight to twenty hours. They are so constructed that they may be refilled while burning. These heaters are the least expensive heaters to own because they are made of cast "Strokel" iron and will last a life time. No loss of equipment to figure because of damage by rust or careless handling—no painting to do—they are easy to clean and the stack being of heavy galvanized material will last for years.

WHEN YOU FIGURE

The saving in labor
The 40% greater heat and radiation
The Economy, Safety and Efficiency
The low upkeep
The Long life and the burner construction

There is only one answer to the problem of Frost Protection for your grove.

### BUY KELL-OIL HEATERS

and save your crop year after year without the need of replacements. Order your equipment now, many growers have already placed their orders. Our allotment for this year will be limited but deliveries will be made in time for this year's use if you order early.

Ask for demonstration, or write for illustrated literature.

**Don't allow yourself to be rushed into a contract to buy orchard heaters until you have seen the Kell-Oil Heater.**

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## CENTRAL CALIFORNIA CITRUS INSTITUTE

(Continued from Page 309)

growers will be able to see next spring how it affects their crops.

It has been the writer's observation that orchards in the most healthy condition not only hold their fruit better but suffer less from frost. If cover crops benefit the trees they should help them to resist the frost damage, excepting of course, in cases where the soil was allowed to dry out in the summer and the later irrigations induced a late growth on the trees. Anyway we hope the doctor succeeds in finding a control method for putting an end to June drop. We can assure him that the growers from North to South will raise as a unit and call him "Blessed."

At the afternoon session Gordon Surr, field assistant in orchard management, citrus experiment station, Riverside, spoke on "Fertilization Problems of Citrus." He gave the results of the different experiments being carried on. These clearly show that manure and cover crops together with nitrogenous fertilizers applied in the spring were giving the best results. Complete fertilizers had shown some good results but in his opinion it was largely due to the amount of nitrogen they contained. He recommended application of manure in the fall or early winter as being most beneficial, and also insisted that results obtained from manures and fertilizers depend largely upon proper cultivation and care of the grove. When asked regarding the use of lime, he stated that they had been unable to see any results from its use excepting in the physical condition of the soil. He thought that in some instances the lime had a tendency to lock up the iron in the soil and make it unavailable to the tree.

R. S. Vaile, assistant professor in orchard management at the citrus experiment station, evidently saw that the heat of the afternoon together with the hearty lunch of which most of us had partaken, was making the audience somewhat drowsy so he prefaced his talk on "Irrigation Practices on Citrus Soils" with a number of jokes. They had the desired effect, judging from the number of questions asked at the conclusion of his paper.

He gave the result of investigations made in regard to amount of water necessary to keep citrus trees in good condition and stated that in his opinion many growers especially those having heavy adobe soil were using too much water for the good of the trees. Soil of this nature, he thought, should not have more than from four to six acre inches per irrigation and that 48 hours was a sufficient time for the water to be on the ground in order to penetrate to the desired depth. An irrigation of this kind every four weeks with proper cultivation between times, is sufficient to keep citrus trees in the best of condition. On the brown or red loam two acre inches per irrigation is all that is necessary in order to wet the soil to the desired depth. It should be applied every three or four weeks and where cover crops are being grown, every 15 days. Investigations have shown that water put into the soil below the root area was lost to the trees as this moisture does not rise. On gravel soil he advised the use of three to five acre inches of water applied every 30 days. Best results from irrigation may be had only when followed by proper cultivation.

Grant Phillips, manager of the Venice Cove Ranch, spoke on "Fertilization and Cultural Practices" as carried out by him on his ranch. This orchard was in poor condition when Mr. Phillips took over its management. Many of the trees were producing less than a box of fruit. By spraying twice each year he raised the quality of the fruit from 60 to 90 per cent fancy and by making heavy applications of manure followed with nitrogenous fertilizers he increased his crop from 8214 boxes in 1918, or an average of 1.9 boxes per tree, to 17,435 boxes in 1921 or an average of four and two-thirds boxes per tree. He recommended the application of manure in deep furrows so that it would become available much more quickly, also result in less loss from drying out as is the case when spread on the surface.

The afternoon meeting closed with a talk on "Cover Crops" by W. R. Schoonover, extension specialist in citriculture. He emphasized the necessity of supplying organic matter and stated that cover crops gave the only means of supplying the proper kind and amount. He advised growing cover crops when trees are first set. Have the soil well enriched when the trees come into bearing. He advised the growing of two cover crops per year where the water supply is sufficient. Due to the fact that as the soil fertility decreases the water requirements increase, he thought that no more water would be required to properly irrigate an orchard and cover crop, where the soil had been kept well supplied with organic matter, than if the soil had been allowed to become impoverished from a lack of organic matter. He cautioned growers against the practice of allowing wild oats or other cereals to grow as they not only seriously injure the trees while growing but do not supply the proper kind of organic matter for citrus tree suport. Cereal straw retards instead of aids the work of the soil bacteria. Nitrogenous cover crops increase the activity of this bacteria. Winter cover crops should be turned under not later than March 15 in order to get best results. If left later than this they deprive the trees of necessary plant food and also become less valuable for turning under.

The evening session was turned over to Dr. H. J. Webber who spoke at some length on the influence of stock on growth of trees. He explained the experiments being carried on by the experiment station and illustrated his talk by showing stereopticon views of both seedling and budded trees, all grown under ideal conditions, but clearly showing the difference between good and poor root systems. He stated that they were now making investigations and carrying out experiments with a view to finding citrus root stocks that are not only resistant to root diseases but that will impart additional vigor to the bud and thus produce trees more uniform and vigorous than on sour orange root. He urged those intending to plant new groves to buy nothing but the best and most vigorous trees obtainable.

At the conclusion of the meeting the chairman asked for an expression from those present as to whether they wished these institutes made an annual event and it seemed to be the unanimous verdict that such was the wish.

Everyone went away feeling that he had spent a profitable day and those with whom I talked were loud in their praise of the work being done at the experiment station and by the field men of the department in their efforts to assist the citrus growers in combating pests and diseases and other difficulties confronting citrus culture.

## PLACER COUNTY FRUIT GROWERS

Even better than the convention of a year ago will be the second annual fruit growers convention, which has been set for October 4 and 5 at Auburn. The program is nearing completion. There will be two sessions a day.

Problems which were discussed in convention last fall have been worked out during the past year and will be reported on. These problems are peach twig borer, long pruning, cost of production of a box of fruit in Placer County and others.

Other topics: Soil Management, Irrigation, Cover Crops, Plant Food, Pollination of Plums, Observation on Eastern Markets, Training of the Young Pear Tree, Tree Troubles in Placer County, report of committees appointed at the last convention, Crop Reports, fruit exhibit for state fairs.

## VALLEY WINS IN POWER FIGHT

After more than a year of contention an agreement has been reached between Los Angeles and commercial organizations of the San Joaquin Valley whereby applications for power sites on the Kings River will be held in abeyance for an indefinite period. Two years ago Los Angeles filed on a number of sites on Kings and Kern Rivers to develop power for the city

of Los Angeles. Applications were resisted on the ground that a prior use could be made by the irrigation interests of the San Joaquin Valley. Following two hearings before a joint commission of the federal power commission of the state water board, representatives of the city of Los Angeles agreed to have their applications go over to an indefinite date with the understanding that if they interfered with the irrigation plans of the valley the same would be withdrawn.

### CONTROL OF NEMATODES

Prof. J. R. Watson of the Florida experiment station announces that he has found a means of controlling nematodes.

His remedy is a simple one: Grow the land to bunch velvet beans during summer, keeping the soil constantly stirred; you will thus eliminate the worms and improve your land at the same time.

There are at least three fundamental principles involved in the control of the nematode, according to Professor Watson. First, the worm hatches from eggs. To hatch these eggs requires warmth, air and moisture. Fail to provide any one of these three things and there will be no hatching, although the eggs will continue to live. Second, the worms do not live upon the roots of all plants. The velvet bean is one of the plants that is immune to the nematode. Third, soil kept exposed to the hot sun is "burned-up" or depleted of its soil life.

These principles give rise to the following directions for what seems a most practical and economical method of controlling the nematode:

Upon infested land grow crops that are immune to the nematode. Bunch velvet beans are preferred for this.

Keep that soil constantly stirred. This permits air to reach the eggs and the worms. The eggs hatch out and, denied the food they demand, the worms starve.

### HARVESTING SORGHUMS

Four methods of harvesting Yolo will be demonstrated at the University Farm, on Saturday, September 30, at 10:00 a. m.

The principal handicap in the production of grain sorghums and kafirs has been the expense of harvesting by hand methods. This was formerly necessary in California where the crop grew in such an irregular manner that machines could not be satisfactorily used to harvest the crop.

Yolo, an improved type of Egyptian corn, is the result of a six year experiment in the development of a crop which will grow to uniform height with erect heads. It can be very easily and efficiently harvested with a number of machines. Among the machines to be used at the demonstration at the university farm are one row headers built by John Deere Plow Company, Ventura Manufacturing and Implement Company and the Reschke Machine Works. McCormick push headers will also be used in this demonstration and perhaps a combined harvester.

About 40,000 acres of Yolo have been planted in various parts of California this year. Reports to date indicate that it is yielding well and can be easily harvested by machinery.

Data may be obtained at the university farm demonstration on the power required to operate the various machines, together with some estimates on comparative costs.

### PRUNES DYING—GUMMING

More information is required by prune growers. Trees are dying. Why? C. B. Francis of Gridley writes: "I have lost about 40 prune trees from this disease and others are dying. Early this spring I noticed the trees breaking out with this gum. I then called over our farm advisor and we made an examination and found they were dying just above the graft, working up and around the tree. First one limb would die then another until the tree was all gone. He said it might be caused from the weather but I think that had nothing to do with it. There are hundreds of prunes dying in the same way all over this country, and no one has found the reason or how to stop them."

In addition to Dr. Snowden's reference to "Gumming of Deciduous Trees," comment was given in the Cultivator on pages 261 and 263.

### CROP DEPENDS ON IRRIGATION METHODS

The method of applying water may be the deciding factor between the success and failure in 90 per cent. of the California citrus orchards, according to recent investigations carried on by the University of California. A detailed report of this investigation can be found in Bulletin 341.

"The results indicate that irrigation furrows, which exceed 250 or 300 feet, are undesirable. Furrows of greater length tend to make the soil at the upper end too wet and the soil becomes "water-logged," thereby causing irregular growth in the orchard and smaller average crops. A portion of the soluble plant food will be leached and carried below the reach of the roots."

The great difference in the physical condition and the moisture content of soils makes it advisable to use great care in the cultivation. Soils should not be stirred while wet, but should be allowed to remain undisturbed until sufficiently dry to permit thorough and deep cultivation.

### BOOSTING OLIVES

The California Olive Association proposes starting an advertising campaign among the retail grocers of the United States, also a series of educational exhibits and free demonstrations of ripe olives in some of the large eastern cities for the purpose of acquainting the consuming public with the ripe olive.

The Cultivator heartily commends any and all legitimate efforts put forth to again place the California ripe olive in its proper place as a delicious and nutritious food. Now that it has been definitely determined that there is absolutely no danger of botulism poisoning when ripe olives are properly put up, let us all put our shoulder to the wheel and keep boosting until the consuming public is made acquainted with the fact that there is less danger from eating canned olives than from almost any other canned product and that California ripe olives are a healthful and appetizing food for both old and young.

And while this educational campaign is going on the growers and packers must do their part to see that nothing but the best is put up and that when a purchaser buys a can of California ripe olives he knows that he is getting something that he can depend upon as being all that it is represented to be.

By adhering strictly to this standard the olive industry will again come into its own and the demand for California ripe olives will steadily increase until the demand will exceed the supply.

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Fresno shippers estimated that the recent slump in eastern prices cost California grape shippers at least $700,000.

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Humid weather during the first week in September caused a heavy drop of cotton bolls.

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"Every forest fire affects every citizen," says District Forester Redington. "The tourist travel into the mountains of California during the past summer totaled in round figures a million and a half. Tourists will not seek the mountains if they are to be greeted with charred tree trunks.

"Thousands of cattle are annually pastured within the national forests, and if their feed is destroyed the cost of producing meat advances.

"Lumbering is annually becoming a more important industry in California, but if fires destroy or damage the trees unemployment will ultimately follow in the wake of this destruction.

"California depends largely on irrigation for its great crops. Streams originate in the forests which serve to hold back water to run off gradually during the summer. If the forests are burned the water makes a rapid run-off, causing erosion of our mountains and a lack of water when it is most needed."

---

More than 50 vegetable growers and shippers of Southern California met at Oxnard last week to discuss vegetable crops for districts other than Imperial and Coachella Valleys. Charles Donlon gave them a barbecue feast.


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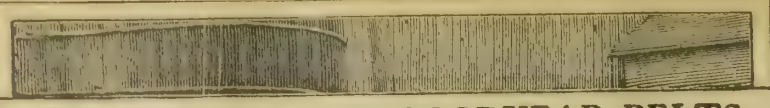

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*The most satisfactory* belt he has ever used, says Harold H. Holtzman, of Wheaton, Illinois, is the Goodyear Klingtite Belt. First he threshed with it, then used it in silo-filling, corn-shelling, hay-pressing, feed-grinding and wood-cutting.

*"It is a powerful belt,"* Mr. Holtzman reports, "delivering steadily and sturdily the full power required for the cutting and for forcing the ensilage up the stackpipe. It holds the pulleys in a slipless grip, yet runs freely, so that there is never any worry about overheating the engine bearings. It performs the same in any weather." Goodyear Klingtite Belts need no breaking in. Their special construction so distributes the load that ply separation is unknown to them. They outwear ordinary belts, and earn their reputation as the best help on the farm.

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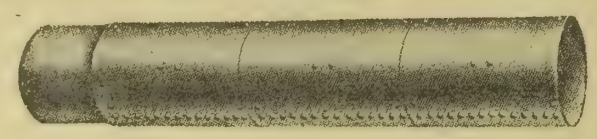

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# New Canning Peach

The Southern California Canners Bureau is recommending a liberal tryout of a new peach said to possess exceptional canning qualities. Prof. G. P. Weldon and Frank A. Dixon, who is director of experimental horticulture for the Canners League of California, S. W. Cunningham, secretary of the bureau, and others recently made a critical examination of fresh and canned samples of principal varieties. Regarding this examination Secretary Cunningham writes:

"A comparative cutting of these peaches showed in both the fresh cutting and canned samples that the Paloro peach is head and shoulders above any other for canning purposes. It seems to have every desirable quality from the canner's point of view. All the information that we have regarding this peach is to the effect that it makes a strong, sturdy tree and is vigorous under various conditions. The plantings that have been made in the North, and which are coming into bearing, have consistently produced good crops, and when properly cared for and thinned as high as 90 per cent of the fruit has gone into the choice and fancy grades of canned fruit. These are the desirable grades for both growers' and canners' best interests.

"Other peaches examined at this meeting, which seemed to be very promising, were the Peak and Simms. These are desirable from a canner's point of view not only because they appear to be quite good producers, but because they ripen at a period when there are no other canning clingstone peaches now available and it is the earnest desire of the canners not only in Southern California, but in the state as a whole, to secure the planting of good canning varieties of yellow clingstone peaches that will ripen between the present Tuscans and Phillips. The Peak appears to be better than the Simms both as to tonnage production and canning qualities.

"In addition to the varieties mentioned above we have several other new and apparently promising seedling peaches under observation but which have not progressed far enough yet to warrant drawing any conclusions as to their usefulness.

"It is our intention as an organization to urge upon growers who are putting in new plantings that they give serious consideration to varieties ripening in the above mentioned period, in order that canners may eventually get away from the necessity of using, between the Tuscan and Phillips, freestone peaches which are not so desirable for canning and do not find as ready a market in cans as do the yellow clingstones.

"We call this matter to your attention at this time because we know that nursery stock is now being budded and it may be that as a result of this organization, representing most of the canners of Southern California, urging the planting of mid-summer varieties of clingstones, there will be more demand for such trees than there has been in the past."

# Cover Crop Fertilization

The United States department of agriculture announces the publication of a new bulletin on "green manuring" by C. V. Piper and A. J. Pieters. Farmers interested in this method of soil fertilization should not fail to send for a copy. The bulletin contains more than 40 pages of valuable information on the different plants found useful for this purpose and the ways of handling them; also tables of results that show their value in increasing returns. A copy may be obtained free by addressing the department of agriculture, Washington, D. C. Ask for "Farmers Bulletin 1250."

These crops that are grown primarily as roughage for feeding the soil produce both chemical and physical effects that are of benefit to plants that succeed them. When a green manure crop is turned under, the various fertilizing elements that have gone into the making of the crop are returned to the soil, and a quantity of organic matter not before in the soil is added, and, in addition to improving the physical condition, serves as food for beneficent bacteria. One of the most important functions of organic matter in the soil is to keep up the nitrogen supply. The bulletin gives three ways in which this is done: Growth of nodule bacteria on roots of leguminous plants; the making of nitrates by soil bacteria from organic nitrogen in the soil, and growth of bacteria and molds that feed on plant waste in the soil and take nitrogen directly from the air. These processes may be stimulated by adopting the proper practices and suitable crops.

Legumes are of course the most satisfactory cover crops under most conditions, and all legumes do not have the same strain of nodule bacteria. For instance, that of clover is different from that of alfalfa, and that of the cowpea is distinct from that of the soy bean. These selective associations of plants and bacteria make inoculation of the soil necessary where the crop has not been previously grown either by scattering soil from a field where the crop to be sown has been grown recently or by using an artificial culture. A strain of bacteria will often inoculate different closely related legumes. Alfalfa, burclover, and sweet clover nodules are produced by the same strain; a different strain inoculates most of the vetches, as well as the field and garden peas; still another strain is apparently used in common by red, white, alsike and crimson clovers.

The question often arises, whether a crop should be turned under for green manure, fed on the farm, or sold as hay. The authors sum up the argument as follows: Where a forage crop can be grazed or advantageously fed and the manure returned to the land, this will be found most profitable. Where insufficient livestock is kept or where the soil is poor and in need or organic matter, a green crop may often be worth more if turned under. It is known that the turning under of a green manure crop may affect the yield of subsequent crops even to the third year, and this fact should have weight when the question of selling a legume hay crop or turning it under is considered.

## TUOLUMNE COUNTY APPLE GROWERS

The apple growers of Tuolumne County are now fully organized in the Tuolumne County Apple Growers Association. Already there is 50 per cent of the apples produced in the county represented in the membership. The apples were packed in six different packing houses. One of the affiliating associations is known as the Bret Harte Apple Packers Association. This is located near Ralph's Station.

Horticultural Commissioner H. H. Sherrard writes: "In addition to following the California apple standardization act the association will adopt some regulations of the Northwest pack and make it plus. Approximately 75 per cent of the California apples is produced in the Watsonville district at a low altitude and are principally Bellflower and Newtown and 15 per cent of the apples is produced in Sebastopol and are practically all Gravensteins, leaving 10 per cent produced in the remaining sections of the state, which are mostly the foothill sections and are practically identical with Northwest conditions. The Tuolumne County growers feel that their chief competitors are the Northwest apple producers in the states of Washington and Oregon, hence, the adoption of high standard packing regulations. Very careful inspection is going to be made of the Tuolumne County apples in order that buyers and consumers will be assured of high quality apples, which are generally recognized to be produced in the foothills.

Some good offers have already been made for the Tuolumne apples and

many more buyers have stated that they will bid for them. The Macomber Cider and Vinegar plant at Sonora has planned to use all the cull apples.

### AMERICAN POMOLOGICAL

The 39th convention of the American Pomological Society will be held at Council Bluffs, Iowa, November 15-17. Following is tentative program:

. Addresses by Dr. L. H. Bailey; Secretary of Agriculture Wallace; J. R. Howard, president American Farm Bureau Federation; Paul C. Stark, Missouri; E. S. Briggs, American Fruit and Vegetable Shippers Association, Illinois. Fruit Stock Investigation, L. B. Scott, Washington, D. C. Fundamentals of Pruning, Dr. E. J. Kraus, Wisconsin. Correlation of Orchard Practices with Growth and Production, Dr. R. H. Roberts, Wisconsin. Blight Resistance in Pears, H. P. Stuckey, Georgia. Apple Breeding for the Mississippi Valley, Prof. S. A. Beach, Iowa; Dr. C. S. Crandall, Illinois. Sour Cherry Industry, M. B. Goff, Wisconsin, Prof. R. E. Marshall, Michigan. Plum Industry, East, Dr. U. P. Hedrick, New York. Middle West, B. W. Douglas, Indiana. Northern Prairie Region, Prof. N. E. Hansen, South Dakota. The Pacific Coast, A. N. Hendrickson, California. Use of Spreaders, Dr. W. A. Ruth, Illinois. Dusting and Spraying as Complementary Practices, Prof. W. S. Brock, Illinois. Drift and Development of Spraying Practices in America, Prof. Leroy Childs, Oregon. Home Storage of Fruits, E. C. Cotton, Ohio. The Proper Handling of Fruit in Storage, J. R. Magness, Pennsylvania. Survey of Fruit Conditions, Pacific Northwest, M. L. Dean; Middle West, Prof. Laurenz Greene, Indiana; Annapolis Valley, Canada. W. S. Blair, Nova Scotia. Horticultural Trip Through the Land of Evangeline, Prof. J. C. Blair, Illinois. Advertising as a Factor in the Development of American Horticulture, C. I. Lewis, Illinois. Apple Industry of the Country, H. P. Gould, Washington. European Pomology, Dr. U. P. Hedrick, New York; Dr. W. L. Howard, California. Reports of Committees of Nomenclature, Wilder Medals, Fruit Shows, Slogans, New Fruits, Foreign Fruits, etc.

### POTASH PROTECTS FROM FROST

A recent article on "Pineapple Problems in Florida," contained the following: "Up till 1915 the industry brought in about one million dollars annually to St. Lucie County, but after that time many of the fields have become unprofitable owing to lack of potash fertilizer, an essential element in the cultivation of pineapples which invariably renders them more resistant to cold. By applying ammoniates without potash, the plant appeared to become tender and very susceptible to injury from frost. The grower was reduced to the use of blood and bone tankage, etc., owing to the exorbitant price of potash, and the severe frosts of 1917 led the grower to despair of success."

If potash renders pineapples resistant to frost injury to such a marked degree, what measure of protection will it afford citrus, walnut and other trees? Dr. Van Slyke, chemist of the New York agricultural experiment station, states in his book "Fertilizers and Crops," that "in general, crops which do not receive their full supply of potassium are more liable to disease, and in this condition the resisting power is weakened still more if the plant receives large amounts of available nitrogen." If resistance is weakened by lack of potash and excess of nitrogen, what of the reverse supply, little nitrogen and much potash? Will the "resisting power" be thereby greatly strengthened? It has always been claimed that potash aids maturity of seeds, fruits and woods. If nitrogenous fertilizers are applied early in the summer and potash later, when the nitrogen is exhausted, will all plants thereby become more resistant to frost, as is undoubtedly the case with pineapples?

The owner of a new cherry orchard at Yakima, Washington, has contracted with Libby, McNeill and Libby for the entire crop for 15 years at $120 a ton.


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# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Form of Lease

Please send blank form of lease for farm on which livestock is one of principal products.—Subscriber, San Francisco.

The Cultivator is not equipped to print and does not handle blank forms of any kind. The most complete fund of information we know of as to leases or contracts is to be had in "The Farm Lease Contract" by L. C. Gray and Howard A. Turner, which may be had by writing Division of Publications, Department of Agriculture, Washington, D. C. The subject is perhaps even more fully discussed in "Farm Management," a text book for student, investigator, and investor by Prof. R. L. Adams, University of California. This book is published by McGraw-Hill Book Company, Inc., 370 Seventh Avenue, New York. Presume this book may be had in all California libraries or purchased of all book dealers.

### Nitrate of Soda for Nematodes

Some time ago I read an article written by Mr. Snowden on nematode extermination by applying nitrate of soda. I have an acre spot on my ranch infested with nematodes that I would like to clean up if possible. This is in a five year old nut grove in a corner where a sand streak runs through. If deep, clean cultivation and allowing one foot of surface soil to thoroughly dry out will help to kill the infestation I could do that in conncetion with any treatment you might suggest.—Subscriber, Covina.

We have from Dr. Snowden the following answer:

"I do not know as yet that nitrate of soda will eradicate nematodes as it is still in the experimental stage. However, since nitrate has in every instance made a very marked increase in the yield, I advise the inquirer to apply nitrate over the entire ground at the rate of 400 pounds to the acre. We do not know as yet whether fall or spring applications would be most effective. All our tests have been made in the early spring."

In addition to the above we may add:

We are just in receipt of Circular No. 77 sent out by the Georgia experiment station covering investigations being carried on for the control of root-knot nematode.

The result of these investigations and experiments seem to prove that soil treatment is not practical on account of the expense involved and further that it is necessary to use such strong chemicals to destroy the nematodes, that it prevents plant growth until the effect of the chemical has passed from the soil.

Steam sterilization is an effective means of eradication but the cost is prohibitive.

The starvation process means keeping the soil free from all susceptible host plants for a number of years.

A modification of the starvation method is recommended. This is the growing of non-host plants on the infested area and keeping the soil free from all other vegetation. Onions, peanuts, all varieties of climbing and bunch velvet beans and some varieties of cowpeas and soy beans have been found to be the most resistant to the nematode, also the cereals and grasses have shown no serious infestation.

Tests made with the different varieties of fruit trees give promise of finding certain root stocks that the nematode does not attack. Pits from an old seedling peach tree in Florida were planted in infested soil and proved to be entirely resistant after three years experiments.

The Marianna plum stock also proved to be resistant.

We hope that the continuation of these experiments will develop further resistant root stocks so that fruit growers in the United States will be spared the very heavy loss to which they are subject due to the work of this minute pest.

### Spotted Livers—Enlarged Livers

What would cause the livers of rabbits to be covered with white spots and in some cases be two or three times their natural size? Otherwise they seem to be healthy. Are fed mostly rolled barley and alfalfa hay with a little green feed when available, also plenty of fresh water. Pens are kept clean.—Subscriber, Tustin.

This trouble is caused by a parasite attaching itself to the liver. Would advise that stock so affected be not used for breeding. The feeding of carrots or dandelions is good in preventing the trouble. The stock can be eaten but spoils the sale to most people as they do not understand it and are afraid to eat it.—W. D. W.

### Ear Canker

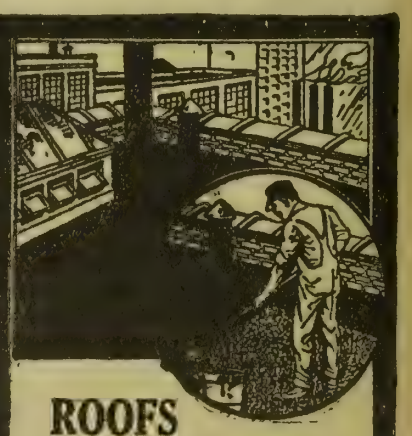
I have been bothered some this summer with sore ears in rabbits. Would appreciate a remedy.—Subscriber, Chico.

Take a small empty vaseline jar, fill with olive oil and add 1 teaspoon flowers of sulphur. Put a few drops in affected ear. Two applications generally are sufficient. Shake jar well before using.—W. D. W.

### Hutches—Care of Mother Rabbits

Please let me know the proper way to make hutches for mother rabbits, also the proper care of them. Have some mother rabbits that have had ten and more baby rabbits and seem not to care for them, and before a week they nearly all die.—Subscriber, Watsonville.

Hutches may be made in single tier or double tier with slat or solid floors. Each has its advocate, but generally speaking a hutch should not be deeper than a man's arm so stock can be easily secured when one desires to handle. This is about 24 inches deep, 3 to 4 feet long and 18 to 24 inches high, has double roof or is put under shade so hot sun can not heat roof.

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### Eradicating Johnson Grass

Kindly let me know the best way to eradicate Johnson grass from land that is badly infested.—Subscriber, Glendale.

The most effective way of eradicating Johnson grass is to practice clean culture, either by keeping the ground clean of all vegetation or growing such crops as require considerable cultivation. If the land is badly infested it would be best to keep it clean and well cultivated one or two seasons. Cultivate often enough so that none of the grass ever gets more than two or three inches above the ground. This can best be done by plowing in the spring and as soon as the ground is well pulverized, go over it with a cultivator equipped with weed knives every two or three weeks or as often as the grass begins to show above the surface. If your land is such that it can be plowed when dry, good results will follow summer plowing provided rains or irrigation water do not interfere to prevent the drying out process. Continued pasturing with sheep or cattle will kill it out in time but the land must be overstocked so that the grass will be kept eaten down as close as possible. There are numerous chemicals that can be employed to eradicate Johnson grass, but most of them are either too expensive or too severe on the soil. In the Cultivator of June 4, 1921, page 738, a chemical eradicator for home manufacture is offered. There are also some of these being manufactured and offered for sale that are said to be effective.

## Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Loco Poisoning

I have four cows affected by eating cascara or coffee berries. They first begin to step a little high in the hind legs or act a little stiff then as they begin to get more berries they begin to stagger and get weak in the back. They usually run from three to six weeks before entirely losing the use of their hind legs. They seem to give way in the kidneys. I have tried epsom salts which was prescribed by a veterinarian but lost the cow. These have been affected about three weeks. What can I do for them?—Subscriber, Santa Ysabel.

The symptoms you describe are those caused from eating loco weed. Presume they have been getting them also. First they must be kept where they can not get the weeds because, it is said, that once the habit of eating them is acquired they seem to like them and will hunt them. Feed liberally on nourishing feed. Fresh cut alfalfa is about the best.

To cure the staggering gait we advise giving these powders. Four ounces of powdered gentian, two ounces of powdered nux vomica and enough corn meal to make a pound. Mix and divide into 32 powders and give each cow one powder morning and evening.

If the bowels are constipated give each cow a pint of raw linseed oil once a day or that amount of melted lard.

One of the principal things to do is to keep the bowels free. If you will write to the Agricultural Experiment Station, Berkeley, California, and ask for Bulletin No. 249 on "Stock Poisoning Plants" they will probably send you a copy which may be of help to you.

### Pigs Scouring

What makes small pigs scour when three days or a week old? The sows are not over fat and I do not feed them until 48 hours after farrowing. I generally feed ground barley and alfalfa meal lightly at first. How can I prevent it and how can I cure it if it should get started?—Subscriber, Live Oak.

It may be due to something the sows are eating or to a germ that is on the teats. I you could wash the udders with a good antiseptic just before the pigs come it might prevent the trouble. After the pigs come wash the udders once a day with a solution of permanganate of potash, using a teaspoon in a quart of water.

### Dropsy and Caked Udder

I have a cow that came fresh just a few days ago. The next day I noticed a swelling under the belly between the navel and the udder. The swelling kept getting larger until it extended to the front legs. The calf had the scours the second day but seems all right now. I have been feeding the cow dry alfalfa and a few water melon rinds for the past few months and she has been in the corral half the time. The udder is and has been caked since calving. What caused the caked bag and the swelling and what is the remedy?—Subscriber, El Monte.

The trouble seems to be a case of influenza coming at the time of calving. The influenza is past now but has left a quantity of refuse in the system that must be eliminated. Get one ounce of aloin, half an ounce of powdered nux vomica, four ounces of turpentine and enough raw linseed oil to make one quart. Mix all thoroughly and divide into two doses. Give the two doses 24 hours apart and the next day give a dose of salts. Take one pound of epsom salts and half a pound of common salt and dissolve in two quarts of hot water, when cool give it all at one dose. Feed her laxative food. Green alfalfa or corn fodder if you can get it. Rub the udder with the hands and milk it out clean at every milking.


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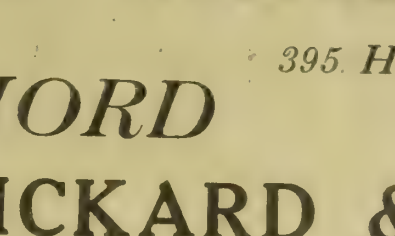

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# A Chocolate Sauce that covers everything

Here is a little kitchen idea that many housewives are discovering for themselves: Instead of stopping in the middle of meal-making to prepare some chocolate sauce, why not have a jar or two [home-made] within arm's reach on the pantry shelf? The recipe at the right will take only ten minutes to make. And—you'll have a supply of chocolate sauce that will save you *hours!*

You know how a generous "spilling" of chocolate sauce will glorify a commonplace cup custard. And even a simple cornstarch pudding [or some cooked rice] topped off with this delicious sauce makes a fine, healthful dessert.

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# Household Department

### THE CHRONIC BORROWER

There are some people who borrow
Your coffee and sugar and rice;
In winter they borrow your fuel,
In summer they borrow your ice.
They borrow your bread and butter,
Your tinware and tools by the pack;
They borrow, borrow and borrow,
But never bring anything back.

There are some people who borrow;
They wear out your patience and smiles,
And often to ask for a favor
They travel a great many miles.
They ask your advice and ideas,
Till often your brain you must rack;
They borrow, borrow and borrow,
But never bring anything back.

There are some people who borrow
From brothers, from beast and from soil;
They count not the value of favors
Tho' lavished with tears and with toil.
They garner from friends and strangers
But justice and gratitude lack;
They borrow, borrow and borrow,
But never bring anything back.—Zula Lloyd-Leach.

### WHERE EVERYONE HAS A STAR

FARMING and agriculture have been carried on so long in Jugo-Slavia, the newly formed kingdom of the Serbs, Croats, and Slovenes, that what is practically a farming religion has developed, fostered by the people themselves and by their innate love of beauty.

Nearly 90 per cent of the inhabitants live on farms and most of them own their own farms. Millions of tons of wheat, barley, oats, maize and potatoes are harvested each year. It is the first country in the world in plum raising and the first in Europe in corn production. In 1919 Serbia alone produced 15,000 tons of tobacco and in 1920 the output of sugar was 35,000 tons.

In the whole territory, comprising an area as large as New York, New Jersey and Pennsylvania, there are few large cities and the farms and little villages are scattered far and wide. The people live so close to the soil that they have learned to love it as so many Americans love the city in which they live—intimately and practically. They have invested trees and rocks with personalities of their own. Beautiful maidens called "vile" inhabit the groves and water falls and superintend the planting of the seed and the reaping of the harvest. Occasionally the "vile" are partial to a particular family and then they are fortunate indeed for a "vile" is a far more effectual guard than life insurance. She watches the baby in the cradle and sees that the cows and sheep do not eat the wrong kind of grass or stray beyond the fold.

In addition to the "vile" are the "vale" who live in the clouds and regulate the wind and rain. The "vale" are generally too busy with celestial matters to take much trouble over the affairs of men. Fairies are nearly always on hand at the birth of a baby and if well treated they may grant the baby wishes for a happy future. It is safer to leave a little plate and cup for the fairy just after a baby is born lest she should be hungry and care to taste of mortal fare. When the baby is seven days old the fairy flies away never to return again. No one but the baby himself knows what fate she has left hanging over his cradle and of course he soon forgets.

Death holds no terrors for people who live so close to nature that they observe her wonderful phenomena in the daily activities of the crops and harvests. The Jugo-Slavian peasants believe quite literally that the sky is the floor of heaven and beyond this, once one has passed that bright blue barrier, are seven countries through which the soul must travel before it comes up before God.

On Easter day, so runs the old Slavonic legend, St. Peter is a little drowsy because he has drunk too freely of the Easter wine and he leaves open the gates between this world and the next. Thus anyone who dies on Easter day or any of the seven days afterwards need not linger in any of the seven regions—his soul goes straight through to Paradise.

Indeed the sky, perhaps because it touches the earth so closely in those peaceful Slavic regions, is almost as familiar to the peasant as the earth from which he gains his bread. He knows all the great silver roadways of the stars and has a name for every planet. Most of the stars have legends of their own and at night, in front of little straw thatched huts, the peasant father may be seen sitting peacefully smoking and telling his small son or daughter how God has sown the stars through the heavens so the angels may find their way at night!

Each tiny Jugo-Slavian has a star of his very own which, when he dies, is extinguished like a light. Indeed every one in the world has a star, according to the Slavic belief, that burns until he dies and when you see a falling star it is a soul on its way to paradise. During the great war the villagers tell how the heavens were full of falling stars, particularly on the evening of battle.

### HINTS FROM HOUSEKEEPERS

#### Hygienic Dessert Recipes

I have enjoyed so many of the good recipes on your page, and I have wondered if some of your readers would not be equally glad to have my hygienic dessert recipes. We use these largely in place of pie and cake, believing them as good and more healthful.

Bran and Peach Pudding. Lay on four slices whole wheat or bran bread one cup of dried stewed peaches (figs may be used instead) and pour over this 1½ pints milk, two eggs, ½ cup honey, one tablespoon of hot water, flavoring, and bake. The whites of the eggs may be saved for meringue.

Honey and Apple Custard. Peel and quarter four apples, bake with ½ cup honey, one cup water, a little lemon or orange peel until tender, then pour over them a plain boiled custard.

Honey Health Pudding. Bake 1 cup sterilized bran, 1 cup bread crumbs, 4 cups milk, ½ cup honey, ½ cup raisins (or shredded coconut, two eggs, and flavoring. Whites of eggs may be used for meringue.

Baked Fruits Dessert. Bake together 4 sliced apples, 1 cup raisins, 1 cup prunes, or figs, a little lemon peel, with ½ cup of honey and 2 cups boiling water poured over all.—Mrs. Della Mead, Huntington Park.

#### Another Cow Camp Song

Herewith you will find an old cow camp song composed, I am told, by Cow Boy Reader, address anywhere West of the Mississippi River. I am very much pleased with the songs you have printed.—Walter H. Langburg, Paradise.

### MONTANA

Take me back to old Montana
Where there is plenty room and air,
Where there are cottonwood and briar trees,
Bitter root and prickly pear.
Where there ain't no pomp nor glitter,
And a shilling's called a bit,
Where at night the magpies twitter,
Where the Indian fights were fit.

Take me where there is sage brush plenty,
Where ther's rattlesnakes and ticks,
Where a stack of wheats cost twenty
And they sell gilded bricks.
Take me where there hain't no subways
Nor forty story shacks
Where they shy at antomobiles
High plug hats and three-rail tracks.

And where the old Missouri River
And the muddy Yellowstone
Make green patches through the badlands
Where old Sittin' Bull was known.
Take me where there's diamond hitches,
Rope brands and ca'tridge belts
Where the boys wear chaps for britches,
Flannel shirts and Stetson felts.

Where the old sun tanned prospector
Dreams of wealth and pans his dirt,
Where the night hears sleepy punchers
Singing to steers and plying their quirts.
Take me back to old Montana
The land of copper, alfalfa and gold.
Take me back to old Montana
And let me die there when I'm old.

### HOUSEHOLD QUERIES

#### "Lasca"—" 'Os'ler Joe"

I would like very much to see in the Cultivator the poems "Lasca" and "'Os'ler Joe." Some have said " 'Os'ler Joe" was vulgar but I can't seem to find any vulgarity in it. I think it very pretty and have heard it recited several times in good company. I am a new subscriber and have enjoyed every

issue of your paper.—Subscriber, Glenn County.

"'Os'ler Joe" will be given in a later issue of the Cultivator. We reprint the poem "Lasca" as follows:

### LASCA

**By Frank Desprez**

I want free life, and I want fresh air;
And I sigh for the canter after the cattle,
The crack of the whips like shots in a battle,
The melley of horns and hoofs and heads
That wars and wrangles and scatters and spreads;
The green beneath and the blue above,
And dash and danger, and life and love.
And Lasca!

Lasca used to ride
On a mouse gray mustang close to my side,
With blue serape and bright belled spur;
I laughed with joy as I looked at her!
Little knew she of books or of creeds;
An Ave Maria sufficed her needs;
Little she cared save to be by my side,
To ride with me, and ever to ride,
From San Saba's shore to Lavaca's tide.

She was as wild as the breezes that blow;
From her little head to her little feet,
She was swayed in her suppleness to and fro
By each gust of passion; a sapling pine,
That grows on the edge of a Kansas bluff,
And war with the wind when the weather is rough,
Is like this Lasca, this love of mine.

She would hunger that I might eat,
Would take the bitter and leave me the sweet;
But once when I made her jealous for fun,
At something I'd whispered, or looked, or done,
One Sunday in San Antonio
To a glorious girl on the Alamo,
She drew from her garter a dear little dagger,
And—sting of a wasp!—it made me stagger!
An inch to the left, or an inch to the right,
And I shouldn't be maundering here tonight;
But she sobbed, and sobbing, so swiftly bound
Her torn reboso about the wound,
That I quite forgave her. Scratches don't count
In Texas, down by the Rio Grande.

Her eye was brown,—a deep, deep brown;
Her hair was darker than her eye;
And something in her smile and frown,
Curled crimson lip, and instep high,
Showed that there ran in each blue vein,
Mixed with the milder Aztec strain,
The vigorous vintage of Old Spain.
She was alive in every limb
With feeling to the finger tips;
And when the sun is like a fire,
And sky one shining, soft sapphire
One does not drink in little sips.

The air was heavy, the night was hot,
I sat by her side, and forgot—forgot;
Forgot the herd that were taking their rest,
Forgot that the air was close opprest,
That the Texas norther comes sudden and soon,
In the dead of night or the blaze of noon;
That, once let the herd at its breath take fright,
Nothing on earth can stop the flight;
And woe to the rider and woe to the steed,
Who falls in front of their mad stampede!

Was that thunder? I grasped the cord
Of my swift mustang without a word.
I sprang to the saddle, and she clung behind.
Away! on a hot chase down the wind!
But never was fox hunt half so hard,
And never was steed so little spared.
For we rode for our lives. You shall hear how we fared,
In Texas, down by the Rio Grande.

The mustang flew and we urged him on;
There was one chance left, and you have but one,—
Halt, jump to ground, and shoot your horse,
Crouch under his carcass, and take your chance;
And if the steers in their frantic course
Don't batter you both to pieces at once,
You may thank your star; if not, goodby
To the quickening kiss and the long drawn sigh,
And the open air and the open sky,
In Texas, down by the Rio Grande.

The cattle gained on us, and, just as I felt
For my old six-shooter behind in my belt,
Down came the mustang, and down came we.
Clinging together, and—what was the rest?
A body that spread itself on my breast,
Two arms that shielded my dizzy head,
Two lips that hard on my lips were prest;
Then came thunder in my ears,
As over us surged the sea of steers,
Blows that beat blood into my eyes,
And when I could rise—
Lasca was dead!

I gouged out a grave a few feet deep,
And there in Earth's arms I laid her to sleep;
And there she is lying, and no one knows;
And the summer shines, and the winter snows;
For many a day the flowers have spread
A pall of petals over her head;
And the little gray hawk hangs aloft in the air,
And the sly coyote trots here and there,
And the black snake glides and glitters and slides
Into a rift in a cottonwood tree;
And the buzzard sails on,
And comes and is gone,
Stately and still like a ship at sea.
And I wonder why I do not care
For the things that are, like the things that were.
Does half my heart lie buried there,
In Texas, down by the Rio Grande?

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### "Curfew Must Not Ring Tonight"

Could you please publish the poem, "Curfew Must Not Ring Tonight," by Rose H. Thorpe?—Subscriber, Oroville.

### CURFEW MUST NOT RING TONIGHT

**By Rose H. Thorpe**

Slowly England's sun was setting o'er the hill-tops far away,
Filling all the land with beauty at the close of one sad day.
And the last rays kissed the forehead of a man and maiden fair,
He with footsteps slow and weary, she with sunny, floating hair;
He with bowed head, sad and thoughtful, she with lips all cold and white,
Struggling to keep back the murmur—"Curfew must not ring tonight."

"Sexton," Bessie's white lips faltered, pointing to the prison old,
With its turrets tall and gloomy, with its walls dark, damp, and cold,
"I've a lover in that prison, doomed this very night to die,
At the ringing of the curfew, and no earthly help is nigh;
Cromwell will not come till sunset," and her lips grew strangely white
As she breathed the husky whisper: "Curfew must not ring tonight."

"Bessie," calmly spoke the sexton, every word pierced her young heart
Like the piercing of an arrow, like a deadly, poisoned dart,
"Long, long years I've rung the curfew from that gloomy shadowed tower;
Every evening, just at sunset, it has told the twilight hour;
I have done my duty ever, tried to do it just and right,
Now I'm old I still must do it—Curfew must be rung tonight."

Wild her eyes and pale her features, stern and white her thoughtful brow,
And within her secret bosom Bessie made a solemn vow.
She had listened while the judges read without a tear or sigh,
"At the ringing of the curfew, Basil Underwood must die."
And her breath came fast and faster, and her eyes grew large and bright—
In an undertone she murmured—"Curfew must not ring tonight."

She with quick steps bounded forward, sprung within the old church door,
Left the old man threading slowly paths so oft he'd trod before;
Not one moment paused the maiden, but with eye and cheek aglow,
Mounted up the gloomy tower, where the bell swung to and fro;
And she climbed the dusty ladder on which fell no ray of light,
Up and up—her white lips saying,—"Curfew must not ring tonight."

She has reached the topmost ladder,, o'er her hangs the great, dark bell;
Awful is the gloom beneath her, like a pathway down to hell.
Lo, the ponderous tongue is swinging, 'tis the hour of curfew now,
And the sight has chilled her bosom, stopped her breath, and paled her brow.
Shall she let it ring? No, never! Flash her eyes with sudden light,
And she springs and grasps it firmly,—"Curfew shall not ring tonight."

Out she swung, far out, the city seemed a speck of light below,
'Twixt heaven and earth her form suspended, as the bell swung to and fro,—
And the sexton at the bell-rope, old and deaf, heard not the bell,
But he thought it still was ringing fair young Basil's funeral knell.
Still the maiden clung most firmly, and with trembling lips and white,
Said, to hush her heart's wild beating,—Curfew shall not ring tonight."

It was o'er, the bell ceased swaying, and the maiden stepped once more
Firmly on the dark old ladder, where for hundred years before
Human foot had not been planted. The brave deed that she had done
Should be told long ages after, as the rays of setting sun
Should illume the sky with beauty; aged sires with heads of white,
Long should tell the little children, Curfew did not ring that night.

O'er the distant hills came Cromwell; Bessie sees him, and her brow,
Full of hope and full of gladness, has no anxious traces now.
At his feet she tells her story, shows her hands all bruised and torn;
And her face so sweet and pleading, yet with sorrow pale and worn,
Touched his heart with sudden pity, lit his eye with misty light;
"Go, your lover lives," said Cromwell; "Curfew shall not ring tonight!"

Wide they flung the massive portal; led the prisoner forth to die,
All his bright young life before him. 'Neath the darkening English sky
Bessie comes with flying footsteps, eyes aglow with love-light sweet;
Kneeling on the turf beside him, lays his pardon at his feet.
In his brave, strong arms he clasped her, kissed the face upturned and white,
Whispered, "Darling, you have saved me,—Curfew will not ring tonight."

---

An old French proverb calls spinach "the broom of the stomach."

## Protect Your Precious Teeth

In stormy weather your family is protected by rubber clothes and boots to prevent colds and other diseases.

In good weather or bad, the enamel of your teeth (the protective outer covering) needs to be cared for against the constant attack of decay. Mothers and school teachers should see that the teeth are brushed at least twice a day with a safe dental cream, to remove food particles in which the harmful decay germs breed.

The U. S. Public Health Service says that a dental cream should not contain grit. Harsh grit in a dentifrice may damage the precious protective enamel. You can be sure of a *safe* and sensible, non-gritty, drugless dental cream, suitable for *all* the family, when you buy Colgate's Ribbon Dental Cream.

## COLGATE'S

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Doesn't Scratch or Scour

Colgate's contains a specially prepared fine chalk. It has no harsh grit, no strong drugs or chemicals. The refreshing, delicious flavor makes tooth brushing a pleasure.

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Please send me *samples* of the following articles. I enclose amount of stamps shown for each one checked.

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### FEED THE BEST STOCK ON THE FARM

What Kipling said of an army is almost as true of the folks behind the lines. Kipling said that an army travels on its stomach. We know now that, in peace or in war, in ranks or out, the "shortest way to a man's heart" is also the shortest way to public vigor, morale and efficiency.

The war proved, and it still is proving, that eating is not as simple a matter as we had thought. It proved that a people may get "enough to eat," as to bulk, and yet if there be lacking dairy products, green vegetables, and fruits, malnutrition will rack the vitality of the whole population. Worse, it will stunt the growth and twist the bodies of the children.

When this thing happens—as we know even now that it is happening in Russia and in the Balkans—the pity of it stirs us to send overseas whole armadas bearing gifts. We send what we know these foreign peoples lack—dairy and vegetable foods. That is the great need over there.

And that to a less degree, of course, but crucially enough in many cases, is the need over here. Not that we lack milk, vegetable foods, and fruits; we have all these foods in abundance. Only, we do not know how to use them.

This is as true in the country as it is in the city. Probably it is more true in the country. A garden is a lot of trouble in summer, and to put up fresh vegetables for winter is a thing too often crowded out by the business of feeding the hands and the husband, of keeping the house, the children, and the chickens in order.

Again, and particularly on dairy farms, the milk so often goes to make up an even five gallons or 50 gallons for shipment, rather than to make up a more evenly balanced ration for the most important livestock on the place—the family.

That is one reason why in rural schools all over the nation, as in city schools, at least a third of the youngsters are not as big and strong as they ought to be for their age, and why so simple a thing as a warm milk or vegetable and milk dish at noon almost invariably brings them up to normal weight in double-quick time. Milk and vegetables meet the dietetic lack of these youngsters just as truly as do the milk and vegetables on our gift ships meet the need of those children overseas.

"If cows, why not folks?" thought women of Milan Township, Erie County, who attended with their husbands the dairy feeding school last year, and heard what balanced rations will do for the hero.

They said they wanted to do some work on balanced rations in the home. Charline McClure, the county home demonstration agent, asked for the aid of Lelia Ogle, nutrition specialist, and the two of them drew up with 15 farm bureau women of the township a food study demonstration.

All except four of the 15 women came to the five meetings where each time a different aspect of family dietetics was threshed out. All agreed to try the system on their families for the period between February and April, when the first and last meetings were held and each arranged to pass the work on to at least one neighbor, lesson by lesson.

Now they have reported their results. Twelve of the 15 families have increased the use of milk, the average increase being above a gallon and a half a week, and this at a time of year when milk was scarce. Ten families increased the use of cooked cereals such as oatmeal; nine fried potatoes less often; all increased the use of vegetables other than potatoes; all increased the use of fruits; eight used less meat; and nine fried eggs fewer times.

All reduced the use of tea and coffee, and three families cut it out altogether. Eight cut down on their pie ration, and seven more are not serving pie at all.—Extension Service News.

### HEALTH FOR CHILDREN

By A. M. H.

The mother who is watchful for her child's best development never allows it to form the ugly habit of thumb sucking, and if the habit is taken in time, while it is still only a tendency, it can easily be corrected by the use of mitts, sold for the purpose or made at home. Also the awkward, disfiguring habit of biting the finger nails may be treated in the same way. The serious results of thumb sucking are enlargement of the tonsils, protruding teeth, flat thumbs, breathing through the open mouth at night and a decided susceptibility to cold.

If a child shows the least symptom of trouble in breathing, it should be taken to a competent physician and examined, and if adenoid growths are present, they should be removed or the child may become either deaf or permanently weak and delicate. For health's sake children should be trained into proper postures or they may grow up with an awkward bearing and become slouchy and stoop shouldered.

If mothers would add a pinch of table salt to the water in which young children are washed and then use boric powder, either by itself or mixed with lanoline, they would find it acts as a preventive for breaking out with heat and for eczema and hives. An excellent lotion to use is made by dissolving two tablespoons of the same powder in a quart of water, adding a teaspoon of starch, boiling all together and using when cold.

Every infant's mouth should be washed twice daily with a piece of clean sterilized linen dipped in borated glycerine, easily prepared by warming ten parts of glycerine, five parts by weight of boric powder, and this must be stirred until well dissolved. If a child's mouth is kept in a hygienic condition by the aid of this solution, he will be far less susceptible to infant diseases, and it is also good for cuts and bruises and for use in the ears, eyes or throat.

There is no point on which people are so careless as the care of their children's first teeth and there is no condition that tends in a greater degree to produce good health and vigorous growth of the body than a good sound set of teeth, and by giving the baby teeth proper attention you are insuring the permanent teeth a healthy growth.

### WORTH FIFTY POUNDS

A Sydney, Australia, paper recently published a Richmond River grower's "great idea." The grower said—"I got a dog and trained him to be savage. I turned him out in the vineyard at night. After one or two encounters with prowlers his fame spread, and we were pestered no more."

In reply to the suggestion that the dog might easily have been poisoned, the ex-orchardist smiled. "No," he said, "he couldn't take a bait. I muzzled him."

"But then he would be harmless."

"He would have been, only I fixed a sail needle on his muzzle with the point sticking out in front of him."

"Where did you get that idea?"

"In a little river town near my old vineyard. I saw the local wag muzzle a stray pup like that and let him go in the main street. In a few minutes the pup had become so used to the muzzle that he forgot it, and when another dog hove in sight the pup went up to him and tried to salute him in the usual way. Next thing you saw was the dog, with his tail well down, streaking for home, with a yelp at every stride.

"The pup would look astonished, and then wander off until he met another dog. In about half an hour he had driven all the dogs of the town into the bush, and he sat down and howled like a very lonely little pup.

"People who hadn't seen the fun would go up to find out what the poor little fellow was howling about. They'd stoop down to pat him, and next minute, with a yell, they'd be making for the chemist's for some iodine, while the pup followed and prodded their legs, wanting to be friendly.

"That's where I got my idea. It saved me 50 pounds a year, anyway."

### SOMETHING GOOD TO EAT

The time honored life sustainers known as ham and eggs still continue to occupy a prominent place in the list of foods known to possess marked nutritive values. The prominence of this dish so popularly known as "Ham an' " has had a tendency to obscure to some extent many of the palatable dishes prepared from ham and other ingredients besides eggs.

Of the many ways in which ham may be deliciously prepared there is one method of preparation to which the California department of agriculture calls attention which has not as yet been popularized apparently on account of limited familiarity with the following recipe: A slice of ham one inch or more thick, depending on the number of persons to be served. Remove rind and a part of the fat. Dredge well with flour, to which a sprinkling of pepper has been added. Place in a covered earthen or glass dish. Cover ham completely with sweet milk. Bake in a moderately heated oven from one to two hours. The longer and slower the baking process, the better the resulting dish. The flour and the small amount of fat left adhering to the lean, together with the milk, forms a most delicious gravy to serve with the ham. If you like ham try it once prepared accord-doubt you will want to repeat the enjoyment.

Some people have so much artistic temperament that they pose while winding the phonograph.

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In the golden sheaves of living wheat, and in the waving, shimmering fields of barley, Nature stores the vital elements of human power and energy which Science converts into Grape-Nuts—the famous body-building food.

Grape-Nuts with milk or cream is a complete food, which contains all the nutrition (including the mineral elements) required for making rich, red blood, and for building sturdy body tissue, sound bone structure and strong, healthy nerve cells.

The 20-hour baking process makes Grape-Nuts easy to digest and develops that delicious, sweet flavor and crispness that has made this food a favorite the world over.

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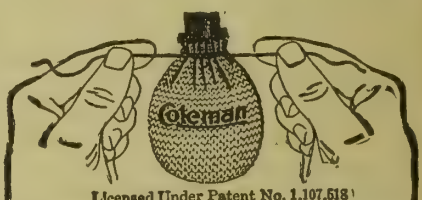


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## NEW BUREAU TO STRENGTHEN HOME ECONOMICS WORK

An announcement of unusual significance to both farm and city women was made recently by Secretary of Agriculture Wallace: "Ultimately I have in view making the home economics work an independent bureau," said Secretary Wallace in his preliminary announcement, "ranking with the other bureaus of the department, and placing at the head of it a woman of executive ability, thorough scientific training, and a broad and sympathetic understanding of what is needed to make such a bureau most helpful to the women of the country."

Work for women has grown steadily in the department of agriculture. In 1915, what has been called the office of home economics was created as a part of the extension service. In this home economics work a great deal of attention has been given to studies of foods and how best to use them, labor saving devices for the home studies of dressmaking and materials, etc. While work of this sort is planned primarily for the help of women on the farms, much of it is equally helpful to women in the cities, and especially to those in moderate circumstances who must exercise economy and get the greatest value for the money spent.

The woman chief of the proposed new bureau will rank with the chiefs of the other bureaus of the department of agriculture, attend the weekly conferences in the secretary's office and thus bring the women's viewpoint into the general work of the department.

## A VOICE FOR THE HOME-MAKERS

Any farm that can afford a silo can afford a bathroom and a septic tank sewage disposal system. Any farm that can afford a cream separator can afford a washing machine. Any farm that can support pumping and storage facilities for the livestock can afford running water, hot and cold, in the house. Any farm that can maintain a manure spreader can afford an electric lighting system. Any farm that can afford self-feeders for the cattle can afford vacuum cleaners and electric-saving devices for the women. Any farm that can justify binders, silage cutters, hayforks, pumping engines, shredders, side-delivery rakes, corn harvesters, potato planters, and finely equipped barns can afford every modern convenience for making the home a good place for woman to live, work, rear children, and develop in them the love for farm life.—Herbert Quick.

## BRING WATER INTO THE HOUSE

One of the most valuable assets for a farm is an ample supply of good water readily accessible. Such a water supply is a necessity for domestic purposes, and the location of the water with respect to the home is an important factor. Admittedly one of the first demands of health is a good, clean, pure water supply; but, however pure the water may be, it is not essential to woman's health that she be obliged to carry it from the well to the house.

## SPANISH RICE

1 cup rice, white or brown, 3 cups water, 2 cups tomato, 2 tablespoons butter, 3½ teaspoons salt, 2 onions (medium) grated or ground, 2 pimentos, cut fine. Put mixture on the stove and let come to a boil. When it boils, cover and set in the oven. Cook from 1½ to 2 hours in the fireless cooker. If cooked in open dish use 4 cups water

## HABITUATION

"Your constitutents must think very highly of you to send you to Washington again and again."

"Not all of them," admitted Senator Sorghum. "Many, of course, contemplate me as their invincible leader, but a few regard me merely as a sort of bad habit."—Selected.

A small kitchen handily arranged is more satisfactory to the housewife than a large one with all the latest equipment. Steps saved are hours gained.

## BIRDS AID SNAIL CLEAN UP AT LA JOLLA

An interesting account of two species of birds feeding upon the snail, Helix pisana, at La Jolla, has been reported to the state department of agriculture by County Horticultural Commissioner R. R. McLean. He says: "In connection with the survey of infested areas and subsequent clean up of the European snail, Helix pisana, at La Jolla, it is interesting to note that two birds have been noted as feeding on this mollusk.

The infested territory was burned over about 3 years ago and at that time enormous numbers of snails were killed, a very strong odor of burning flesh being apparent. Immediately thereafter flocks of seagulls came in and feasted on the "roasted snails." Outside of the burned area many live snails were in evidence on low bushes and shrubs, but gulls were not observed to feed on them.

Another infestation of this snail at La Jolla has occurred and in making a survey of the district last week with A. J. Basinger of the bureau of pest control of the state department of agriculture, a male English sparrow was noted to be busily engaged in feeding on young live snails clustered on a small dead Monterey cypress tree. At this stage the shells are soft and easily broken.

The English sparrow, long regarded as an undesirable immigrant, has scored a point if it is an enemy of this destructive snail.

## LOS ANGELES COUNTY FAIR

Agricultural and horticultural exhibits will have a large place at the Los Angeles County Fair to be held at Pomona, October 17-21. Besides many individual displays there have been entries from numerous towns that will send examples of their finest produce through their respective chambers of commerce. As Pomona is a central point in an exceedingly rich rural community it has a vast territory upon which to draw. It is expected that the agricultural exhibits will be complete, interesting and of genuine educational value.

Farmers will be enabled to obtain much information that will prove invaluable to them in crop raising. Demonstrations of improved farm machinery, tractors and tested appliances will be featured.

In the livestock section full lists of fine animals are promised in each department, and the cups, cash prizes and other trophies offered have encouraged early entries in large numbers. Many of the prize winners from the state fair at Sacramento will be shown at Pomona, including two full herds from the Fred Hartsook ranch at Lankershim. The pure bred Holsteins that will come from the California Junior Republic will be a perfect example of project teaching and will interest teachers, students and farmers alike. This particular herd, the result of careful breeding by boy students, is remarkable as proof that a fine herd of purebreds can be developed from a modest beginning. The goat show, sponsored by the Citrus Belt Milk Goat Association, will be another interesting display, and much will be made of the poultry department under the supervision of Paul E. Kennedy.

Electric —— Dish Washer!

—another Servant for Country Homes

AFTER THE HEAT and heavy work of summer, you will especially appreciate the labor- and time-saving advantages of an Electric Dish Washer. Besides its convenience and practical utility, an Electric Dish Washer is much cleaner and more sanitary than the old methods of doing dishes and drying with towels which become wet and soiled. It costs no more to operate than the burning of the 100 watt lamp in your front room.

An Electric Ironer, Vacuum Cleaner and Sewing Machine would also help to lighten your work and give you a chance to rest up.

The next time you are in town, CALL ON A DEALER WHO HANDLES THESE ELECTRICAL APPLIANCES. Get full information regarding cost of operation, etc.

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# THE A.R.O. SALE

## 37 REGISTERED HOLSTEINS 37

**Carl Ray's Raynora Ranch, Lankershim, Calif.**

**Thursday, September 28, at 10 A.M.**

If you want well bred young registered Holstein cows, with unusual size, high average type, of splendid breeding and nearly all with large official records, attend this sale—sure.

**This Is a Complete Dispersal of Mr. Ray's Milking Herd, Every Registered Holstein Cow of Milking Age in His Herd Will Positively Sell to the Highest Bidder. He Retains Only His Heifers Under Milking Age**

The largest percentage of cows with official records ever offered in a Western sale will sell in this offering. Of the 37 females selling, two are heifers under milking age, and of the remaining 35 there are 33 with official records, mostly from 20 to over 32 lbs. butter in 7 days.

**There Are Five Splendid Cows in This Sale With Official Records Above 30 Lbs. Butter In 7 Days, and a Number of Others With 29, 28, 27, and 26 Pound Records**

Every animal is positively guaranteed to be a breeder; every animal tuberculin tested and sold subject to retest by the buyer.

TERMS OF SALE—California Breeders Sales and Pedigree Co. will extend credit on the basis of one-third cash, balance in three, six, and nine months, to responsible parties who arrange for credit before sale.

PLACE OF SALE—Mr. Ray's Ranch, just at the city limits of Lankershim.

**Management**

**CALIFORNIA BREEDERS SALES AND PEDIGREE CO.**

C. L. Hughes, Sales Manager, Sacramento, Calif.

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# Meadhart Holstein Herd

We are trying to have nothing but the greatest in Holstein type and production and experts tell us we are succeeding.

Visit our show herd at Stockton, Sacramento, Tulare, Hanford, Fresno, Ventura, Riverside and Pomona.

Lankershim Calif. — Fred Hartsook Ranch — We Will Welcome You



## COMPLETE DISPERSAL

# DIAMOND BAR HEREFORDS

**Diamond Bar Ranch, Spadra, Calif. Tuesday, September 26, at 1 p.m.**

**45—Registered Herefords—45**

**19 Females—26 Bulls**

This complete dispersal of well selected Herefords will afford buyers an opportunity to secure breeding females of substanial worth, and an unusually good selection of bulls for range service.

THE FEMALES

The 19 females include eight cows with calves at foot. Not a female in the sale over six years old. They are practically all sired by Beau Tempter, Bourbon Columbus, and Prince Carlos 10th. A real opportunity to buy good females in a year when few are offered for sale in this state.

THE BULLS

The 26 bulls are an attractively bred lot of individuals, all ready for heavy service. They include sons of such famous bulls as Beau Blanchard, Don Perfect, Prince Carlos, Cuba's Panama, Beau Lamplighter, Grove Dale, Beau Mischief 40th, and Donald Lad 15th.

These cattle are range raised, used to rustling for themselves, and will be presented in good breeding condition.

GUARANTEED BREEDERS—TUBERCULIN TESTED

TERMS OF SALE—California Breeders Sales and Pedigree Co. will extend terms of one half cash, balance in six months, to responsible parties who arrange for such credit before sale.

DIAMOND BAR RANCH is at Spadra, Los Angeles County, on the Valley Boulevard between Puente and Pomona.

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is the only possible explanation as to why the man who has money doesn't buy ranches or cattle at their present prices.

**A. L. SPELLMEYER**

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320 American Bank Bldg. Los Angeles, Calif.


## STATE FAIR AWARDS

We gave last week the beef and dairy cattle awards at the state fair. The swine and other awards are given below.

### Poland Chinas

The Poland China show at the California state fair was perhaps one of the greatest shows that has been held in California. Quality was in evidence, and in some classes there were large entries. Marked improvement in type made it fairly easy for the judge to line up the classes in a satisfactory manner.

Probably one of the strongest classes in the Poland China show was the junior yearling sow class. The aged boar class was beyond doubt one of the strongest aged boar classes ever shown in this state. Navy Boy, grand champion last year as a senior yearling, was the first prize aged boar, and won senior and grand champion honors. An entry from Johnson Brothers, of San Diego, stood second in the aged boar class. Bassett A. Buckland and Sons, of Fresno, were fourth. There was but one entry in the senior yearling class, and this was won by the Tagus Ranch of Tulare.

The junior yearling boar class was a strong class. Westerner C, an entry from Straloch Farms, headed the class, followed closely by a deep-sided smooth boar shown by A. Buckland & Sons. Fred D. Grant of Fresno exhibited the third prize junior yearling boar. Gatewood and Stevens were fourth. The senior boar pig class was not up to standard, the judge having considerable trouble finding a boar to top the class. He finally placed an entry from Buckland's herd at the top of the class. In the junior boar pig class there were many strong-legged, rugged boars. The first prize was a well balanced pig with considerable size and stretch, exhibited by A. Buckland & Son. A Johnson entry and an entry from the Tagus Ranch followed closely, and another entry from Buckland was fourth. This was a good class of good type, strong, rugged boar pigs.

The aged sow class was headed by last year's grand champion, shown by Bassett Brothers. She is a strong-boned sow, deep of side and in excellent condition. She has raised two litters during the year, and was shown in excellent bloom. The senior yearling class was headed by an entry from the Tagus Ranch. Bassett Brothers exhibited the second and third prize sows.

The junior yearling class was won by a sow exhibited by the Tagus Ranch. She was shown as a junior pig last year by P. B. Long, a beginner in the business. She is a strong-boned sow, carrying an exceptionally strong back, and is smooth throughout. The sow was later made senior champion and grand champion of the show. The second prize sow was shown by Straloch Farms. She is out of Liberty Girl 3d, grand champion sow two years ago, and was an exceptionally strong entry.

Bassett Brothers of Hanford stood first, second and third on senior sow pigs. These gilts were well grown, smooth, deep sided, strong legged gilts. They made an excellent show. In the junior sow pig class, Bassett Brothers was first and fourth. A. Buckland & Sons, Fresno, were second and third. The gilt at the head of the class was a well grown, smooth, strong gilt.

The aged herd won by Straloch Farms, was headed by the junior yearling boar, Westerner C. Bassett Brothers were second and the Tagus Ranch was third. In the herds under a year, Bassett Brothers was first and second, and Johnson Brothers, third. —E. H. Hughes.

Exhibitors: Bassett Brothers, Hanford; A. Buckland & Son, Fresno; Mrs. A. C. Buckland, Fresno; Eugene Buerkle, Bakersfield; California Polytechnic School, San Luis Obispo; Chas. E. Dack, Fresno; Fred Gatewood, Fresno; Helen Gatewood, Fresno; Gatewood & Stephens, Fresno; Johnnie Glusing, Winton; Fred D. Grant, Jr., Fresno; L. B. Hughson, Ahwahnee; C. E. Johnson, Turlock; Johnson Brothers, San Diego; Kern County Union High School, Bakersfield; Kern County Union High School Agricultural Club, Bakersfield; Sheldon Morley, Bakersfield; Vivian Morley, Bakersfield; P. E. Mitchell, Atwater; Straloch Farm, Davis; Tagus Ranch, Tulare; Bob Watts, Bakersfield.

The awards follow:

Aged boar—1, Gatewood & Stephens on Navy Boy. 2, Johnson Bros. on Renowned Liberator. 3, Bassett Bros. on Western Rainbow. 4, Buckland on Giant Prospect. 5, Kern County High School on The Kern County Pilot.

Senior yearling—1, Tagus on Fresno Boy Jr.

Junior yearling—1, Straloch Farm on Westerner C. 2, Buckland on The Tempest. 3, Grant on Grant's Peter Pan. 4, Stevens on Steve's Long Boy. 5, California Polytechnic School on Westerner B.

Senior pig—1, Buckland on Commander. 2, Bassett Bros. on Rainbow's Designer. 3, Gatewood on Sailor Boy. 4, Straloch Farm on Yankee Bob. 5, Buckland on Giant Challenger.

Junior pig—1, Buckland on Model Jones. 2, Johnson Bros. on The Wave. 3, Tagus on No. 348, Unnamed. 4, Buckland on Jones Model. 5, Tagus on Tulare Boy.

Aged sow—1, Bassett Bros. on Hazel C. 2, Buckland on Evergreen Hutch. 3, Tagus on Miss Big Price. 4, Johnson Bros. on Model May.

Sow, senior yearling—1, Tagus on Willows Lady. 2, Bassett Bros. on Lady Comet. 3, Bassett Bros. on Smooth Giantess. 4, California Polytechnic School on Pacheco Bobbie. 5, Morley on Bakersfield Lady.

Junior yearling—1, Tagus on Sunkist Maid. 2, Straloch on Liberty Girl-A. 3, Bassett Bros. on Imp's Giantess. 4, Buckland on Miss King Kole. 5, Straloch on Liberty Girl B.

Senior pig—1, Bassett Bros. on Lady Designer. 2, Bassett Bros. on Princess Rainbow. 3, Bassett Bros. on Princess Designer. 4, Straloch on Straloch Queen A. 5, Buckland on Show Girl.

Junior pig—1, Bassett Bros. on Nifty Girl. 2, Buckland on Maid's Model. 3, Buckland on Model Maid 1st. 4, Bassett Bros. on Bonnie Belle. 5, Tagus on Elliott's Kind.

Senior and grand champion boar—Gatewood & Stephens on Navy Boy.

Junior champion boar—Buckland on Model Jones.

Senior and grand champion sow—Tagus on Sunkist Maid.

Junior champion sow—Bassett Bros. on Nifty Girl.

Aged herd—1, Straloch Farm. 2, Bassett Bros. 3, Tagus Ranch.

Young herd—1, Bassett Bros. 2, Buckland. 3, Johnson Bros.

Exhibitors herd—1, Bassett Bros. 2, Johnson Bros. 3, Buckland.

Get of sire—1, Straloch Farms get of Frisco Boy. 2, Bassett Bros. get of Prince Designer. 3, Buckland get of King Kole.

Produce of dam—1, Straloch Farms produce of Liberty Girl 3. 2, Straloch Farm produce of Black Beauty C. 3, Buckland produce of Model Maid.

Pen of barrows—1, Straloch Farms. 2, Tagus Ranch. 3, Fred Grant.

Single barrow—1, Straloch Farms. 2, Tagus Ranch. 3, Straloch Farms.

### Duroc-Jersey

In the Duroc-Jersey show, Charles LeMoyne of Lankershim made an excellent showing with his aged stuff. A. D. Long of Davis, Dolcini of Davis, Western Laboratories of Stockton, J. E. Thorp of Lockeford, were in the money in most cases. The aged boar class was won by LeMoyne on an exceptionally good type, strong topped boar, lacking a little in smoothness of side. He was followed by Dolcini's boar, Choice Wonder 3d, who was grand champion as a junior yearling two years ago. The senior yearling class was won by an entry from the Thorp herd, and the junior yearling class was won by the Western Laboratories on a boar that placed last year as a junior pig. The senior boar pig shown by Charles LeMoyne was followed by a boar from the Dolcini herd, and A. D. Long was third on a well grown pig that lacked a little in class. The judge seemed to have trouble in finding the top in the junior pig class. A growthy, strong-boned pig from the Thorp herd finally headed the class, followed by an entry from the LeMoyne herd. There were other pigs in the class that will no doubt grow out and be good boars.

The aged sow class was an exceptionally strong class. The class was finally won by Pathfinder's High Lady, exhibited by LeMoyne, who also exhibited the second prize sow that carried an exceptionally deep side, lacking a little in quality and finish. Thorp won the senior yearling class with a gilt that was junior champion last year. This sow stood on plenty of bone and was strong of top. The junior yearling class was won by Le Moyne on a sow that was exceptionally smooth, deep of side, and was finally made grand champion of the show. The senior pig class was won by an entry from the Long herd, a gilt that had been well grown out and was shown in excellent flesh. The junior pig class was also won by Mr. Long. The aged herd went to Le Moyne; Thorp was second and Dolcini third. The young herd was won by Dolcini, Long was second, and Dolcini third.

The get of sire was won by Mr. Long and the produce of sow was won by Mr. Dolcini. The grand champion boar was won by Mr. LeMoyne, and the reserve grand champion was won by Dolcini. Both these boars were aged boars of merit. The grand champion boar carried a little more scale, although lacked a little of the smoothness of the Dolcini boar. The junior yearling sow, Sensation Ellen, was the grand champion sow. She is an exceedingly deep sided sow, with plenty of scale, type and finish. Mr. LeMoyne exhibited the junior champion boar and Mr. Long exhibited the junior champion sow. The reserve grand champion female was the first prize senior yearling sow exhibited by J. E. Thorp. She is a strong topped, good sided, heavy boned sow.

Considerable interest was manifested in the Duroc-Jersey show.—E. H. Hughes.

Exhibitors: Charles J. Moyne, Lankershim; V. F. Dolcini, Davis; Pacific States Corp., Tulare; Lowell J. Beever, Fresno; J. E. Thorp, Lockeford; J. C. Craig, Owensmouth; Clarence Scott Estate, Winters; Western Laboratories, Stockton; H. P. Slocum and Son, Willows; California Polytechnic School, San Luis Obispo; Mr. and Mrs. A. D. Long, Davis; Harvey M. Berglund, Dixon.

The awards follow:

Boar two year old—1, Moyne on Model Defender's Sensation. 2, Dolcini on Choice Wonder 3rd. 3, Pacific States on Winsor's Chief. 4, Beaver on Falfadale's Sensation. 5, Thorp on Prince You'll Do.

Senior yearling boar—1, Thorp on Kings Sensation. 2, Craig on Prince of Pathfinder. 3, Scott Est. on Defenders Perfect Sensation.

Junior yearling boar—1, Western Laboratories on Sensation Bankroll. 2, Thorp on Diamond Bar Sensation. 3, Slocum on Key of Sensation. 4, Polytechnic on June Acres Pathfinder 2nd. 5, Craig on Junior Boy.

Senior pig boar—1, Moyne on My Young Partner. 2, Dolcini on June Acres Mahaska Wonder 2nd. 3, Long on A. & G.'s Sensation Wonder 2nd. 4, Dolcini on June Acres Mahaska Wonder 3rd. 5, Craig on Western Sensation Leader.

Senior pig boar—1, Thorp on Jumbo of Mossdale. 2, Beaver on Duyer's Longfellow Sensation. 3, Slocum & Son on Unnamed. 4, Slocum & Son on Unnamed. 5, Berglund on Orion Defender Lad.

Two year old sow—1, Moyne on Pathfinder's High Lady. 2, Moyne on Lady Pathfinder. 3, Thorp on Wonder Sensation Girl. 4, Moyne on Col. Pathfinder's Lady. 5, Craig on May Rose Tattletale.

Senior yearling sow—1, Thorp on Diamond Sensation Lady. 2, Laboratories on June Acres Wonder Lady 2nd. 3, Laboratories on Lucy Sensation. 4, Thorp on Queen of Diamonds. 5, Dolcini on June Acres Wonder Lady 29th.

Junior yearling sow—1, Moyne on Sensation Ellen. 2, Moyne on Sensation Annie. 3, Slocum on Keys of Beauty Giantess. 4, Slocum on Keys Model. 5, Dolcini on Miss June Acres Pathfinder.

Senior pig sow—1, Long on A. and G.'s Sensation Girl. 2, Laboratories on No. 145. 3, Moyne on Col. Pathfinder's Lucy. 4, Laboratories on No. 144. 5, Moyne on Col. Pathfinder's Queen.

Junior pig sow—1, Long on A. and G.'s Sensation Lady. 2, Dolcini on June Acres Pathfinder Lady. 3, Long on A. and G.'s Sensation Lady 1st. 4, Moyne on Primrose Model 3rd. 5, Laboratories on No. 162.

Senior champion boar—1, Moyne on Model Defenders Sensation. Reserve, Dolcini on Choice Wonder 3rd.

Junior champion boar—1, Moyne on My Young Partner. Reserve, Thorp on Jumbo of Mossdale.

Senior champion sow—Moyne on Sensation Ellen. Reserve, Thorp on Diamand Sensation Lady.

Junior champion sow—Long on A. and G.'s Sensation Girl. Reserve, Long on A. and G.'s Sensation Lady.

Aged herd—1, Moyne. 2, Craig,. 3, Dolcini.

Young herd—1, Dolcini. 2, Long. 3, Thorp.

Get of sire—1, Dolcini. 2, Long on get of Choice Wonder 3rd. 3, Dolcini.

Produce of sow—1 and 3, Dolcini. 2, Long on Produce of Butte of Sensation Girl.

Pen of barrows—1 and 3, Western Laboratories. 2, Long.

### Berkshires

Perhaps the outstanding feature of the Berkshire show was the fact that last year's grand champion sow, Violets Festline, shown by the Italian Vineyard Co. of Guasti, came back again this year and repeated her performance while her senior yearling daughter, Festline's Rival 3rd, was made reserve grand champion sow. Their remarkable smoothness combined with size, mellowness and unmistakable evidence of their value as breeding animals, won for them the favor of the judge and the ringside talent.

The junior champion female was found in Guasti's Royal Lady, bred and owned by the Italian Vineyard Co.

The boar classes as a whole were hardly up to the standard of last year, but Escalon Big Joe, shown by A. B. Humphrey of Escalon, carried his 900 pounds with ease and was a favorite for grand championship honors. He was an unusually mellow fellow, with deep, smooth sides, and the best of legs and feet. Guasti's Rival, the junior yearling shown by the Italian Vineyard Co., was a young boar of much promise and made a very acceptable reserve grand champion.

A. B. Humphrey showed the junior champion, Grapewild Ambition, a promising senior yearling.

In the barrow classes the Italian Vineyard Co. presented for consideration one of the smoothest barrows shown at the state fair in years, easily winning his breed class. He later won the grand championship in the open class in competition with the other breds.

While the Berkshire show was smaller in numbers than that of previous years, the quality of exhibits reflected credit on the efforts of California breeders to keep pace with other sections of the country in the improvement of this popular breed.

Exhibitors: Italian Vineyard Co., Guasti; A. B. Humphrey, Escalon; C. T. Johns, Ontario.

The awards follow:

Aged boar—1, Humphrey on Escalon Big Joe. 2, Italian Vineyard on Enhancer. 3, Johns on Master Type.

Senior yearling—1, Johns on Riverby Rival 2d. 2, Humphrey on Escalon Artful Leader 5. 3, Italian Vineyard on Iowana Artful King.

Junior yearling—1, Italian Vineyard, Guasti's Rival. 2, Italian Vineyard, Hazen's Rival.

Senior boar big—1, Humphrey, Grape Wild Ambition. 2, Humphrey, Grape Wild Royal 3d. 3, Johns, Lassie's Champion Type. 4, Italian Vineyard, unnamed.

Junior bear pig—1, Humphrey, Grape Wild Leader 15. 2, Humphrey, Escalon Royal Emblem. 3, Italian Vineyard, Silver Rival. 4, Humphrey, Escalon Leader 10. 5, Humphrey, Grape Wild Leader 16.

Aged sow—I, Italian Vineyard, Violets Festline. 2, Italian Vineyard, Grape Wild Rose 6th. 3, Johns, Real Type's Lassie 4, Humphrey, Emblem's Escalon Belle. 5, Humphrey, Grape Wild Rose 2d.

Senior yearling—1, Italian vineyard, Festline's Rival 3d. 2, Humphrey, Grape Wild Bernice 13. 3, Johns, Grape Wild Bernice, 14. 4, Italian Vineyard, Guasti's Lady Rookwood. 5, Johns, Champion Lass.

Junior yearling—1, Humphrey, Escalon Artful Princess. 2, Italian Vineyard, Lady Good Rookwood. 3, Humphrey, Grape Wild Rose 31. 4, Italian Vineyard, Violet's Lassie. 5, Italian Vineyard Guasti's Wondress.

Senior sow pig—1, Italian Vineyard, Royal Fashion Lady. 2, Humphrey, Escalon Royal Lady. 3, Humphrey, Grape Wild Rose 36. 4, Italian Vineyard, Choice Wondress. 5, Johns, Champion Type's Lassie.

Junior sow pig—1, Italian Vineyard, Guastic Royal Lady. 2, Italian Vineyard, Leader's Sunflower. 3, Italian Vineyard, Guasti's Royal Lady 2. 4, Italian Vineyard, Leader's Sunflower 2. 5, Humphrey, Escalon Belle 28.

Senior and grand champion boar—Humphrey, Escalon Big Joe.

Reserve senior and grand champion boar, Italian Vineyard, Guasti's Rival.

Junior champion boar, Humphrey, Grape Wild Ambition.

Senior and grand champion sow—Italian Vineyard, Violet's Festline.

Reserve—Italian Vineyard, Festline's Rival 3d.

Junior champion sow—Italian Vineyard, Guasti's Royal Lady.

Aged herd—1, Italian Vineyard; 2, Humphrey; 3, Johns.

Young herd—1, Humphrey; 2, Italian Vineyard; 3, Johns.

Exhibitors herd—1, Humphrey; 2, Italian Vineyard; 3, Humphrey.

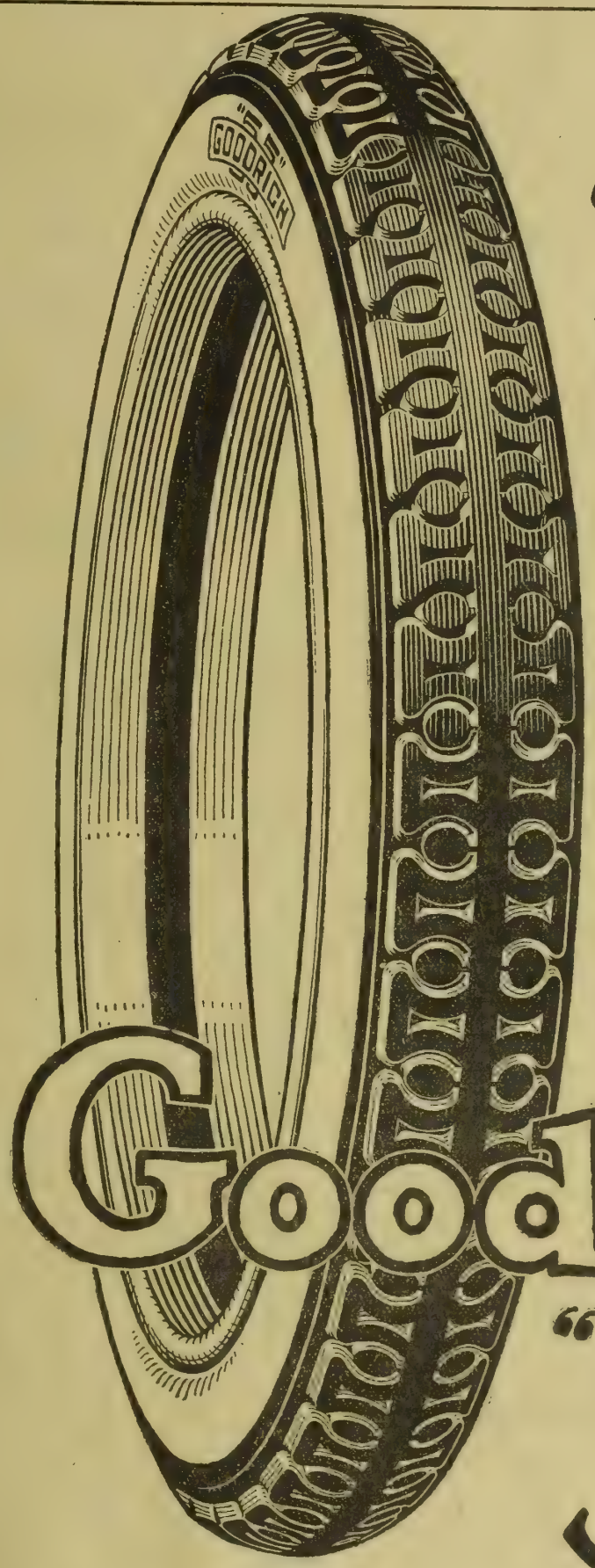
Get of sire—1, Humphrey, get of Grape Wild Challenger. 2, Italian Vineyard, get of Violet's Rival 4. 3, Johns, get of Champion Type 2.

Produce of dam—1, Johns, produce of Sensational Lass. 2, Italian Vineyard, produce of Violet's Festline. 3, Johns, produce of Real Type's Lassie.

Single barrow—1 and 3, Italian Vineyard; 2, Humphrey.

Pen barrows, 1, Humphrey; 2, Italian Vineyard; 3, Johns.

Fat Hogs—(Best car load) 1, Napa State Hospital (Berksnires). (Best pen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H. H. Gable Esparto, Cal.


barrows over 250 lbs.) 1, Tagus Ranch (Polands); 2, Johns (Berkshires); 3, Grant (Polands). (Best pen barrows, 175-250 lbs.) 1, Dr. Summerfield (Tamworths); 2, Bassett Bros. (Berkshires); 3, Grant (Polands). (Best barrow over 250 lbs.) 1, Tagus (Poland) 2, Johns (Berkshire) 3, Bassett Bros. (Poland). (Best barrow 175-250 lbs.) 1, Humphrey (Berkshire); 2, Johns (Berkshire); 3, Bassett Bros. (Poland). (Grand champion barrow, all breeds) Italian Vineyard (Berkshire). (Grand champion pen barrows, all breeds) Straloch Farms (Polands).

**Hampshire Hogs**

The wonderful herd of Hampshires brought out by the Underhill Ranch at Santa Barbara had little competition in the herd shown by Hayes & Harter from Grants Pass, Oregon. Underhill's hogs are the result of years of study and intensive breeding on the part of the owner and while they are not yet the type he hopes to develop they are a wonderful improvement over the good herd he assembled as a foundation on which to work.

The Underhill herd was first in all classes but one in which it showed. Hayes & Harter defeated it in produce of sow. Carl Meiner of Ojai was first in senior yearling boar and the Oregon men took four places in senior sow pig and two in senior boar pig in which there was no competition.

All the championships went to the Santa Barbara herd.

**High School Judging Contest**

Esparto Union High provided the winning team in the judging contest for high schools at the state fair. The schools from north of the Tehachapi were the only ones entered as the southern schools will contest at the Southern California fair and the winning teams will meet at Davis during stockman's week. Competition was keen and only a few points separated the first seven teams. Classes of hogs, beef and dairy cattle, draft horses and sheep were scored. Ornburn Gray of Esparto was awarded the C. C. A. cup for highest scoring individual judge.

The contest was under the direction of Professors True, Hughes, Thomson, Howell, Miller and Wilson of the university farm assisted by various students and herdsmen of that institution.

The awards are:

1, Esparto Union, 1195; 2, Salinas, 1136; 3, Santa Cruz, 1125; 4, Colusa, 1106; 5, Modesto, 1106; 6, Lodi Union, 1100; 7, California Polytechnic, 1093; 8, Sebastopol, 1083; 9, Petaluma, 1082; 10, Bakersfield, 1069; 11, Watsonville, 1067; 12, Santa Roa, 1063; 13, Oroville, 1025; 14, Woodland, 1018; 15, Oakland, 970; 16, Princeton, 938; 17, Concord, 821; 18, San Juan, 720.

**Cattlemen's Association High School Cup**

For best individual judge:

1, Ornburn Gray, Esparto Union, 423; 2, Mervyn Burke, Salinas, 420; 3, Albert Vance, Esparto Union, 406; 4, Edwin Koster, Modesto, 402; 5, Bailey Fairchild, Lodi Union, 402; 6, Jack Hammond, California Polytechnic, 402.

## CALF CLUB SHOW

Intense interest on the part of the juvenile farmers centered in the calf club contest which was provided especially for them. After showing in the club show many of the animals went into the open classes against the mature breeders and made fame for themselves. Most of the calves were chosen as well as fitted and shown by the boys and girls and there is no question that California is to have a crop of top notch breeders when these youngsters are grown.


KING KORNDYKE PONTIAC MEAD

Backed by Producing and Transmitting Dams. HIS Dam, De Kol of Valley Mead 2nd, and HIS Sire's Dam, Miss Valley Mead De Kol Walker, have made a total of FIVE RECORDS—Averaging 1038 lbs. Butter in 7 days. For HIS SONS from A. R. O. Dams, write or see us:

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A government accredited herd. No reactor in 16 years. A herd whose record in the show and sale ring is only surpassed by the esteem accorded its productions by cattlemen. We can furnish bulls or females to fill any need—and at sound prices. Visit our herd or write for information.



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Sunkist Maid, grand champion sow, at 1922 California State Fair and greatest sow ever shown, was raised and developed by us until a short time before shown. Our herd contains her dam and two little sisters who are raising the greatest bunch of pigs we have ever had sired by L's Giant Ranger.

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EL SUPREMO HERD
"Home of Better Polands"

P. B. Long Tulare, Calif.


**California State Fair Champions**

Model Defender's Sensation, grand champion Duroc boar, owned by Chas. Le Moyne.

Sensation Ellen, grand champion Duroc sow, owned by Le Moyne.

Champion pen Poland China barrows, owned by Straloch Farms.

Violets Festline, grand champion Berkshire sow, owned by Italian Vineyard Company.

Junior Jersey Heifer Calf—1, Max W. Krauss on Laddie Reater's Lady. 2, John Norton on Elizabeth Peid. 3, Mildred Seavey on Blossom's Sweetheart of Triple Oaks. 4, John Meier on Rival's Butter Cup. 5, Maurice Hubbard on Camille of Venadera. 6, Bertha Meier on Julia of Venadera. 7, Luther Hubbard on Ora of Rica Vegas.

Junior Jersey Bull Calf—1, Charley Krause on King of Willowood. 2, Marguerite Conant on Betty's Laddie Boy.

Holstein Cow in Milk—1, Earl Ahman on Jeane Veeman of Sunnyside.

Guernsey Cow in Milk—1, Arnold Cattani on Glenrose Hope.

Senior Holstein Heifer Calf—1, Baird Snodgrass on Pearl Aaggie Hengerveld Segis. 2, Robert Pfeiler on Lyaires Pearl Polkadot Beets. 3, J. A. McCormack on Pearl Countess. 4, F. L. Pfeiler on Lady Wa Wa Pontiac Pearl. 5, Marjorie Walters on Crag View Iona Merci Hotaling. 6, I. Outland on Pearl Pietertje Segis. 7, L. R. Clow on Pearl Ertel.

Championships, Jerseys—Fox's Sunshine Betty, heifer; King of Willowood bull.

Senior Holstein Bull Calf—2, Ralph Ehrhardt on Poppy Ridge Pontiac Calypso. 3, Ellis Snow on Kern Co. Pietertje De Kol.

Junior Holstein Heifer Calf—1, Donell C. Fisher on Queen Sylvia Segis. 2, Ralph Bisnett on Mercedes Ormsby Korndyke Palo. 3, Donald Hanson on Lady Mead Madrigal. 4, Samuel Barcke on Colony Zatilda Jetty. 5, Harold O. Wood, Aagie Dutchland Korndyke. 6, Geo. R. Stam on Jane Garden Belle Korndyke. 7, Varian Cota on Princess Cornucopia Wayne.

Junior Holstein Bull Calf—1, Earl Ahmann on Kern Rag Apple De Kol.

Championships, Holsteins—Kern Rag Apple De Kol, bull; Pearl Aagie Hengerveld Segis, heifer.

## STATE FAIR MILK AND CREAM CONTEST

Just as the livestock men want their individual animals to win so do the commercial diarymen strive to attain high honors in their exhibits of milk and cream. Samples are taken with the greatest care and sent to Sacramento where they are examined by specialists and graded on flavor and odor and general cleanliness.

There is nothing exciting about an exhibit of milk and yet it is wonderfully interesting to compare the different score cards so as to tell whether your milk man is preparing a product which is considered good enough to win against the dairies of the state. This is a contest which should be encouraged.

Certified Milk—1, Adohr Stock Farm, Van Nuys, 98.8; 2, Hollow Hill Farm, Redlands 98.2; 3, Sleepy Hollow Ranch, San Anselmo, 97.1.

Certified Cream—Arden Dairy, El Monte, 91.0. (Only one entry.)

Guaranteed Milk—1, Brandt Rancho, Owensmouth, 98.5; 2, Stnford Dairy, Menlo Park, 97.3; 3, Home Dairy, Palo Alto, 96.8.

Guaranteed Cream—1, Brandt Rancho, 95.1; 2, Home Dairy, 89.5. (Only two entries.)

Grade A Milk, Raw or Pasteurized—1, City Dairy, Pomona, 97.5; 2, Model Creamery, Redlands, 97.3; 3, Burr Creamery, Los Angeles, 97.2.

Grade A Cream, Raw or Pasteurized—1, Mutual Dairy Association, Los Angeles, 93.15; 2, Sunset Dairy, Palo Alto, 92.70. (Only two entries.)

Raw Milk for Processing—1, City Dairy, 96.45; 2, Model Creamery, 92.10. (Only two entries.)

Market Milk, Raw—1, M. L. Davis, Visalia, 96.45; 2, T. L. Curry, Mountain View, 96.30; 3, Chowchilla Dairy, Chowchilla, 96.25.

Market Milk, Pasteurized—1, Modesto Milk Co., Modesto, 96.40; 2, Salinas, 96.35; 3, Merced Dairy Co., Merced, 95.10.

Market Cream, Pasteurized—1, Associated Milk Producers, Holt, 93.15; 2, Marin County Milk Co., San Rafael, 79.40. (Only two entries.)

Milk Dealers—1, United Milk Co., San Francisco, 94.43. (Only one entry.)

Dairy Inspectors—1, Dr. Wm. Veit, Los Angeles, 97.5; 2, J. P. Wilcox, state department of agriculture, Los Angeles, 96.02.

Highest Scoring Exhibits of Milk or Cream—1, Brandt Rancho, 2, Model Creamery.

(Continued on Page 327)

# Classified Liners

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**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

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**White Leghorns, Anconas, R. I. Reds.**
**Order now for Fall and Spring delivery**

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All selected—no culls

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ORANGE COUNTY HATCHERY
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**Certified White Leghorn Baby Chicks** hatched in the world's largest electric hatchery. Choice free range, high egg producing breeding flocks inspected by the Sonoma County Farm Bureau. Safe arrival guaranteed. MUST HATCH INCUBATOR CO., 438 Seventh St., Petaluma, California.

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**The Archibald Hatchery** will supply through September and October White and Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons and Wyandottes. Our folder may interest you. B. W. Archibald, Soquel, Santa Cruz County, California.

**Baby Chicks** from my pure-bred flock of S. C. White Leghorns, carefully bred and selected for laying and standard qualities good, vigorous fall chicks at reasonable prices. Write for particulars. J. R. Heinrich Poultry Yards, Arroyo Grande, Calif.

**Baby Chicks**—Reds, Rocks, Anconas, and White Leghorns. Hatches every week after August 1st. Write at once for price list. Place your order at once, as we have several thousand now sold to old customers. Est. 1915. Hargett & Son, Route 2, Box C, Compton, California.

**White Leghorn Baby Chicks.** From free range Hoganized stock. Breeding flocks inspected by Sonoma County Farm Bureau accredited hatchery inspector. Full count and safe arrival guaranteed. For price write to the Lafranchi's Hatchery, Petaluma, California.

**Baby Chicks** of high grade are easy to raise if hatched in our Petaluma Electric or Hot Water Incubators. Prices reduced. Ask for advance circular. Petaluma Electric Incubator, Co., Petaluma, Calif.

**Booking Orders Now for Fall and Spring** delivery. Order now, prompt delivery. Rhode Island Reds and White Leghorns. All orders given prompt attention. Oroville Hatchery, Irene Uren, Prop., Oroville, California.

**Fall Chicks**—Hatches every week. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. Stubbe Poultry Ranch and Hatchery, P. O. Box 67-E, Palo Alto, California.

**Union District Hatchery** is booking orders for the fall chick. Chicks from the best tested layers at right prices. White Leghorns, Rhode Island Reds, and Barred Rocks. F. & L. Downing, Los Gatos, California.

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**White Leghorn Baby Chix** for summer and fall months from stock Accredited by Sonoma County Farm Bureau. We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

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## POULTRY

SPENCER TURKEN FOWL
Half turkey, half chicken. Turkey flavor meat, 200 eggs per year. A few young gobbler roosters ready for service $6. Photo booklet 10c. Spencer, Rt. 1, Santa Cruz, Cal.

**Bargain Sale of Breeders** including all prize winning S. Wyandottes, Minorcas, Rocks, Black Leghorns and Anconas. Also young stock. Making room for increased hatchery. Q-P Farms, 27 Dutton Avenue, San Leandro, Cal.

**White Orpingtons**—They combine meat and egg production. Superior stock from three months up. J. J. Verkouteren, Route A, Box 145, Gilroy, Cal.

**Eastman's Bred-to-Lay** Hoganized and Trapnested Barred Rocks. September chicks. Fairmead Poultry Farm, Fairmead, California.

**White Plymouth Rocks** April hatched cockerels $2.50 each or $25.00 per dozen. Cocks $3.00 each. Mrs. B. M. Jesch, Fallon, Nevada.

**Slightly Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

**For Sale**—White Leghorn pullets, 75 cents each. H. E. Gleason, Madera, California.

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ONE ACRE AND INDEPENDENCE

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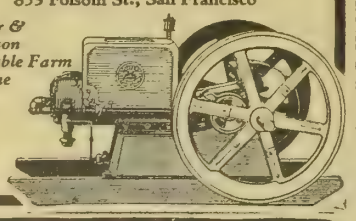

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# The Prevention of Blackhead

By Jean A. Koethen

FOR a good many years blackhead has seemed to be the one obstacle in the turkey grower's road to fortune. Sometimes it is called by one name, sometimes by another, but always the symptoms are the same: lassitude, diarrhea, want of appetite, ending almost always in speedy death. A post mortem always reveals yellowish spots on the liver and intestines.

The course of the disease differs somewhat in different ages of birds. In poults under two weeks of age it is very rapid. You notice a little diarrhea today and tomorrow morning the poult is dead. Poults two months old will often droop for a week before they give up the struggle. The older the bird the greater its resistance to the disease and the longer does its illness last. What is the nature of this disease which attacks a flock without warning and frequently carries off half or even all its members?

### Caused by Parasite

According to Dr. Philip Hadley of the Rhode Island station, infectious entero-hepatitis, or blackhead, is caused by "a minute parasite belonging to the lowest group of animal life, the protozoa, and called a coccidium." There has been some dispute among the doctors in more recent years as to just what is the proper name of this coccidium, and Dr. Hadley in a bulletin published in 1920 declares it is not an amoeba, as he had at first thought, but a trichinomas. These names mean nothing to us, nor is the exact source of the disease of great importance. Whether these coccidia are permanent residents of the intestinal tract in all turkeys and are only excited to injurious activity by indigestion or are introduced into the intestines by infection, presumably from the droppings of other birds, the result is just the same. The bird droops and dies.

Dr. Hadley (Bulletin 141) describes three courses which the disease may follow; the first, which carries off the very young birds, being similar to white diarrhea, the second, a "slowly progressive" form in birds above three weeks of age, the third, a chronic form, lasting in the older birds a year or more.

It is not necessary here to describe the symptoms more minutely. When young turkeys droop and die the trouble may safely be diagnosed as blackhead.

### To Cure Blackhead

Cures have been suggested at various times, but none has been tested out sufficiently to make it certain that we may put our trust in it. The ipecac treatment announced last year by the Doctors Harry and Paul Wegeforth of San Diego may prove to be the remedy experts have been searching for, but so far as I know only a few turkey people have made any attempt to try it out. The treatment consists in separating the sick birds from the flock and giving them 10 drops of fluid extract of ipecac three times a day, continuing this dosage for three days, then decreasing to 10 drops twice a day for three days, then to the same dose once a day for three days.

A Fresno breeder announces this treatment; Cut slices of bread in strips an inch long, soak in apple vinegar, and put 4 pieces down the turkey's throat. Repeat in 12 hours, or if the bird is very ill, in six. I have no idea what this man's reason is for using vinegar, and merely mention the treatment as something worth trying when the case seems hopeless.

### An Ounce of Prevention

The fact is, in this case as in most others, prevention is the thing. Once the disease appears its cure is very doubtful.

The Doctors Wegeforth claim that the use of powdered ipecac will prevent blackhead. A teaspoon is mixed in the food twice a week for each unit of 20 turkeys. This treatment in a flock of 38 young turkeys in 1921 was so successful that not a single bird showed signs of blackhead.

Another blackhead preventive, which was sent to this column by a subscriber last year may be repeated here: To a pint of bran and a pint of bread crumbs add enough boiling water to make a crumbly mash. Let this cool till it is only slightly warm and add 1 quart chopped greens, 1 small chopped onion and 1 cup chick grit or sand. For each 10 turkeys add three drops turpentine and one-quarter teaspoon ginger. This is fed twice a week in place of the regular mash and twice a day for 3 days if white spots (a symptom of approaching disease) are noticed on the back of the legs.

### Sour Milk

Sour milk and cottage cheese have long been the chief dependence of the turkey grower, not only for prevention of blackhead but for symmetrical and rapid growth. It is not always a preventive of this insidious disease but is so wholesome and so well liked by the birds that few growers care to try to do without it. It is considered an important part of the ration at the Rhode Island station, and its function seems to be not so much medicinal as sanitive. It keeps the intestinal tract healthy and helps to maintain complete and normal digestion. If this is done we may snap our fingers at the amoeba and trichinoma, for they cannot multiply under such conditions.

Another feed which is considered absolutely essential by most growers is onions. Blackhead attacks the liver, and onions are supposed to keep the liver functioning properly. They are a part of every meal for the first two months on most ranches. In extension bulletin No. 2 in which he describes the Rhode Island station method of feeding Dr. Hadley mentions onions only as one of many greens which may be used. Possibly their only use is as green feed. At any rate it does no harm and may do good.

Grit should always be a part of the ration of the little turkey—keeping it before them is not sufficient, for they are not fond of it. Mix it in the food so that they are obliged to eat it.

### Keep Them Hungry

More important than onions or sour milk or ipecac is the one rule which cannot be too frequently emphasized: "Keep them hungry." Overfeeding is the one great and overwhelming cause of the inflamed condition of the digestive tract which permits the development of the blackhead parasite. If little turkeys are allowed to gorge and stuff their crops at every meal their end is certain. Chickens by long domestication have become inured to heavy feeding and may be allowed to eat with impunity. Turkeys are still too recently from their wild state, and the wild bird does not gorge, at least when it is small. It walks out with its mother, picking a little here and a little there, a bit of sand, a bite of leaf, a tender fly. Our feeding of them must follow the natural system, "little and often," at first, "little and not often" after they begin to pick up their own food.

There is no certain rule besides this. I have found it a great help to watch their crops and remove the food as soon as the crop begins to feel hard. If one bird is slower than the others it is placed in the bowl and allowed to finish its meal. Miss Kate Warner, pioneer turkey grower of Hemet, follows this same plan. Time feeding cannot be depended on because some birds eat so much more rapidly than others. Watch the crops, and never, never, let them have all they want. They should still be eager for more when the food is removed.

### Chilling

Just what part chilling plays in the development of the backhead parasite has not been determined, but there seems to be no question that it is an element not to be despised nor overlooked. The first week of its life the little turkey is more easily chilled than a chick, and when it is chilled digestion stops, diarrhea begins, and death follows speedily. Little turkeys should be kept indoors when the weather is foggy or rainy, never allowed out in the morning till the dew is off the grass, and protected in every possible way from cold and dampness. One has only to watch a brood of poults and notice how differently they look and act on warm and on cold foggy


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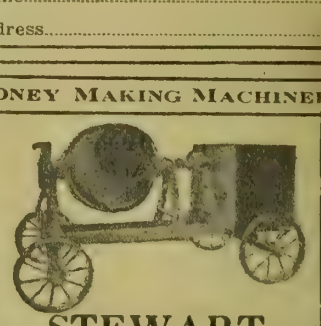

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days to realize how much warmth has to do with their comfort. None of the experts mentions warmth as a factor in the development of the blackhead parasite, but every experienced turkey grower I have talked with realizes its importance. Some brood artificially, some with chicken hens, some with turkey hens; some believe in overhead heat, some in underfoot heat. But all agree that the chilly poult has a very short lease of life.

# Poultry Queries

(Conducted by Jean A. Koethen)

### Wild Turkeys

"Out of 17 poults hatched June 8," Mrs. S. M. Lindesmith of Arroyo Grande, says, "I have not lost one. Whether it just happened so or not I cannot say, but I do know it has never happened to any other flock I have raised."

### Roup

My chickens have a discharge from the nostril and a slight swelling just in front of the eyes, which, when lanced discloses pus or a cheesy formation. Sometimes the eye is affected and seems to slough off in layers of canker. There is no odor. We are on new ground and have tried to be careful.—Subscriber, San Gabriel.

This is a good description of swellhead, one of the severest forms of roup. It is caused in the majority of cases by some error in housing. Are the chickens crowded on the roosts at night? Has the house any other ventilation than that which comes through the wire in front? Winter epidemics of roup are sometimes caused by dampness in house or yard, or by exposure to high or cold or damp winds. A summer epidemic of roup can hardly have any other cause than overcrowding, lack of ventilation or filthy conditions in houses and yards, and the cause must be removed before you can hope to permanently get rid of the disease. To treat, open all abscesses and wash out with peroxide of hydrogen, or warm boric acid solution. Then syringe mouth and nostril with the following mixture: Extract witch hazel, 4 tablespoons; liquid carbolic acid, 3 drops; water, 2 tablespoons, squeezing the bulb 5 times for each nostril and twice for the mouth. To cleanse the eyes use the boric solution, half a teaspoon of boric acid to a cup of warm water. Solution and spray should be used twice a day. Another treatment for mouth and nasal cavities is peroxide of hydrogen diluted 1 to 3 with water. Do not use peroxide on the eyes.

### Paralyzed

Occasionally one of my chickens is apparently paralyzed in the legs and never recovers but eats eagerly and lingers for weeks.—Subscriber, San Gabriel.

It is difficult to diagnose such a case without more particulars. Sometimes chickens afflicted with rheumatism sit around as if they were paralyzed, but genuine paralysis is almost always due to some distrubance in the intestinal tract—it may be worms, it may be severe indigestion, and it may be the result of eating spoiled or moldy food or mineral poisons. Epsom salts given in a little moist mash once a day for several days, one-half teaspoon for each bird, an increase in the amount of green feed, and a ration made more bulky by the addition of bran to the mash, are the remedies indicated.

### Purple Combs

Will you please discuss purple combs?—Subscriber, Imperial.

The purple comb is characteristic of the later stages of enteritis (dysentery) and the earlier stages of liver trouble, but is often seen in other diseases, especially where there is considerable fever, or inflammation. Sometimes the combs of heavy birds are turned dark by exposure to the sun in very hot weather. The term "enteritis" includes intestinal disturbance caused by any kind of poisoning. In all such cases, unless death comes very suddenly, the comb ultimately turns dark. When a good many purple combs are noticed in a flock without symptoms of illness, clogging of the liver by heavy feeding is the probable cause, and the ration should be made more bulky by the addition of bran to the mash and by the use of unlimited green feed. Chopped onions now and then are also valuable, and dandelion leaves are excellent for the liver.

### Liver Trouble

My chickens stand around rather droopy for a day or two and then die. They have free range, plenty of green feed, and rice. The liver of one I killed was very green.—Subscriber, Glenn.

Your chickens have liver trouble from improper feeding. Rice can only be used safely in small quantities and mixed with other grain. If you will keep a dry commercial mash before them, and give a good feeding of grain—preferably wheat, barley and cracked corn—at night, with the greens they get on range you will soon see improvement. It might be a good plan to give Epsom salts twice a week for a couple of weeks. Mix one-half teaspoon of salts for each bird in moist mash and feed just what they will clean up in a few minutes.

### Sick Turkeys

My turkeys, five and six months old, get droopy, their heads become spotted, their droppings yellow, and they die in a few days. I was told this is liver trouble.—Subscriber, Oxnard.

As nearly all turkeys that die a natural death die from blackhead it is safe to suspect blackhead in this case, though it is comparatively rare in turkeys over three months old. The only way to be sure is to perform a post mortem on the next one that dies. If you find the liver spotted with white or yellowish patches and the caecum or blind pouches swollen and inflamed you may be quite sure that the bird died of blackhead. In turkeys of this age the disease would naturally be of longer duration, and it may be they have been gradually losing weight for some time. Dr. Hadley in Bulletin 141 A of the Rhode Island Station says: "In adult birds the evidence for the presence of blackhead is presumptive if there is a loss of appetite, a stupor or languor, voluntary isolation from the flock, and a progressive emaciation." If, in addition to these symptoms, there is a diarrhea one may be almost certain. Of course, bad feeding is always likely to produce diarrhea, and it does not much matter whether or not the blackhead parasite is present. The main thing is to correct the feeding. Nine times out of ten overfeeding is to blame for the death of young turkeys and medicine is of little value. If your birds are on alfalfa, as all turkeys ought to be, they need very little beside. A handful of wheat or barley at night for each bird and a pan of sour milk before them when it is available, makes a very good ration. Turkeys that have not alfalfa range should have all possible green feed, chopped onions occasionally and a ration of bran and barley or bran and wheat.

### To Fatten Turkeys

I have mislaid the copy of the Cultivator in which you gave directions for fattening turkeys for market. Will you kindly repeat them. My turkeys are doing wonderfully on whole barley and alfalfa. I had good luck feeding young turkeys nothing at all; let them eat alfalfa and grasshoppers.—Subscriber, Caruthers.

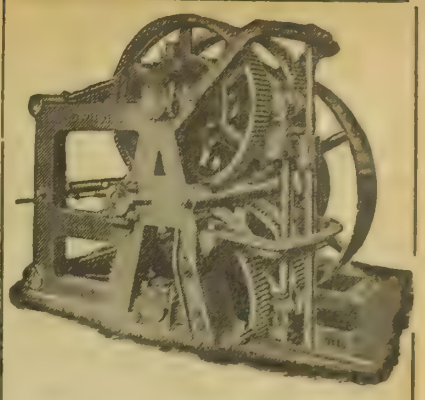
Every young turkey ought to be on alfalfa for at least a part of every day. Losses are inevitable when they are deprived of their natural food and environment. Fattening for market should not begin before October. Whole or rolled barley may be kept before the birds in hoppers after the third month. About October 1 begin giving cracked corn in addition to the barley, and gradually work them onto whole corn. By the first of November let them have both corn and barley constantly before them. Some feeders add a mash of bran and corn meal once a day moistened with sour milk, and some depend on the whole grain. Turkeys cannot be fattened as rapidly as chickens can. They must take their time.

### Roup in Turkeys

It looks as if I would lose half my flock of turkeys with roup, and I can find no cure. Is it true that roup is more prevalent away from the coast than near it? Last year near the coast I had no trouble at all with this disease. This year in this high dry valley both I and my neighbors are much troubled.—Subscriber, Hemet.

I have had no experience in interior valleys but from the number of turkeys raised in Hemet, Antelope and Victor Valleys I feel sure the season rather than the location must be to blame. Are you letting your birds roost in the open? An open shed is all the protection they need in the coldest, wettest weather, and young stock in summer should roost under the sky. If roup is so general in your neighborhood it may be because your stock is all related and all has roupy ancestry. Turkeys that roost in the open will not have roup unless the tendency is inherited. The simplest treatment for roup is the potassium permanganate treatment. Drop a few

(Continued on Page 327)

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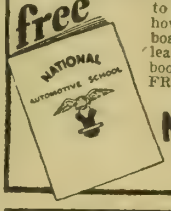


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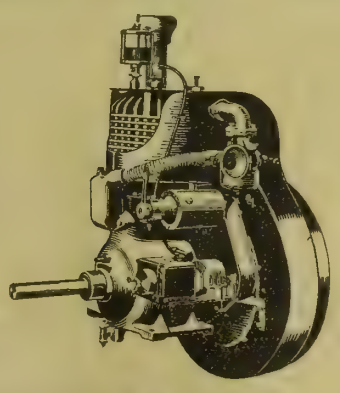

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## Los Angeles Markets

Los Angeles, September 20, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 59 cents.

### CHEESE

Brokers' prices:
California flats, 25@27.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 46; case count, 39; pullets, 34.

### POULTRY

Price to producers L. A. produce exchange: Hens, 19; colored, 30; broilers, 32; roasters, 30; old roosters, 14; fryers, 28; ducks, old, 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 45@50; capons, 35.

Belgian hares, 11@14; old, 8.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, September 19, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement slow, market dull. New Stock: best, locals, sacked, 1.35@1.65; mostly, 1.60@1.65; poorer, low as 1.00 sack; Northern, Rivers, 1.90@2.15 cwt.; Sweets, local, lb., 3½; Northerns, 3½.

Onions: Demand and movement slow, market steady. Stocktons: Yellows, 1.25@1.50; Whites, 1.25@1.50. Locals: Whites, 50@60; Spanish, 90@1.00 lug. Garlic, Mexican best, 7 lb.; Northern, 6@7.

### PRODUCE MARKET

Supplies heavy: Apples, cucumbers, grapes, onions, peaches, plums, potatoes, squash and watermelons.

Suplies light: Beans, cabbage, cantaloupes, grapefruit, lemons, lettuce and oranges.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, September 19, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: San Pedro: Kentucky Wonders, 7@8; Limas, 4@5.

Bunched Vegetables: Per dozen bunches: Turnips, beets, parsnips, 30@35. Parsley and radishes, 15; spinach, 25.

Cabbage: Market steady, quality generally good. Field cr., best mostly 2.25@2.50.

Cauliflower: Per doz., 90.

Cucumbers: Local, lug, 1.00@1.25; Pickling, 1.75@2.00.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, best, 3.00; poorer, 2.50@2.75.

Corn: Green, local, best, lug, 60@90.

Eggplant: Local, 3@4.

Lettuce: Market steady. Locals: Ordinary, leafy, 75@90 cr.; Northern, 3.25@3.50 cr.

Okra: Lb., best, small, 6@7.

Peas: Best, Northern, lb. few best, 11@12.

Peppers: Locals: Bells mostly, 3@4; Chilis, 3@4 lb.; Cherry, 7; Fla. Gems, 7; Pimentos, 8.

Squash: Market steady. Locals: Summer, lugs, 45@50; Italian, lugs, 65@70.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs, best pink, 65@85; ripe, 40@60.

### FRESH FRUIT

These are actual prices obtained September 19 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurans, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Gravensteins, loose, 3 lb.; packed, fancy, 1.35@1.50; Bellflowers, many green, fancy, 4 tier, 90@1.00; 3½ tier, 1.00@1.25 per box. Crabapples, northern, 4@5 per lb.

Crabapples. Northerns, 4@5 lb.

Cantaloupes: Tip Top and Paul Jones, 75@1.00; few best, 1.25.

Figs: Black and White, 7@8.

Grapes: Demand slow, market steady. Northerns and Locals: Malagas, 4; Muscats, 3; Tokays, 6@7 lb.; Black Hamburg, Rose of Peru, 4@5; Black Prince, 6.

Peaches: Market steady. Locals and Northern, freestone and cling, all varieties, 3@4 lb.

Pears: Demand good, market steady. Northern: Bartletts, mostly 4@5; locals, 4@4½.

Plums: Demand and movement slow, market steady. Per lb.: Locals 2@4; Northerns: Various varieties 3@4 lb.

Watermelons: Local Klondike, best, 75@1.00; poorer, low as 50 .

### HONEY

Honey flow in Southern California curtailed after orange flow by drouth. Crop alfalfa honey light due to damage to crop in Northern section by adverse weather conditions and to reduction of acreage in Southern California. Demand and movement moderate, market steady. Carloads f. o. b. usual terms per pound. Extracted, White Orange mostly, 9½ cents; White Sage, 8@8½; Light Amber Sage, 6½@7; Light Amber Alfalfa, 4¼@6½. Comb: Buyers reported offering $2 70 per case for carlots f. o. b. Inyo County points ,but no large sales reported.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

Prices quoted f. o. b. L. A. to producers:

| | |
|---|---|
| Tame Oat | 20.00@22.00 |
| Barley Hay | 16.00@18.00 |
| Rabbit Alfalfa | 24.00@26.00 |
| No. 1 Dairy | 22.00@24.00 |
| Standard Alfalfa | 16.00@18.00 |
| Wheat Straw | 8.00@10.00 |
| Barley Straw | 7.00@ 9.00 |

### GRAIN

California Farm Bureau Marketing Exchange reports:

Wheat is strong and advancing somewhat. Eastern firmness makes stronger the California farmers position; still we are above the average level of United States markets, and continued advances in Chicago would be necessary to maintain even our present level of California prices. At present demand is good for better grades at from $1.80 to $1.90 Los Angeles.

Barley is locally strong, best quality selling at $1.32½; poor grades hard to sell, $1.20 to $1.25 being the going range. Good No. 1 feed will bring $1.27½. There is an inclination on part of farmers to hold back shipments, although the country contains much barley and not much export business so far.

The Farm Bureau Exchange writes under date of September 16:

Here is an accomplishment on the part of the California Farm Bureau Exchange. It is a clear demonstration of what can be accomplished through hearty cooperation and united action. After considerable effort succeeded in getting the Chevalier Barley growers of Monterey County to sign up their grain in such a manner as to permit sale exclusively through the California Farm Bureau Exchange.

The major portion of this barley was to be handled under the pool plan, some growers, however, preferred not to select the pool plan on account of their financial situation, and therefore turned their grain over to the exchange on the consignment plan, with the understanding, however,, that the exchange would handle it. Fully 90 per cent of the growers accepted this idea. The crop this season is possibly one of the largest on record. The quality is excellent, in view of the fact that the crop was large, grain buyers, as well as milling interests resorted to every imaginable method of trying to keep the pool from going through. These lots they were able to purchase at prices averaging from $1.25 to $1.45 per cwt. f. o. b. cars, shipping point.

We now have to report that we made a large sale today, for shipment to London and Hull, England, at a price equal to $1.96 per cwt. f. o. b. boat San Francisco Bay, which is equal to approximately $1.71¼ per cwt. f. o. b. shipping point.

In other words, the grain which the commercial interests termed as being "a burden on the market and something which should be selling at from $1.25 to $1.45 f. o. b. cars," has been sold by the farmers direct through their own organization at prices averaging from $5.00 to $9.00 per ton greater than these commercial interests were willing to pay.

## San Francisco Markets

San Francisco, September 19, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 49 |
| Prime Firsts | 43½ |
| Cal. Firsts | 41 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Young America, fancy | 26½ |
| California Flats, fancy | 27 |
| Oregon Trips | 23½ |
| Oregon Young America | 26 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 47 |
| Extra Firsts | 43 |
| Extra Pullets | 37½ |

### POULTRY

Fryers, 29@32; broilers, 28@38; young roosters, 24@36; old, 16@18; hens, 14@31; ducks, 18@20; turkeys, live, 32@52; squabs, doz., 3.00@3.50; Belgian hares, lb., 15@18; Jack rabbits, doz., 2.00@2.50.

### FAT HOG AUCTIONS

California Farm Bureau Marketing Association Reports:

| No. Hogs | Av Wt | Dock | Price |
|---|---|---|---|
| **Fresno, September 8** | | | |
| 41 | 166 | .... | 10.75 |
| 15 | 213 | .... | 10.25 |
| 13 | 149 | .... | 10.25 |
| 1 | 220 | .... | 7.75 |
| 70 hogs | | | |
| 1 car, 6 consignors, $1,277.05. | | | |
| **Corcoran, September 11** | | | |
| 77 | 170 | .... | 10.25 |
| 48 | 171 | .... | 9.80 |
| 12 | 216 | .... | 9.75 |
| 162 | 177 | .... | 9.75 |
| 9 | 184 | .... | 9.30 |
| 13 | 248 | .... | 8.80 |
| 3 | 410 | 60 | 6.80 |
| 5 | 334 | 100 | 6.75 |
| 329 hogs | | | |
| 4 cars, 15 consignors, $5,818.40. | | | |
| **Tulare, September 12** | | | |
| 100 | 154 | 10 | 10.55 |
| 37 | 132 | .... | 10.55 |
| 76 | 221 | .... | 10.25 |
| 88 | 191 | 20 | 10.25 |
| 82 | 193 | 20 | 10.05 |
| 90 | 175 | .... | 10.00 |
| 7 | 228 | .... | 9.00 |
| 11 | 291 | .... | 8.00 |
| 12 | 375 | 240 | 7.00 |
| 2 | 485 | .... | 3.00 |
| 1 | 100 | .... | 2.00 |
| 506 hogs | | | |
| 6 cars, 51 consignors, $9,488.85. | | | |
| **Visalia, Septmeber 13** | | | |
| 26 | 135 | .... | 10.90 |
| 89 | 190 | .... | 10.40 |
| 15 | 174 | .... | 10.15 |
| 90 | 170 | .... | 10.10 |
| 56 | 225 | .... | 9.65 |
| 6 | 169 | .... | 9.60 |
| 1 | 320 | .... | 6.65 |
| 283 hogs | | | |
| 3 cars, 2 consignors, $5,292.59. | | | |
| **Hanford, September 14** | | | |
| 99 | 159 | .... | 10.25 |
| 39 | 174 | .... | 10.20 |
| 89 | 173 | .... | 10.00 |
| 85 | 188 | .... | 10.00 |
| 73 | 189 | .... | 10.00 |
| 34 | 229 | .... | 9.70 |
| 70 | 104 | .... | 9.50 |
| 5 | 318 | 90 | 7.20 |
| 494 hogs | | | |
| 5 cars, 34 consignors, $8,490.35. | | | |

Totals: 19 cars, 1682 hogs, 128 consignors. $30,367.24.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: River, fy., 1.25@1.50.

Sweets: Merced, new stock,, 2¼@3 per lb.

Onions: Green onions, 1.25@1.50 per box; new crop, yellow, $1.25@1.35; Stockton reds, 1.25@1.50. Garlic, 3@5 lb.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, September 18, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per doz., 6.00@10.00.

Beans: Kentucky Wonder, Blue Lake and wax, 4½@6 per lb.; Italian, 6@7; Lima, 6@7 per lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Celery, 2.50@4.00. cr.

Corn: Green, 10@15 doz.

Cucumbers: Lug, 70@90.

Eggplant: lug, 60@65.

Lettuce: Local, best, 1.50@2.00 cr.

Peppers: Cal. Bells, 60@75 lug; Chili, 50@65 lug.

Rhubarb: Box,, 1.00@1.25.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 75@1.00; beets, 1.00@1.25.

Spinach: Lb., 3@4.

Squash: Summer, 65@85 cr.; Italian, 75@85.

Tomatoes: Lug, 50@75; Peninsula, 75@90; plum tomatoes, 15@20 per doz.

### FRESH FRUIT

Apples: New crop, green, 75@1.25 lug box. White Astrachans, 1@1.50; Gravensteins, fancy 3½@4 tier, 1.50@2.00; Alexanders, 4@4½ tier, 1@1.50 box. Crabapples, 50@1.00 lug. Bellflowers, 90@1.00; Winter Pearmains, 1.50@2.00; Fall Pippins, 1.00@1.50.

Avocados: Fla. and Tahiti, 4.00@7.00; poorer, 75@1.50.

Blackberries: Dr., 15@30.

Cantaloupes: Turlock Standard, 75@1.00; Honeydew and Casabas, flats, 50@1.00; Persian Melons, 75@1.25 cr.

Figs: Black, 75@1.00, double layer box; Calimyrna, 60@75 per crate.

Grapes: Thompson seedless, 75@1.00 per lug; large, 1.00@1.25; Malaga, Tokay and Muscat, 1.00@1.50 per crate; do, lug. 1.25@1.50; Rose of Peru and Isabella, 1.25@1.50 per cr.; wine grapes per ton, Zinfandels, $95@100; Malagas and Muscats, $45@50.

Huckelberries: lb. 20@25.

Peaches: 50@1.00 per basket; 90@1.25 per crate; 1.00@1.50 per Los Angeles lug; do large, 1.00@1.50 per lug; cling, 1.75@2.25 per large lug.

Pears: Bartlett, $1.75@2 per box; No. 2, $1.00@1.50.

Cal. Pear Growers prices to canners ton: No. 1 Bartlett, 75; No. 2, $40.

Plums: Best, $1.00@1.25 cr., 1.00@1.25 lug.

Raspberries: Dr., 50@55.

Strawberries: Local, dr., 45@55.

Watermelons: ¾@1 per lb. and less.

### HAY AND FEEDSTUFF

A. W. Scott Co. says under date of September 9:

Receipts of hay for the past week 1477 as compared with 1177 of the previous week.

The local market has been weak and the arrivals very heavy toward the end of the week and dealers making strenuous efforts to break the congestion. Export and coast shipments have been more active namely being forced in an effort to move accumulated stocks. Transportation has been easier and has aided in the general movement.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions.)

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@17.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 14.00@16.00 |
| Wild Oat and Barley | 10.00@12.00 |
| Alfalfa Hay | 15.00@16.00 |
| Stock Hay | 9.00@11.00 |
| Straw | 9.00@11.00 |
| Barley, Ground | 29.00@30.00 |
| Rolled | 27.00@29.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 31.00@34.00 |
| Millrun | 31.00@34.00 |
| Middlings | 42.00@44.00 |
| Linseed Meal | 58.00@60.00 |
| Cocoanut | 33.00@36.00 |
| Alfalfa Meal | 25.00@27.00 |
| Cottonseed Meal | 50.00@55.00 |
| Molasses Beet Pulp | 34.00@36.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

## Citrus Markets

Los Angeles, Sept. 20, 1922.

Only about 20 to 50 cars of oranges are being shipped daily. Limited offerings are commanding exceptionally long prices.

The hot weather has given a boost to the lemon market and everything in sight is being cleaned up.

**Citrus Shipments**

Shipments of citrus fruits to date since November 1, 1921. Southern California:


# New Lamp Burns 94% Air

## Beats Electric or Gas

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal-oil).

The inventor, W. V. Johnson, 31 N. Fifth St., Portland, Ore., is offering to send a a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help him introduce it. Write him today for full particulars. Also ask him to explain how you can get the agency, and without experience or money make $250 to $500 per month.

# Los Angeles County Fair

## Pomona Oct. 17-21

A Great Livestock Show
Horses, Cattle, Hogs, Sheep, Goats, Rabbits, Poultry, Cavies, etc.

NIGHT HORSE SHOW
$3,000 in Prizes

WONDERFUL RACE PROGRAM
$6,500 in Purses

THRILLING CHARIOT RACES
$1,000 Each Race

Agriculture Industrial
Autos
Trucks and Tractors
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All Roads Lead to Pomona
Oct. 17-21

Prevent
# Blackleg
by using
# Blacklegoids

Scientifically Prepared and Tested Blackleg Vaccine in Pill Form

Consult your veterinarian or druggist. Write for free booklet on blackleg. No. 351.

Animal Industry Department of
Parke, Davis & Company
DETROIT, MICH.

Oranges, 22,178 cars; lemons, 9,312; total, 31,490. To same date last season: Oranges, 37,553; lemons, 10.714; total, 48,-267. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,603 cars; lemons, 185; total, 6,788. From Northern California to date this season: Oranges, 372; lemons, 8; total, 380. To same date last season: Oranges, 305; lemons, 5; total, 310.

### AT THE AUCTIONS

**September 18**

New York: 19 or., 1 lem. Val. 4.55@12.75, lem. 9.70@10.15.

Boston: 7 or., 2 lem. Val. 3.30@8.65; lem., 5.50@8.45.

St. Louis: 2 or., 1 lem. Val. 4.25@6.90; lem. 1.85@2.95.

**September 19**

New York: 10 Val. 5.40@12.00.

Boston: 5 or., 2 lem. Val. 3.25@9.65; lem., 6.40@8.25.

Philadelphia: 6 or., 1 lem. Val. 2.70@9.05; lem., 6.35@8.85.

Pittsburgh: 2 or., 1 lem. Val. 4.80@7.50; lem., 5.60@7.70.

St. Louis: 1 or., 1 lem. Val. 5.00@6.60; lem., 3.65.

## Snappy Notes on Livestock

**Any error herein is unintentional and subject to correction the following week. This summary is assembled from the best sources obtainable, and both producers and packers can assist by reporting actual sales or buys, giving names, dates and facts, and we will, if requested, withhold names. All we want is fact and a fair deal and correct information for the producers. Address A. L. Spellmeyer, care California Cultivator, 317 Central Avenue, Los Angeles. The Cultivator reaches over 40,000 producing farmers and livestock men.**

Government livestock reorts have started, and quotations approximate for Los Angeles 8 cents high to 6 low for steers and cows 4 to 6.75 with swine around the 200 pound mark 10 to 11, and lambs 12 to 13.

Carcass lists are around the 13.50 top steer mark, 12 cow mark 18 pork and 27 cents lambs.

Association lamb reports show 10.50 Yolo County up to 12.25. Some Nevada lamb feeders sold at 9 to 10 from association reports and information brings me details of 8 cents Nevada feeder lamb sales in the Winnemucca district.

Veal calves seem to be 7 to 8 everywhere, Arizona, Denver or Los Angeles. Feeder steers seem to be running around a 6 cent average in Colorado.

The Midland Texas yearlings are reported sold at $32.50 per head and the C. C. C. cattle of Arizona reported sold at $32 per head. Various lots of Northern Arizona yearlings sold at $25 per head. The Reid Cashien twos feeders are reported sold at 5 cents per pound and buyer had a chance to turn at 5.50 from rumors, 6.50 is the price f. o. b. Hackberry reported for the Duncan contract bought by Hauser, fat twos up from some 2000 steers.

All of the above is the optimistic run of fact, and as I am putting out a fact bulletin, and giving it straight, no matter who it displeases, I have another side to present.

The carcass lists on cows are cut heavily. I know of ten cent cow beef sales and of 11 cent sales and I hear some poor cow beef is being cut to the 8 cent mark.

The district around Kingman, Arizona, had a wonderful year and cattle are very good. Buyers cooled their heels around Holbrook and Flagstaff etc. and got very little rushed. I am told 15 of them are now bidding and going it strong, as in days of cattle prosperity. The same thing has happened evidently in another part of Arizona and at least one district in Texas. It may be prophetic.

However at the identical time and near where the $32 yearling Arizona steers sold to go to Colorado, 2000 long age twos of equal bone and size have been offered at $35 per head. Thousands of good New Mexico steers are still unsold at the $25 for ones, $35 for twos and $45 for 3s, and that isn't all the story.

I know of bunches of both thin and fat cattle for sale in New Mexico and Arizona priced so entirely different from the optimistic line up, that I wonder what is the matter with these "hotel buyers" that they warm chairs.

Good cows can be bought now, not thin, but called fat and which are in good shape at $30 per head. Other cows at $25 and some lots of thin cows and cows with calves at prices that no buyer should hesitate at. Some of the short grass districts where it is dry are offering good mixed Hereford-Durham cows, thin but in shipping condition, from 6 to 10 years old, at prices that approximate $20 per head and these are considering the $32 yearling steer prices almost gift buys.

The crime of it is for cows to be sold so cheap as to glut the market. Again it is a crime economically for these breeding cows to go to the shambles at all. In the inevitable cattle comeback the cow is the animal of them all that will double and triple in value.--A. L. Spellmeyer.

### HOLSTEIN ANNUAL READY

"Within the past 15 years California developed her first 30 pound cow. Today she is credited with over 7 per cent of all such cows of the breed."

"Less than 15 years ago the first cow to make 1000 pounds butter in California was developed. Now we have around 60 such cows to our credit or more than 10 per cent of the total of the breed." These quotations are from the mass of information about Holsteins in California and elsewhere which has been gathered together by Charles L. Hughes, secretary of the California Holstein-Friesian Association, and published in a very pretentious annual report. Together with the figures set down in the various tables and reports showing the producers, sales, records for production, state champions, etc., are many photographs of the champion show animals and each of the 1000 pound cows which has been developed in California. As Mr. Hughes says in his foreword, "This booklet is arranged in such a way as to make some of the most essential facts and figures easily available for reference to the busy breeder and student of Holstein affairs."

The book is a mine of information concerning Holstein cattle and should be in the hands of everyone interested in the breed. Copies may be obtained by writing to the California Holstein Friesian Association, Ochsner Building, Sacramento.

### MILK AND CREAM CONTEST

(Continued from Page 322)

Goat Milk, Raw—1, Mrs. L. P. Lommel, Napa, 92.8; 2, Richards & Wagner, Montara, 92.6; 3, F. Busboom, Los Angeles, 92.45.

### WINNERS IN STATE FAIR BUTTER FAT PRODUCTION

Mature Cows—Ava Model Hengerveld 2d, Fred Hartsook, milk 248.2, fat 7.427; Leonard Farm Erma, W. J. Hackett, milk 148.3, fat 6.836; Lady Cornucopia Mercedes, Fred Hartsook, milk 195.4, fat 6.827; Bylaria 2nd, Berylwood Stock Farm, milk 164.4, fat 6.506.

2½ to 4 Years—Leda De Kol Ormsby Hartog, Berylwood Stock Farm, milk 112.2, fat 6.492; Wadnah Ormsby Skylark, Fred Hartsook, milk 135.3, fat 6.233; Foxy Lass of Orland, W. E. Gurnett, milk 105.9, fat 5.868; Sarcastic Dulcing Jewel, Fred Hartsook, milk 163.0, fat 5.557.

Under 2½ Years: Fox's Sunshine Betty, Marguerite Conant, milk 85.1, fat 4.997; Lilly McKinley Ormsby, Fred Hartsook, milk 142.1, fat 4.551; Pearl of Willowood 3d, Charley Krause, milk 90.4, fat 4.470; Leonard Farm Agnes, W. J. Hackett, milk 93.3, fat 4.427.

### STUDENTS JUDGING CONTEST

In the judging contest for college students for the cup offered by the California Cultivator R. A. Malmstein was first with a score of 651 points. He had taken fourth place in dairy cattle with 139 points, first in sheep with 138 points, second in swine with 132 points, first in horses with 142 and fifth in beef cattle with 110 points. The total of his points was 60 more than that of his nearest competitor. The contestants with their score are:

R. A. Malmstein, first and cup winner with score of 651; G. H. DuBuisson, 591, 2d; W. D. Auerbach, 591, 3rd; F. R. Wilson, 590, 4th; J. E. Warne, 573, 5th.

Sheep Judging—Prize, a share of stock in American Shropshire Registry Association, won by Ralph Malmstein, 289 West Dormitory, Davis.

### POULTRY QUERIES

(Continued from Page 325.)

crystals in a quart measure or lard pail of warmish water, and dip the head of the affected bird in it, holding it under while you count ten. If there are abscesses under the eyes they should be opened and washed out with peroxide of hydrogen before the head is dipped. Repeat the dipping morning and night, always preparing the solution fresh, for it loses its strength when exposed to the air. Another treatment recommended by Dr. Sanborn consists in spraying nostrils and other mucous surfaces with this mixture: Extract of witch hazel, 4 tablespoons; liquid carbolic acid, 3 drops; water, 2 tablespoons. He applies the spray twice a day, squeezing the syringe bulb five times for each nostril and twice for the mouth.

### WEATHER REPORT

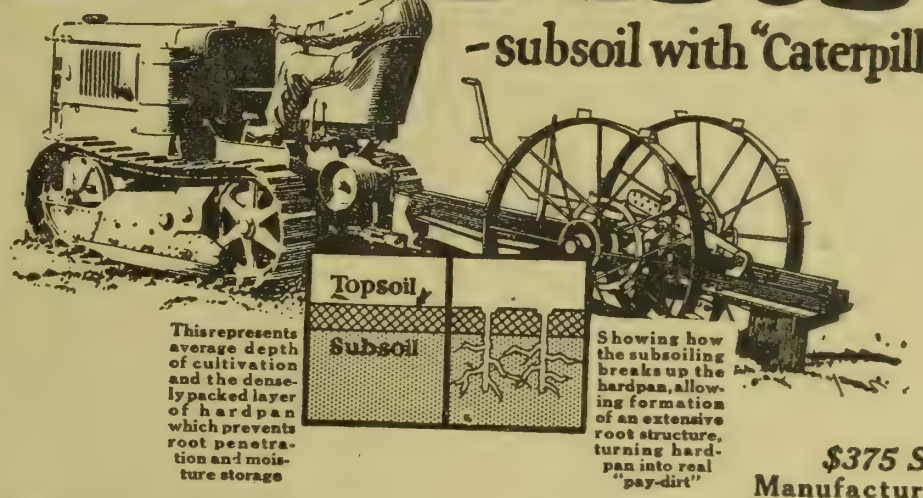
San Francisco, Cal., Sept. 16, 1922

| Stations | Rainfall Week | Rainfall Season | Temp. Norm. | Temp. Max. | Temp. Min. |
|---|---|---|---|---|---|
| Eureka | 0 | .05 | .54 | 76 | 48 |
| Red Bluff | 0 | .30 | .18 | 108 | 66 |
| Sacramento | 0 | T | .13 | 101 | 64 |
| San Francisco | 0 | T | .01 | 80 | 55 |
| San Jose | 0 | T | .13 | 92 | 54 |
| Fresno | 0 | T | 0 | 104 | 68 |
| San Luis Obispo | 0 | T | .10 | 96 | 54 |
| Los Angeles | 0 | T | 0 | 96 | 62 |
| San Diego | 0 | .01 | 0 | 76 | 62 |


Unlock that vein of

"PAY DIRT"

-subsoil with "Caterpillar" power




This represents average depth of cultivation and the densely packed layer of hardpan which prevents root penetration and moisture storage

Showing how the subsoiling breaks up the hardpan, allowing formation of an extensive root structure, turning hardpan into real "pay-dirt"

UNLOCK the rich treasures of your subsoil—the real "pay dirt" on your farm. Give the roots more room to grow; give the moisture greater storage space. Subsoiling with "Caterpillar" power is the way. One man writes: "30% increase in grape crop first year of subsoiling". Another says: "A short time after subsoiling my orange trees showed more new growth than preceding 2 years." Many other letters tell of bigger profits from subsoiling.

"Caterpillar" T35 Tractor is the one tractor small enough for all orchard and vineyard work and yet powerful enough to handle the heavy job of subsoiling. It is only 48 inches wide and 52 inches high but delivers 15 horsepower at the drawbar.

The versatility, economy and dependability of "Caterpillar" T35 Tractor are axioms among its many owners. Other sizes of "Caterpillar" Tractors—5-Ton, Western 10-Ton and the big "75" meet other, bigger power needs. Write at once for information about "Caterpillar" Tractors and subsoiling tools.

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Manufacturing economies resulting from increased production have made possible a recent reduction of $375 in the price of "Caterpillar" T35 —the Supreme Small Tractor

*How "Caterpillar" T35 Handles Subsoiling*

"I subsoiled 65 acres of vineyard and 30 acres of pasture 16 to 18 inches with my "Caterpillar" T35 and had wonderful success. It does all you claim."
*Oliver S. Neuman, Woodbridge.*

"I pulled a new subsoiler so easily with the T35 that I had to instruct my man to use the soft pedal to avoid breaking the subsoiler."
*W. O. Gaines, Lindsay*

The Holt Manufacturing Co.

*Stockton, California Peoria, Illinois*

*Los Angeles*
*San Francisco Spokane*

90 EGGS AND THE HEN IS JUST PAYING HER "KEEP"
120 EGGS AND THE HEN IS JUST PAYING A PROFIT—

but why stop with

AUTHORITIES estimate it takes 90 eggs a year to cover the "keep" of a commercial hen—and 120 eggs to make just a profit. But—there's the rub! How are you going to get the extra eggs—the eggs that make the big bank-book difference between just a *profit* and a *just* profit?

The average hen under natural range conditions will produce only about 75 eggs a year. Yet *proper feeding and care* have developed commercial flocks that average 120 to 150 eggs a year per hen. Some flocks will range even higher.

It's all a matter of feed and care. The feed must be clean, tasty, varied. The elements of an egg are derived from many sources. Therefore, the greater the variety of feed ingredients the better. SURELAY contains a dozen tested ingredients balanced and blended according to the famous Sperry formula. It is made so good, so uniform, so tasty, that every time Mrs. Hen takes a peck at it she is eating something that goes into the making of an egg.

You know that Nature provides each hen with a certain number of embryonic ova. These are minute yolks which, under ordinary conditions, will take the hen a number of years to produce. But that isn't very profitable. So it is your job as a poultryman to secure the most eggs in the least time—and keep the hen in *good health* all the while.

SURELAY will give every hen in your flock an opportunity to pay not only her board bill but pay *you* a profit. This prime quality feed calls the "egg-making department" to order—makes it produce—and keeps the hen in "fine fettle" all the time.

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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — September 30, 1922 — No. 14

## Hemet Apricot Growers Use Plenty of Props

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877 Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, Sept. 30, 1922

### OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

### EDITORIALETTES

Apricots are sometimes more or less demanding in their exactions as to soil and climate. It is to be noted that the state's great commercial production of this wonderful fruit is confined to little more than a dozen widely separated localities. One of these sections is in Riverside County up against the foothills, perhaps a score of miles east of the city of Riverside. The little city where the drying and canning is done is known as Hemet. The best of proof as to its fitness as a grower of the luscious apricot is given on the cover of this issue. The apricot is king in Hemet.

* * *

Regarding that scene on the cover we have from the Hemet Valley Chamber of Commerce the following: "The picture is one taken of a Tilton apricot orchard on the ranch of S. C. Miller, near Hemet, and producing this season 44 tons, 237 pounds of apricots from 188 trees. These trees were set out six years ago last March, 24 feet apart each way."

* * *

Pitt River is celebrating a great event on Saturday of this week. The waters have been harnessed and the first demonstration of the power of Pitt River's white coal when once brought into harness is to be given at that time. California has made all too small use of the water power going to waste. More, it has allowed all too much waste in irrigation possibilities. More attention is given to it today than ever before, and we hope before another year still greater advance will be made in conservation of power and irrigation water.

* * *

Reports given in the columns of the Cultivator of boys and girls judging contests, but more particularly regarding calf and pig club exhibits at the various fairs, remind us of a question we saw in an Eastern farm paper the other day. The question was: "Who owns the calf?" The article proceeded to discuss the value of training the youngsters through raising their own calves on the farm and then called attention to the old time habit of Dad—when the animal was ready for market he did as did his own father and his father before him, drove the calf to market and forgot to recompense the real owner. We know that the fathers of today are vastly different, yet there is occasionally one who sticks to the old-time idea that all the boy or girl earns until after majority belongs to the parent. Encourage real business education on the part of the youngsters, and the best way to encourage that is through actual transactions with their own property.

* * *

To the end that the education may be as complete as possible it is also fair to the youngsters that they realize it costs money to buy feed or to maintain pasture. It is very probable that looseness in this particular gives the youngster a false idea as to the real business training required to meet the problems which confront the farmer. Charge them up with the feed and they will be keener on the job of securing every ounce of nutrition from it. They will then be in a position to understand the old saying: "Scrub stock will eat anything; even money."

* * *

Texas appreciates the need for more trees. Her agricultural college has issued Bulletin 293, "Cultivation and Care of Trees on Texas Farms." The bulletin touches on care of both orchard and forest trees but gives more particular attention to timber, shade and windbreak trees than to deciduous fruits. The bulletin especially urges that the planter give attention to the woodlot after the planting rather than to follow the usual custom of allowing the tree to shift for itself once its roots have been placed in the soil.

### SAFETY FIRST

Last week's article with the above title called attention to daily loss of life from traffic accidents in one city of this state. It has brought comment from one subscriber who has dug into figures and found that "3,000 automobiles were struck at grade crossings in this country this year. In these accidents over 2,000 men, women and children were killed and over 3,000 others seriously injured. In literally dozens of instances whole families were wiped out of existence."

Let us be more careful.

### MORE TRUCKS

We suppose that truck drivers as well as railroad men may go on strikes, but there surely is less liability of a complete tie-up of traffic where trucks are available. Without question their use will increase in spite of the campaign to discourage it. Truck drivers themselves have been responsible for some of the opposition to trucks on public highways. Overloaded trucks driven at high speed materially injure and shorten the life of the best of paved highways. With reasonableness on the part of drivers and reasonableness on the part of law makers we believe proper methods of loading and driving will be developed and the usefulness of the truck extended.

### SAVING AN INDUSTRY

State and federal forces are thoroughly organized and ready to meet the situation created by the coming of the "City of Los Angeles," which makes her first entry from Honolulu at the port of Los Angeles next Sunday. She is coming into port with 450 passengers which is said to be the largest passenger list, excepting on government transports, entering any Pacific Coast port. Those passengers have spent the past two or three weeks at the various Hawaiian Islands and presumably have bought quantities of fruit which they will wish to bring in to California friends. Presumably they will be informed by the ship's officers as to the Mediterranean fruit fly menace at the three mile line and all fruit will be thrown overboard. State officials will take no chances and thorough inspection is planned. A. P. Messenger in charge of plant quarantine at the port now has three inspectors. A. C. Fleury, formerly in charge of the port and now in charge at San Francisco, is here to aid in the inspection. Commissioner Ryan's inspectors and State Quarantine Officer Vary will also aid.

California is determined to keep out the fruit fly pest. It is costing thousands. It means millions.

It means the saving—or the losing—of the fruit industry.

### SOIL ACIDS

The scientists get us well grounded in one belief only to demolish it to establish another. We feared "soil acids" for years. Now a professor in Ohio state university says:

"Though organic matter in the land does in its decay make acids, these are destroyed as fast as made and organic matter is in the end more likely to sweeten than to sour a soil. With the exception of water logged or swampy soils, organic acidity is no longer believed to be of any importance.

"Acid phosphate also is said not to bring on acidity but to counteract its effects. Even such fertilizers as sulphate of ammonia, against which many colleges issued warning a few years ago, are believed not to leave sufficient acid residue under usual conditions to be of great importance.

"Industrial plants and railroads in Ohio burn each year about a ton of coal for every acre of land in the state, and this releases into thin air large volumes of a sulphur gas which raindrops gather up and deposit on the land where it changes to sulphuric acid. Illinois finds 45 pounds of sulphur per acre per year reaching soils near Urbana in this way. It would take 150 pounds of limestone alone to neutralize this acid, and to keep the soil sweet."

### MORE FIRES

In your issue of September 23 I noticed in your editorialettes an article "Fires" reading in part: "Everyone was started because some human was careless or worse." No doubt a good many of them were, but not all. One of the heaviest fires that ever raged on the San Jacinto Mountains was started by lightning. This year several were started in the sage country south of Hemet by lightning. One started the same way near Fallbrook that I know of. The one on San Jacinto Mountains and one in the sage country I saw myself when lightning struck. How many fires are the rangers sure were started by careless humans? Certainly such humans that do start fires are worse than careless and I surely do want to see all of them caught and well punished. However I hate to see or hear of some "careless human" unjustly blamed when Old Man Lightning should be. Don't you think your editorialette stands for correction?—W. S. Williams, Hemet.

We appreciate the correction, for it is one. We all know that lightning is the cause of many a disastrous conflagration, even in the California mountain regions. We have seen the statistics, and the exact figure has passed us, but we believe that lightning was charged with some 20, or possibly it was 30, per cent of our forest fires. So we will have to confess that we were perhaps a bit overzealous in our hyperbole that all fires were caused by carelessness of humans. However, we are still two-thirds to the good, and we hope the lesson will still stand.—"Be Careful."

We have all seen the carelessly tossed cigarette stub or match, less often the deserted campfire only half extinguished, or we have seen the hunter leave the smoking wad near a bunch of tinder or, again, the sparks from the exhaust of a gas engine, and it seems that the human is prone to carelessness. In order to make the lesson more impressive we may be permitted to make confession and give a personal experience.

It was nearly two score years ago when the writer of these words was a green youngster from the green fields of "back East," totally ignorant of the combusible nature of California sage, greasewood and chaparral. A field was to be cleared and the match seemed the quickest way. It worked admirably; the fire started on a wild race off of the property to be cleared. The frightened youngster did some of the hardest work of his life. The neighbors also came, but had it not been for a road and wide expanse of a dry wash aiding in the fight the loss would have been enormous. The lesson was taken to heart, and since then he has assumed that like human carelessness has caused much of our losses here in California. Hence our education is to be encouraged without taking the risks some of us were willing to take.

We still insist that human carelessness is responsible for awful loss in California and we appreciate Mr. Williams correction for we believe his desire is to make a stronger appeal by making technically correct.

By the way next week, October 2-9, is Fire Prevention Week in the United States. And Fire Prevention Week means that an effort will be made during that week to educate careless humans to have a heart and help educate the rest of us so we may all unite and help save the nearly half billion dollars which we are now charged with burning every year in this U. S. A.

Lest we be charged with a bit of over-statement again, we quote: "In the most recent estimate by the actuarial bureau of last year's contribution to the national ash heap, it was $485,000,000."

California Cultivator

Vol. LIX, No. 14 Los Angeles, September 30, 1922 One Dollar Yearly

# The Southern California Fair and Other Agricultural Exhibitions

## SOUTHERN CALIFORNIA FAIR

By W. W. Van Pelt

THE agricultural fair is one of the oldest of our institutions, dating back to the fourteenth and fifteenth centuries, and competitive showing of all products of the field and farm has had its effect in the development of most that we prize today. The Percheron horse of France is largely the product of the fair, and the highly developed cattle of the English Isles, as well as the beef cattle of Scotland, are the results of development through competitive exhibits.

In this country agricultural fairs can be given much credit for both crop and livestock development. As a means of demonstrational education they are recognized as of paramount educational value. In the past, however, the fair has spread its full show of evil effects. In early times, the fair was a place of unbridled license, and according to early writings personal protection was almost a matter of personal prowess. Law and order was largely suspended and anything went. In fact, the record of one of the early colonial fairs in this country shows that King George granted a charter which contained the provision that any person "going to, being at or returning from" said fair was exempt from arrest.

The modern fair has divested itself of the old idea and is orderly and self controlled. There is entertainment, life and action; there remains a spirit of holiday and freedom, but it must be clean.

At the Southern California fair this year educational features will abound and the boy and girl with their products from school and ranch will be very much in evidence. At present the boys from the agricultural department of the high school are busily engaged in constructing the buildings and planting the crops for the miniature farm in which all departments of a well balanced farm with dairy, poultry, swine and crops pertaining to these lines in three year rotation, together with the home garden, orchard and flower garden will be shown.

The livestock judging contest by high school teams from all parts of the southern section of the state will be the leading affair of the kind in the state this year. Horses, dairy cattle, beef cattle, hogs and mutton sheep will be judged. The various schools will enter teams of three with an alternate, and they will be judged in team work. Three highest teams will go to Davis for another contest with three teams from the contest at Sacramento. The winning team at Davis will be sent to the Pacific International show at Portland.

There will be a large showing of stock in the "Junior Fair." The juniors will also have a big poultry and rabbit show. The Riverside County farm bureau is preparing a very complete dairy demonstration in which every phase of both proper and improper methods will be exemplified. Animals and the best modern equipment will be used in this demonstration.

The agricultural exhibition will be the largest ever attempted in the south, in which seven counties outside of Riverside will exhibit the best of their products and every community of Riverside County will be in evidence. The entire agricultural department display as shown at the state fair at Sacramento will be reproduced at Riverside, with some special additions from Southern California. The United State department of agriculture is making a large display

The automobile show will be most complete with a wide variety of cars in their best display style. Connected with this will be the "power on the farm" division with a big show.

The vocational department of the various high schools of the south will make a big exhibit of both methods of instruction and a representative showing of the productions of the pupils in various departments. Many of these departments will show school room work in actual operation. In some the machinery will be connected and in operation. The objects of this display will be an attempt to show to the parents the high class of work being done in our vocational departments.

The livestock show will again outgrow its former quarters and additions to barns and pens are being built. The largest showing of dairy cattle in the state will be made this fall at Riverside. Entries of dairy cattle from Arizona, Nevada and Oregon will be added to exhibits from nearly all parts of California. These entries include Holsteins, Guernseys, Jerseys, Ayrshires, Dairy Shorthorns, Dutch Belted and Brown Swiss.

The swine show also promises to exceed in both numers and breeds the show of last year which up to that time was the record show of the south. At this time we are preparing for some 500 entries in this department.

There will also be a large showing of sheep. The northern breeders feel that the field in the south is opening and they consider it advisable to show. The exhibit of farm and driving horses will be representative, exceeding, we hope, the horse show of last year.

The poultry show promises to eclipse in size and importance any previous show held at Riverside, and we believe Riverside holds the championship for poultry shows in the south. We will also have a big rabbit and cavy show.

The goat show will excel in grade of animals any previous show made at Riverside. We hold the world record for exhibition of milk goats and while we are not able to provide additional room to exceed in numbers the show of last year, we will exceed the value and grade of exhibit animals.

The fine arts and domestic arts department, the Indian crafts exhibit, the kennel club show and the wonderful exhibit in the industrial department will excel any previous effort.

But an agricultural fair must abound in entertainment features and the entertainment program at Riverside this fall is the most complete ever offered by that or any other fair in this state. The new grandstand will double the capacity of the previous one and the program will be in proportion. The horse racing promises to be fully up to the standard of previous years. Riverside holds the record of having the fastest track in the state and the horsemen seem to appreciate our effort to build up the racing game and are backing us and making great sacrifices to make this meeting. A thrilling relay race for women and one for men will be run each day. Music and a wide variety of entertainment will be furnished both afternoon and evening throughout the week.

### POINTS FROM THE PROGRAM

Partial program for the tenth annual Southern California fair.
(Races and full entertainment features each day.)

**Tuesday, October 10**

Editorial Day, Riverside County Day, City Schools Day, High School Judging Contest 8:30 a. m., Judging, Women's Department, Agricultural Department, Poultry, Rabbits and Cavies, Goat Department.

**Wednesday, October 11**

Judging Beef Breeds, beginning Shorthorns 9 a. m., Guernseys, 9:00 a. m., Holsteins, 1 p. m. Duroc-Jerseys 9:00 a. m., Hampshires follow. Sheep 9:00 a. m. Boys and Girls Clubs 9 a. m. Riverside Day. Chamber of Commerce Day. San Bernardino City and County Day. Horticultural and Agricultural Day. Guernsey Day. Rotarian Day.

**Thursday, October 12**

Governor's Day. Indian Day. Orange County Day. Kings County Day. Judging: Jerseys, 9 a. m. Ayrshires follow. Berkshires, 9 a. m., Polands, Tamworths. Livestock Breeders Day. Annual Meeting Purebred Livestock Association at 6:30, Glenwood Inn.

**Friday, October 13**

Farm Bureau Day. County School Day.

**Saturday, October 14**

Los Angeles Day. Imperial County Day. A. A. U. Track Meet and Diving Contest. Stock Parade.

## SAN DIEGO COUNTY FAIR

By Ernest Braunton

SAN DIEGO is the "easiest" place in which to hold an attractive fair to be found in California. The splendid array of buildings to which the city fell heir after the 1915 exposition leaves nothing to be desired in housing facilities and the luxuriant vegetation and ample shade which encompass them makes of itself an attraction as pleasing as any on the Pacific Coast.

In the horticultural hall there were a score of large booths representing as many fruit growing sections of the county. The rivalry was keen, and after a general survey of the hall the judges had to canvass the exhibits several times and readjust their mark ings. In the end the percentage (totals based on 100 for perfection) between leading booths ranged but three or four points.

The three chief points were quality, display and variety, and no booth won on two of them. Escondido won by a scratch on display; El Cajon as narrowly on quality and Japatul was close to the others in total points as it won on variety, exhibiting 225. The largest booths in the hall were given up to individual growers who exhibited a great variety, ranging in size from Thompson Seedless grapes to mammoth squashes and "punkkins." The grapes were most numerous and came from every section of the county, but the largest J. H. Hale peaches the writer ever saw were there by the box, peaches too large for standard pack. Chula Vista, the famous lemon center, was "there with the sour stuff," also with several summer varieties of avocados. Lewis E. Kent, an orchardist and vineyardist established at Poway since 1882 and who attends all the fairs and "reads all the numbers of the Cultivator," said this fair was the most successful yet held by San Diego County.

## TULARE COUNTY FAIR

With every inch of space available jammed with exhibits the Tulare County fair went over bigger than ever before. There were big exhibits in all department and the livestock department had to refuse further entries long before the show opened.

The Holstein exhibit was larger than at the state fair and the same high quality was evident. Hartsook and Berylwood again took most of the first places and the grand championships went to the Berylwood and Hartsook cows as at Stockton and Sacramento. W. J. Higdon, H. G. Ball, Sargent Brothers and B. F. Longan of Tulare furnished these two big herds plenty of competition and took some of the blues away from them.

In the Jerseys Jim Thorp of Lockeford was the big winner with Salome of Mossdale as grand champion cow and Biddy King of Mossdale as grand champion bull. Waterloo Jersey Farm, W. H. Bukey and S. J. Skaggs furnished the competition.

The big show in hogs was in the Poland Chinas between the herds of A. Buckland & Son, Tagus Ranch and P. B. Long. Tagus won grand champion sow with Willows Lady and Buckland had champion boar. Dr. Summerfield's Tamworths and Howard Vaughan's Chester Whites had things their own way in their classes.

## THE CALIFORNIA NATIONAL

Western breeders and cattlemen generally are watching with keen interest the second annual livestock and horse show to be held by the California National Livestock Show in San Francisco, October 14-22, because on the success of the show undoubtedly will depend the establishment of a permanent livestock headquarters at San Francisco. And in the judgment of C. M. Hawkins of the Pacheco ranch at Hollister, president of the show, and of General Manager John A. Bunting of the Mission San Jose rancho, success is assured from the high character of the entries. The horse show entries will not close until shortly before the opening date.

The entries of Shorthorns and Herefords to date exceed the entries at the recent Sacramento state fair.

Among the noted herds is the Guernsey herd of A. B. Humphrey of Escalon, one of the finest Guernsey herds on the Pacific coast. The Mills estate of Colma, through the Millbrae dairy, has entered its noted herd of Holsteins, while from Congdon & Battles of Yakima, Washington, have been received entries for 15 Aberdeen Angus. This is pronounced by experts to be the best herd of Aberdeen Angus in this country today. Another famous herd of dairy cows is the Jersey herd of J. D. Thorp of Lockeford.

In the Hereford and Shorthorn class J. D. Canary of Littleton, Colorado, has entered his prize winning herd of 14 Herefords, and the Caledonia farms of Sacramento, who are credited with one of the greatest herds of Shorthorns in this country, have entered 18. Another notable herd is that of Charles S. Howard, the San Francisco automobile man, who has entered nine Herefords; the Mission San Jose rancho with 13 Herefords and the Pacheco Cattle Company of Hollister with ten Shorthorns.

In the horse section of the livestock show a feature of interest will be the entry of Shetland ponies from F. H. Divan & Son of Monroe, Wisconsin. The Ratto stock farm at Napa has entered another of fine Belgian horses and the California Polytechnic school at San Luis Obispo, Percherons, Clydesdales and standard breed light draft horses.

The entries of different breeds of sheep have already exceeded in number the entries of last year, the largest single entry in point of numbers being that of the Corriedale Sheep Company of Hollister, the next that of J. G. Hubbard of Monroe, Oregon, who has 49 Southdowns, Oxfords, Dorsetshires and Lincolns; Bullard Brothers of Woodland, 18 head of Rambouillet sheep and G. N. Merritt & Son of the same city, 11 Rambouillet. The Straloch farm at Woodland has entered 15 head of Hampshire sheep and the University of California farm at Davis 12 fat wethers.

The entries to date, with many additional entries being received daily, are:

**Cattle**

Herefords: C. S. Howard, Willits, 9; J. D. Canary, Littleton, Colorado, 14; H. A. Baldwin, Pleasanton, 6; H. M. Barngrover, Taylorville, 5; William Briggs, Dixon, 7; H. H. Gable, Esparto, 4; John A. Bunting, Mission San Jose, 13; Millbrae dairy, 17; University of California Agricultural School, Davis, 1.

Shorthorns: A. H. Barnum, Moro, Oregon, 11; Caledonia Farm, West Sacramento, 18; Straloch Farm, Woodland, 13; T. S. Glide, Davis, 3; Estate of Thomas Dibblee, Lompoc, 6; Pacheco Cattle Company, Hollister, 10; Howard Vaughn,

(Continued on Page 347)

# Agricultural News Notes of the Pacific Coast

## Northern California

Sheep men report an abundance of feed in Glenn County.

The apple crop of Tuolumne County this year totaled 40,000 boxes.

A new species of white fly has been found in vineyards of Sacramento County.

Colusa had a "cleanup" day September 11 and not a weed remains alive in the city.

The Sunnycal Packing Company, with 250 employes, recently started operation at Oroville.

Sacramento has a popped rice factory in full swing, manufacturing the "latest" in confectionery.

Mendocino County reports pastures and ranges very dry, need of rain great, but stock in good condition.

Two carloads of Alicante grapes sold at Santa Rosa last week for $117.50 a ton, a remarkable price.

Red Bluff, Shasta County, reports September 10 as the hottest September day ever known; temperature 108.

Many Sacramento Valley ranchers, fearing a coal famine, are saving peach pits to burn the coming winter.

Cloverdale, Sonoma County, began picking a very heavy grape crop on September 10, with canneries drying pears.

Several solid train loads of grapes were sent out of Sonoma County during the first half of September with more to follow.

A cherry tree in the Giblin orchard, Sutter County, produced 1,100 pounds of Royal Ann, which sold for nine cents a pound.

Placer County will ship a total of 5,000 cars of fruit, the largest output ever produced. Newcastle ships 2,000 cars of the total.

The Anderson Valley, Shasta County, has just picked the largest prune crop in its history, much of it two and one-half tons to the acre.

According to figures compiled by Farm Advisor Robinson, Alameda County raised $10,980,000 worth of agricultural products in 1921.

Marysville, Yuba County, claims that 52 per cent of the Clingstone canning peaches in the United States are grown within a radius of 12 miles of that city.

Yuba, Sutter and Colusa Counties have organized a tri-county club and will try for possession of a common mammoth swimming pool, golf course, tennis courts, etc.

The largest realty transaction ever consumated in Sutter County came to pass September 1 when Morrison Brothers sold their large fruit ranch near Yuba City for $1,600 an acre.

Labor shortage in fruit orchards and hop fields is so acute in Sonoma and Mendocino Counties that public school vacations have been extended two weeks to enable the children to aid in harvesting.

Rice mills at Colusa have been operating 24 hours a day to get the old crop out of the way and make ready for the new crop, which begins coming in October. The rice yield in the Sacramento Valley this year is well up to normal and will be worth about $15,000,000.

## Central California

Porterville, Tulare County, reports Kadota figs bring $120 a ton or six cents a pound.

Visalia, Tulare County, reports all crops so late that canneries will run until October 15.

Watsonville reports shipments of apples from there "but" 30 cars a day, owing to car shortage.

Five carloads of Alicante Bouschet grapes sold at Modesto, Stanislaus County, for $140 a ton.

This years' almond crop was the largest in the history of the Oakdale, Stanislaus County, section.

The Modesto Bean and Grain Company has shipped several carloads of Blackeye beans to Georgia.

The small town of Sugar Pine, Madera County, was completely destroyed by a forest fire last week.

The Lindsay Farm Bureau Lime-Sulphur Company has been incorporated at Lindsay, Tulare County.

One rancher at Beckwith, Stanislaus County, is harvesting 200 acres of watermelons, employing 75 men.

The record for peach crops in the Terra Bella section of Tulare County goes to a variety known as Peak Cling.

A preserving plant at Hilmar, Stanislaus County, is now turning out watermelon marmalade by a patented process.

Thompson Seedless vineyards at Wasco, Kern County, are yielding a half ton of raisins to the acre at 18 months of age.

One hundred million fruit cans were manufactured in San Jose, this year to take care of the output of 40 canneries in that section.

Fresno will ship large quantities of raisins to Mexico, some heavy orders being received from there, also some from Central America.

Indications point to a record breaking sugar beet crop in the Pleasanton, Alameda County, section this year. Harvesting started September 20.

Manufacture of magnesite-asbestos stucco for Pacific Coast trade has been started at the Sierra Magnesite Company's plant at Porterville, Tulare County.

Oakdale cattle shippers are building ten acres of feeding yards near the railroad depot in which to hold cattle over car shortage and other troubles.

Fifteen cows died and 19 were "stuck" to save them from death by bloating through eating green alfalfa, at Crows Landing, Stanislaus County, September 6.

The European elm scale is attacking street trees in Modesto, Stanislaus County, and the county horticultural commissioner has advised spraying by the fire department.

Porterville, Tulare County, growers have announced that in 1923, from April 1 to August 15, there will be sent from that city to Los Angeles and San Francisco, at least one carload of strawberries a day.

The fourth cutting of alfalfa in a field at Delhi, Merced County, was weighed by the farm advisor and found to yield three tons to the acre. There will be at least one more cutting—a very heavy seasonal yield.

## Southern California

The Ventura Citrus Association has added a $20,000 building to its plant.

The cotton crop of the Imperial Valley will be at least 80,000 bales below the average.

The larva of the alfalfa butterfly is doing some damage to alfalfa in the Imperial Valley.

Palm Springs, Riverside County, is to have a new $100,000 hotel. The first unit is now being built.

R. R. Ryerson, of Holtville, Imperial County, has just harvested the valley's first crop of sesame.

Vineyards close about San Bernardino have sent out this season more than 10,000 carloads of grapes.

Shipments of citrus fruits from the Riverside district for the 1921-22 season will total about 3,200 cars.

On account of recent hot weather the bean harvest in Ventura County is two weeks earlier than in 1921.

The first Lima beans shipped from Ventura County this season brought $6.15 per hundredweight. There were three carloads.

Threshing of beans in Ventura County has been much retarded by heavy fogs. Threshers commence late and work until dark.

A lettuce growers exchange is being organized in Imperial Valley, the lettuce acreage being 22,000, as against 14,000 last year.

Imperial Valley shipped this year, 12,070 cars of cantaloupes and 1,792 cars of watermelons, an increase over last year of 30 per cent.

The chili pepper crop of Orange County is unusually heavy this year and estimated to be worth more than a half million dollars.

A shipload of pears and apples from the Redlands, San Bernardino County section, started for England by the motorship Loch Katrine.

Silver foxes are to be bred and reared on a 40 acre ranch leased from the government, near Camp Baldy, 80 miles east of Los Angeles.

Directors of the Lima Bean association met in Oxnard, September 15, and decided the six and one-half cent price should prevail for October.

Girard is the name of a new town east of Calabasas, Los Angeles County, laid out on lands owned by Los Angeles and New York capitalists.

Walnut growers are elated over the passage of the tariff asked for, a duty of four cents a pound on nuts and 12 cents on the meats or shelled nuts.

The outlook is for more than 30,000 acres of lettuce in the Imperial Valley this year, and prominent growers believe the market cannot absorb such a crop.

The Santa Maria Valley of Santa Barbara County shipped the present bean crop from San Luis Obispo direct through the Panama Canal to New York at 47½ cents per hundred; last year the rate was 65 cents.

Horticultural Commissioner Coy estimated in September that San Bernardino County's Navel crop for 1923 will be 55 per cent of normal, the Valencias 70 per cent, and the lemons 10 to 15 per cent. Uplands will have a lemon crop of 80 to 90 per cent.

## The Coast and General

Seattle will hold a potato show, November 11-19.

The Walla Walla Valley, Washington, prune crop will be less than 500 cars.

Heavy rains in some sections of Arizona have greatly improved stock range.

A watermelon grown at Denton, Texas, weighed 102 pounds, the 1922 record for Texas.

Dry weather has greatly reduced, below normal, the flax crop of the Willamette Valley, Oregon.

Utah reports Los Angeles buyers of sheep and lambs active in territory along the state boundary.

Bellingham, Washington, reports apples and other fruits as cheaper there than for many years past.

A survey of the Spokane, Washington, district brings an estimate of 3,100 cars of apples for the present crop.

Albany, Oregon, will have a bumper prune crop, a rain early in September checking the fall of fruit from the trees.

Cherry maggots are so numerous in parts of Washington that growers have appied for government aid in fighting the pest.

The cranberry bogs near Astoria, Oregon, are in fine condition, and the season's crop is estimated at 10,000 bushels.

Salway and Krummel peaches in the Salt River Valley, Arizona, are a heavy crop and picking season is close at hand.

The Bellingham, Washington, bean growers have been greatly helped by late rains and anticipate double the crop of last year.

The Pacific Fruit Express reports that fruit shipments to date are more than 1,000 carloads greater than to same date in 1921.

The Canadian apple crop will be about 88 per cent of last year's crop, or about 357,000 barrels. A barrel equals three boxes.

A recent order of the government forest service opens up a new pine tract near Burns, Oregon, that will yield 770 million feet of lumber.

The leaf roller is so bad in some Washington districts that the Spokane chamber of commerce, at a special meeting, decided to ask federal aid.

A report from Wharton, Texas, states that because of the scarcity of wild pecans and acorns, the squirrels are raiding the cotton fields for the seeds.

The first load of short staple cotton in the Phoenix, Arizona, district, was marketed September 10. The heaviest picking season will come in early October.

Holger, a famous bull at Shedd, Oregon, won the medal of merit of the American Jersey Cattle Club, so it was announced in New York on September 11.

The United States department of agriculture has a new hybrid barley for Alaska that this year ripened seed in 80 days. The frost free period was but 95 days.

Federal reports of cantaloupe shipments received at eastern points during first week in September were, carloads: California, 155; Colorado, 1,177. The latter state's acreage is about 100 per cent greater than last year.

# Results of Citricola Scale Control in Central California

## Address by F. R. Brann, Horticultural Commissioner, Tulare County, at Central California Citrus Institute

SINCE the citricola, or gray scale, first became established in Tulare County about 1910 the problem of its control has become a very puzzling one indeed, owing to the numerous and varied existent factors which greatly influence the efficiency of the results attained, both with regard to sprays and fumigation.

In 1912 and 1913 the infested area was confined to only about 300 acres in the immediate vicinity of Lindsay, and by 1916 it had spread to practically every citrus district in Tulare County. This rapid spread was no doubt principally due to the small whirlwinds which travel through the groves at a rapid rate during the hatching period in May and June, carrying millions of the tiny newly hatched scale to several hundred feet in altitude, thus enabling them to become established on an acreage of considerable area a mile or more distant, and all in a relatively short space of time. Thus the rapid spread of gray scale in Central California can be, I believe, easily accounted for.

The matter of adequately combating this pest in this locality is at best a serious issue, and especially is this so regarding the action taken by the horticultural commissioner in the performance of his duty with respect to the abatement of such a nuisance. He must adopt the most efficient known means of control determined upon the basis of averages, otherwise a serious kickback is the result.

The horticultural office of Tulare County has through its field inspection secured complete data covering all fumigation work in the county since 1915, covering a total of 14,626 acres, or approximately 1,316,340 trees, not including the 1922 operations. A complete detailed record of each night's operations has been preserved and is now on file in the horticultural office, Visalia.

It has been impossible to secure such detailed data on commercial spray work due to the facts that the field of operation was so great in extent and covered such an extended period of time that sufficient inspectors of ability were not available, also no satisfactory agreement had been reached with the commercial sprayers for reporting work done until this season. Therefore the data secured covering scale control work as dealt with in this paper so far as sprays are concerned is based upon work done this year, while data covering fumigation work is from the operations of last year with further reference to work done previously. It may be well to state here that as no post examination of treated groves is made before at least 30 days after date of treatment, only a very few of the groves fumigated this season have been examined and reported on. However, on these few groves the results have been very satisfactory.

### Method of Inspection

A careful inspection of the groves previous to treatment is made, using the hourglass system of covering the area. A plat is made and all conditions noted and tabulated and reported to the owner of the property, and a copy is mailed to the horticultural office for filing. The post examination is made not less than 30 days after treatment is applied. The inspector carries a copy of the previous report and follows the same route as taken when first inspection was made. A pair of Bosch and Lomb field binoculars with a magnifying power of three diameters and a 62 M. M. aperture are employed in observing scale condition, and in making count, and for the keeping of this count, a small tallying register is used. Sample leaves are taken from the portion of the tree showing severest infestation. Thus the inspector is enabled to note any unusual conditions as he goes along securing his samples, and makes his notes accordingly. The results are reported on forms for that special purpose—one copy to the owner, one to the horticultural office, and a third copy retained by the inspector.

The post examination work is extremely tedious and tiresome to the eyes, for the number of scale bodies actually observed to determine whether they are alive or dead, very often exceeds 20,000 on a 10 acre grove.

### Factors

In summing up the various determining factors more or less governing the development of citricola scale on treated properties, we find that there are three natural factors which are more or less beyond immediate human control, viz., 1. Atmospheric conditions. 2. Condition and nature of adjoining lands on the west and north. 3. Tree condition. The natural mortality of citricola scale is induced by exposure to high atmospheric temperatures, together with a low degree of humidity.

The three principal controlable factors are: 1. Proper formula and strength. 2. Manner of application. 3. Date of application.

During the 1922 season to date 47 commercial sprayers and 2 fumigating concerns were operating under Tulare County licenses. There were approximately 70 commercially operated spray rigs.

In addition to commercial spraying done in Tulare County there are approximately 100 growers or more who own or operate their own spray rigs, and from which practically no data has been secured by this office.

### Summary Citricola Scale Control

So far this season there have been over 5,000 sprayed acres reported to this office. We are daily inspecting and reporting on these jobs, and to the 25th of August we had inspected and reported on 3,600 acres of this work. We have segregated these reports in groups according to the formula or solution used, then into groups according to dates of application, etc., endeavoring to determine as nearly as can be approximated the relative effectiveness of these different materials and the dates that sprays can be applied with the maximum of results. We have also tried to work out other points that should influence the grower in making his selection of proper material when combating this insect.

During this inspection work we have observed that there is in some cases apparently a slight effect of the spray remaining on the trees even though the spray is claimed to affect results only by contact at time of application, and any such increase in mortality on these groves, more than the natural death effected by climatic conditions, can be determined by later inspection of these groves. It is our intention to inspect many of these groves at a later date to secure data on this point.

The manner of application is a point of more importance than is realized

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# Two Boxes to the Three-Year-Old Tree in Florida

## By C. B. Messenger

FLORIDA grown pineapples are good, or rather, I should say, a Florida grown pineapple is good, for the pineapple treat has been mine but once. And the best of it is that the pine was grown by a subscriber of the California Cultivator. It was really quite surprising to enter a home in a beautiful little orange grove near the Gulf of Mexico, a bit north and west of the city of Tampa, and there be greeted by the familiar California Cultivator lying on the center table. The copy of the Cultivator had to give way to make room in the place of honor for the aforesaid pineapple.

Three Year Old Avocado

The man who looks like a farmer is a real one though now past 81. He is Mr. Hampton. The younger man on the reader's right is Edgar A. Wright, editor of the Florida Grower who is jotting down notes which Mr. Hampton is giving him regarding growing avocados, oranges and other fruits on Florida's west coast.

The story of it is this. I was in Tampa and called at the office of the Florida Grower, edited by Edgar A. Wright, a former Californian. We had hardly finished talking about the weather when Mr. Wright suggested an immediate start for New Port Richie as he had an invitation from an old time Florida grower to come out and inspect his grove, a taste of the home-made pineapple and to inspect a wonderful section which is just being developed. The acceptance was as quick and as hearty as had been the invitation and after a short trip to the suburbs of Tampa and an inspection of Mr. Wright's beautiful home grounds, we were on our way over an almost perfect pavement through Oldsmar, Tarpon Springs and other beautiful towns to the home of B. M. Hampton at New Port Richie. Mr. Hampton has been in California several times, but his orange growing experience is largely in Florida and he has been in the game until he has learned success in citrus culture.

The first feature of the trip to Mr. Hampton's place was an inspection of his orange, avocado, mango, paw paw and other semi-tropical trees besides a vineyard and a lath house where his pines were growing. Ultimately we reached the stage where the pineapple was served. Mr. Hampton's daughter, Mrs. W. E. Dartnell, served the fruit and without sugar. It had manufactured its own sugar and was of perfect quality. Likewise unfermented juice of the old time Scuppernong.

But about Mr. Hampton's place and his methods of cultivation which have produced results almost unbelievable I am going to take extracts from an article which Mr. Wright wrote for his own paper, The Florida Grower. While Mr. Wright was taking notes I was taking photographs, two of which are used on this page. I will say first, however, that all that Mr. Wright tells of the remarkable growth of those trees but little more than three years old is fully borne out by the trees and the crop of fruit which they are carrying. After touching upon the trip to Mr. Hampton's place Mr. Wright adds:

Velvet Beans for Cover Crop in Florida

Citrus orchardists in Florida grow their cover crops in summer. Velvet beans, beggar weed and natives are encouraged, some orchardists even allowing growth to come up through trees. This photograph was taken in the orchard of B. M. Hampton at New Port Richie. These trees were set three years ago last March and the orchard will average close to two boxes per tree.

"By we I mean Editor Messenger of the California Cultivator of Los Angeles, his good wife and myself. We left Tampa early in the afternoon and were in one of the suburbs of New Port Ritchey, a city that I had seen grow from one house in 1912 to one that now supports a bank and a newspaper. We had been somewhat amused at the big sounding names of the byways in this part of town. I think we were on Nebraska Avenue; However, this is not meant as a reflection on New Port Richey; it could not be expected that we would find paved avenues a mile out from its center in all directions, and this was one of the directions where other developments had gone ahead of street improvements.

Three years ago in February Mr. Hampton's place was uncleared. In March he set his first citrus tree and completed the planting in June. He has done all of this work himself, from the planting and bringing this grove to successful bearing. I asked him if he never hired help and he stated that only when he was spraying, as it was then necessary for one man to attend to the pumping while the other directed the hose nozzle. I submit that this is a remarkable feat for a man of his

age; I feel much younger for having met him, and somehow I feel better and happier for having seen him.

No Such Animal

There is a story often told,
That always makes us smile,
Said Rube to his first elephant,
"There ain't no sich animile."

"You can't expect a crop of oranges on three year old trees," says the expert, "it can't be done. Some people talk of such things, but it's not so, there ain't no such animal."

Well, I never thought there was myself. Oh, of course a few fruit at that age and maybe a prodigy tree would show quite a crop, but to expect a three year old tree to yield a paying crop would be expecting too much.

An Old Timer

Mr. Hampton's letter to me gave no inkling that he was an old time grower. As he had just started a grove I supposed that he was a tenderfoot, a man who, attracted by the climate, had gone into the citrus game just to keep him out of 80 year old mischief. It did seeem to me that his claims were rather extravagant. However, I find that he is an old timer, that he came to the state in 1890, and that he has made and sold three successful groves in his career, one at Avon Park, one at Frostproof and one at Winter Haven, the latter grove he now believes to be in possession of manager C. W. Barnes of the Winter Haven Citrus Growers' Association. I find that Mr. Hampton used to take an active part in the meetings of the Florida State Horticultural Society, and that he was an intimate friend of the late Dudley Adams, once president of the society, himself considered an expert, and who followed much the same lines of cultural procedure now followed by Mr. Hampton. Mr. Hampton was often called upon to read papers on cultural subjects before the society, and took a prominent part in the discussions. He has not been active in these meetings since 1909 and that is why I had never come into contact with him, my first attendance being in 1911. I suggest that the secretary call upon Mr. Hampton to read a paper entitled, "How an 81 year old man made three year old orange trees produce over three boxes of fruit with the minimum of fertilizer." This is just what he has accomplished, and has the goods to show for it, and if the old saying "make a success and the world will beat a path to your door," be true, the Port Richey people will have to improve and widen Nebraska Avenue and it should become one of the best known streets in citrus Florida.

Seminar in a Nutshell

He is success personified, and living proof that "it can be done," a whole Citrus Seminar at a glance, every tree a sermon on culture and the master director this kindly old man who has done it all; this smiling, friendly, contented man, who claims to be a friend of Luther Burbank and acquainted with all the old time growers of Florida, Dudley Adams, W. S. Hart and many others. As a soldier he marched with Sherman to the sea, later he roamed the West, saw Indian fights, killed his grizzley, became miner and afterwards rancher. He was in Los Angeles in 1872 when that city had a population of 5,000, and when he could have bought the land that is now the corner of Seventh and Broadway for $10 an acre.

Well, of course I wanted to know how he had done it all, how he had brought about this seeming marvel in production. I quickly gathered one fact, and that is that the land itself is the first consideration. It is a rolling pine land and was covered with a second growth, this growth consisting of oak and small pine. This land has a marl subsoil. In the main part of his grove this subsoil is nine feet deep, but as the land slopes down it comes to within four feet of the surface, and on the very lowest of it he sometimes turns over marl in his cultivation. After getting the right land it is only a question of experience and common sense. "Cultivation is fertilization," he says, and he cultivates every two weeks in dry weather and often enough in wet weather to keep the weeds down. Never deep, "no sir," he says, "don't cut off the feeder roots. Never use a mold board plow and never harrow over three inches deep. Put much of your fertilizer in through cover crops every fall." His cover crop of China velvet beans is thick, luxurious, yet he tells me that he has never fertilized it. He keeps the ground under the tree branches clean at all times, weaving a sort of figure eight as he goes from tree to tree with his tractor. I forget how many pounds or tons of nitrogen to the acre he gets from his beans in the fall, but I know he values this cover crop highly.

I remember once that a very rich man in Florida wanted to make his the very finest grove in Florida, a matter of pride, as he did not need the money from his fruit. He gave a fertilizer man carte blanche in his grove and this man put so much fertilizer on that he nearly ruined the trees. On the other hand Mr. Hampton seems to be seeing how little commercial fertilizer he can use, and he apparently has made a wonderful success.

Asked as to the cost to fertilize he gave me the following rather amazing figures. In 1919 he used 150 pounds of cotton seed meal, 150 pounds of nitrate of soda and 125 pounds of other commercial fertilizer. In 1920 1000 pounds of 4-9-4 at a cost of $26.68. In 1921, on February 15, 1000 pounds of 4-9-4; June 1, 800 pounds of 4-7-3 and November 15, 1200 pounds of 2-8-10; at a total cost of $76.08. In 1922, on January 27, 1200 pounds of 4-8-5; June 13, 900 pounds of 4-6-8, and August 10, 250 pounds of 4-6-8, cost for 1922, $53.23, or a total cost for the three years of $155.99.

"Last year when the trees were two years old," he said, "I sold fruit to the amount of $405.85 and at that I lost 50 per cent of my tangerines in the hurricane and much other fruit. We also had all we wanted to eat, we gave away some to our neighbors, and we shipped a number of boxes as presents to friends. An old house that lay to the south of the grove was swept through my trees and damaged some of them quite badly. This year the drouth threatened to strip my trees, but I hustled around and put in a well and wind mill and manager to save some of the crop."

Saved a part of the crop. Ye gods! The trees could not carry more. On one tree about eight feet high, and with about the same spread, there were 136 oranges on one branch.

Wonderful. How does he do it? Well, he has tried to tell you. He always insists on getting the best stock, sometimes picking out his nursery stock himself; each individual tree. Next comes the planting and he has his own way for doing that. Then the cultivation, the fertilization and spraying. Spraying is important with him and he will have 90 per cent of perfeot fruit. Cultivation is his hobby and he tells me that he does all this work between daylight in the morning and breakfast, going over the grove in two mornings with his little gas tractor and disk cultivator. I asked him if it was not a hard job to walk behind this little utility cultivator, and he replied: "Shoo, I run the dickens out of it."

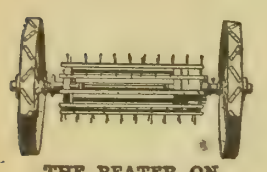
"I notice," he said to me, "that a writer in your paper advises against the burying of roots and other woods in the tree rows, the objection being that this procedure would bring lice. It might if this wood was allowed to rot on the top of the ground, but not if you bury it. If I have any secret of success it is that of using palmetto roots and oak limbs and stumps this way. Not pine, because pine will not decay quick enough. The young rootlets just revel in this rotting wood and they get enormous quantities of potash from it, particularly from the palmetto roots. I think it was State Chemist Rose who once stated that the burnt ash of palmetto roots contains 40 per cent of potash, but I understand that he since denies making such statement. Other authorities state that the potash content is 10 per cent. I believe it to be a great deal more. There is a strong taste of potash in the ash of the palmetto root."

Mr. Hampton states that there is nothing like steamed bone with which to start a young grove. He did not use it this time for the reason that he could not get it just when he needed it. He also tells me that he used a considerable amount of wood ashes the second year, this not being counted as expense because he made the ashes himself.

Count the different kinds of fruit he has on his little place. Oranges, grapefruit, papaya, figs, pineapples, avocados, bananas, peaches, guavas, grapes, surinam cherries and mangos. He is particularly proud of his mangos and avocados. The young avocado tree in the picture is two years old and 11 feet high. He has a two year old mango that yielded over 40 fruit last year, some of them ten inches in length, all of them very large. Papayas are hanging on the trees nearly as big as watermelons, grapes are just getting ripe and guavas are wasting themselves on the ground.


# Only One Spreader Has the Beater on the Axle

—That's the John Deere. This patented feature makes possible these distinctive advantages.



THE BEATER ON THE AXLE

**Easier on you.** Box only 36 inches high—from 6 to 10 inches lower than any other. In loading 100 loads of manure it saves in energy the equivalent of that required to lift a ton of manure on the end of a pitchfork to the height of an 8 to 12-story skyscraper.

**Easier on your horses.** High drive wheels—4 to 8 inches higher than on other spreaders—reduce draft and increase traction. A close-fitting endless apron carries the load back to the beater on 48 smooth-running rollers. You know it is much easier to roll a ton of manure than it is to drag it.

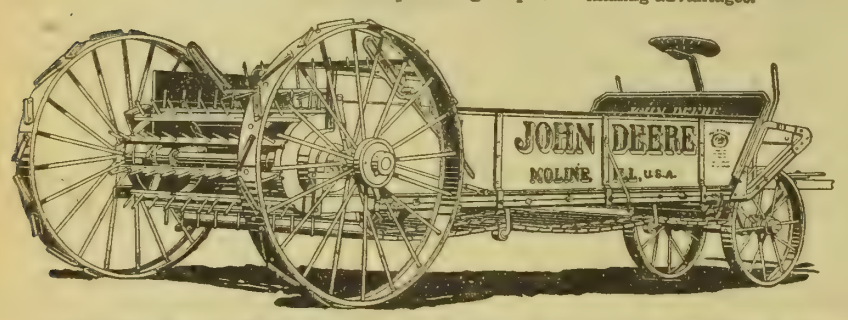
**Does a better job of spreading.** The John Deere is a real spreader—not merely an unloader. You can load it flat on top, insuring even distribution its entire width. The revolving rake—self-operating—prevents bunching. The one beater, which is low down, does not lift the manure high in the air—side winds do not cause drifting—an important point.

**Lasts longer.** The simple beater drive, mounted on the axle, operates in a dust-proof, oil-tight case—lasts for years. No clutches—no chains—only one beater—practically half the parts necessary on the ordinary spreader.

These are only a few of the many John Deere Spreader advantages. See it at your John Deere dealer's. Make comparisons. No other spreader will give you these distinctive money-making advantages.

**Write Us for This Valuable Book**

"Soil Fertilizers"—a book full of valuable information on manure and other fertilizers sent free. Drop a card to John Deere, Moline, Ill., and merely ask for package M76.

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**Fresno, California**

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We enter our second half-century of service by offering you in this our Golden Jubilee Catalogue, the fruits of fifty years' experience in making low prices on goods of dependable quality always
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MONTGOMERY WARD & CO.
Fall & Winter 1922 23

# Millions Buy from this Book on Faith in the Name "Montgomery Ward"

**Interesting stories from three of our oldest customers**

"I received my first Montgomery Ward price list in 1872, and I became a customer almost immediately. The catalogue has been coming regularly ever since, and I have been doing business with Montgomery Ward & Co. practically all of that time.

"I wish to state, that in all of those years there has never been any occasion to make a complaint or to return any goods we have ordered from Montgomery Ward & Co."

**William McCandless, Sloan, Iowa**
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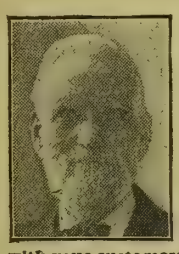
For fifty years, ever since Montgomery Ward & Co. was started, Mrs. Merrick has taken a keen interest in its development.

"I have been a customer from the first.

"I have always had the most courteous treatment from you," she said. "I believe that much of your success has been due to your unfailing policy of fair dealing."

**Mrs. Emma E. Merrick, Malcolm, Iowa**
**A Customer Since 1872**



Mr. Beatty is a real pioneer. He is the only man now doing business in Helena who came to Montana in 1862. He served under General Johnson in Utah (1857-8). He finally settled in Winston, Montana.

"I have traded with Montgomery Ward & Co. for 45 years," he said, "and I have never found anything wrong that has not been satisfactorily settled. If you continue to deal as fairly with your customers as you have in the past you will surely prosper."

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This book is saving many millions of dollars for the American people.

Is it saving money for *you* and for *your* family? Are you taking *full advantage* of your opportunity?

This book—our Golden Jubilee Catalogue—celebrates our 50th Anniversary by offering you the lowest prices possible on everything for the Home, the Farm and the Family.

It is filled with bargains—with merchandise of high quality. And every price is a Money Saving price for you.

For Fifty Years Montgomery Ward & Co. have earnestly worked to serve the American people.

Today millions of people are buying from this book on faith in the name "Montgomery Ward."

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Montgomery Ward & Co. begins its second half-century of business existence. Yet today it is filled with the spirit of youth; alert, looking ahead, improving its service, filling orders quicker, and offering lower and lower prices.

To buy from this Golden Jubilee Catalogue is to be guaranteed a definite saving and entire satisfaction—and back of this guarantee is the reputation of Fifty Years of fair dealing.

**Buy from this book. Fill all your needs from this book. Consult it daily to find the right price, the lowest price for dependable, reliable goods of standard quality.**

**The Oldest Mail Order House is Today the Most Progressive**

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# "Best for Alfalfa"

# TEXAS GULF SULPHUR

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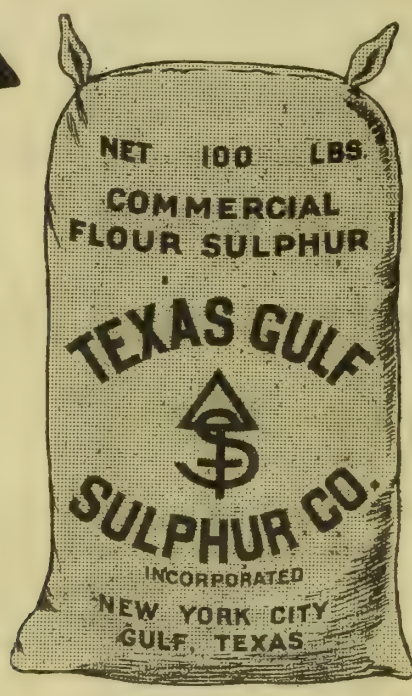
A better sulphur at a better price direct from the mines of the Texas Gulf Sulphur Co., the world's largest producers of sulphur. In order to fully serve the alfalfa growers in this territory we have established a warehouse in Portland, Oregon, from which we will make quick shipments of the genuine Texas Gulf Sulphur in any quantity. You will find the product, the price and the service right in every respect. No matter where you have been securing sulphur in the past you will find it greatly to your advantage to place your order with us this season.

*Contains 99½% Pure Sulphur*

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## *Your Choice of Three Forms:—*

### *Crude Sulphur—*

Lump sulphur, 99½% pure, for those who prefer to do the grinding.
In bulk or 150 lb. bags

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Ground to extreme fineness, ready for immediate application to the soil. This product is so finely ground that it is in every respect equal to special brands for which high prices are commonly charged.
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An exclusive Texas Gulf product. Specially ground flour sulphur inoculated with sure-acting oxidizing bacteria which make the sulphur quickly available for plant food. As commercial sulphur is apt to be inert in the soil and its full effects are usually not noted until the second season, we advise the use of Texas Gulf Inoculated Sulphur where quick action is needed, and especially for late applications. In any event, test it on an acre or two this season and compare results.
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## 41 E. 42nd St., New York City


# The French Prune, Why?

By Leonard Coates

THE question is suggested because, first, there are so many climates in California, and, second, there are many varieties of prunes, suited to as many different climatic conditions. It is neither reasonable nor consistent to grow one variety of fruit arbitrarily within the boundaries set by the surveyor's chain, nor is it logical, in a similarly arbitrary manner, to extend the distribution of a certain fruit beyond those boundaries.

There are as many "climates" in California as there are in France, and the area of the two countries is about the same. While in France the particular section of country in the Province of Loire et Garonne is the only part where the "French prune" is grown, in California its geographical distribution is constantly being extended North, South, East and West almost to the coast. The product cannot all be of the same quality, any more than may the productivity per acre average the same. Therefore, it would be wiser to consider the planting of varieties of prune suited to these varying conditions rather than try to force one variety to flourish in such changeable environment.

### Quality

Another point which might also be accepted as absolutely existing is the equally varying taste of the consumer, and what is included in the term "quality." That elusive something called "quality," and its acceptance by the consumer is, after all, paramount. It cannot be defined except by the persistence with which the consumer asks for "more," and no amount of talk by the paid booster will influence this permanently. You may establish a grade, you may say it is the best, but it is no more possible to halt the wheels of progress in the improvement of fruits than it is in the advancement of the knowledge of electrical force.

Another factor which must be considered is the dehydrator. It is worse than useless to decry it, or to seek, however subtly, to depreciate the product. It might as well be recognized that the fruits and vegetables of the future will be the dehydrated product, and California growers, if they would continue to lead, should not forget this. If the dehydrator produces a more palatable food it is waste of time to tell the public that some other brand is better because it is dried in the sun. As a matter of fact, the argument in favor of the former would be the stronger. It is not necessary, nor would it be expedient, to particularize too closely by suggesting the reasonable limitations for the growth of any one variety of fruit. Antagonism would naturally be aroused, and no good attained.

### In The Northwest

The great Northwest, including Oregon, Washington, Idaho, Colorado, is growing large prunes, not quite so sweet as the smaller French prunes, but preferred by a large number of people. Before these are all dehydrated and marketed under one brand, California would do well to prepare for this competition. Many parts of our state can produce this article more nearly perfect than the "French prune," and therefore it should be given the preference. I have in mind some improvements in the Italian or "Fellenberg" prune, and other originating further North, which, I am testing.

### Climatic Conditions

We have a great variety of climatic conditions suitable for the growing of almost every variety of fruit known, but even where the same climatic conditions prevail there are, often times, numerous varieties of soil which make it possible to grow a variety of fruit to perfection in a certain part of a locality while just a short distance away it will be a failure either in production or quality.

When fruit is scarce and prices high it is possible to grow it, at a profit, under somewhat adverse conditions but just as soon as the supply becomes sufficient to meet the normal demand, only those growers having ideal conditions for the production of the varieties they are growing can hope to make a profit on their investment while their less fortunate competitors will operate at a loss.

### Overproduction?

In the writer's opinion it is better to plant some variety of fruit, that is seemingly overdone, in a locality where it grows and produces to perfection rather than plant something (just because it happens to be high) that is not suited to the locality and which will never produce as it should. Always bear in mind that when the production becomes greater than the demand only the best quality fruit will sell at a profit, or at any price for that matter, and the growers operating under adverse conditions will have to graft over or pull out their trees which soon reduces the supply to the point where prices will again advance and one is assured a nice profit on the investment for a number of years.

## FRENCH PRUNE, WHERE?

By W. R. Wood

Leonard Coates' article, "The French Prune, Why?" appearing above contains some valuable thoughts for the California horticulturist.

There is no question but that in certain parts of the state the French prune is to be desired above all others, while in other parts some of the larger varieties should have the preference. This is especially true if we consider the dehydrator as a factor in the drying of those varieties that are too large or lack sufficient sugar to make sun drying practical.

The same rule holds true with all other fruits being grown in the state. There are many acres of fruit planted each year that will never yield a profit to their owners simply because they are not suited to the locality in which they are planted.

These same varieties would no doubt, pay a nice profit if planted where conditions were most favorable for them.

## PLACER CONVENTION

The Placer County Fruit Growers Convention will be held at the Court House, Auburn, October 4, under auspices of the farm bureau, the farm advisor and horticultural commissioner.

Wednesday morning 9:30—Report of Convention Committee, J. A. Teagarden; Relation of Fruit Growers Convention to a Deciduous Fruit Program for Placer County, C. W. Rubel, assistant state leader; Soil Fertility, Plant Food and Cover Crops, J. W. Nelson, assistant state leader; The Future of the Fruit Industry, F. W. Reed, state department of agriculture.

Wednesday 1:30—Caldwell Method of Training Trees, W. A. Caldwell; Long Pruning in Placer County, (Committee Report), E. L. Rippey, E. A. Francis, George Lamiman and H. E. Butler; Principles of Long Pruning, Warren P. Tufts, assistant professor of pomology; Federal Appropriations in the Interest of Horticulture, R. N. Wilson, secretary agricultural legislative committee; Cost of Production. (Committee Report), S. C. Day and M. R. Struble; More about Plum Pollination, Prof. A. H. Hendrickson, in charge deciduous fruit station, Mountain View.

Thursday, 10 a. m.—Quarantine and Standardization Enforcement, G. H. Hecke, director state department of agriculture; Some Observations on Eastern Fruit Markets, Charles Werner and J. A. Livingston; Export Markets, J. E. Bergtholdt; Disposition of Cull Fruits, W. V. Cruess, assistant professor of fruit products.

Thursday afternoon, 1:30—Wormy Peaches (Committee Report), C. V. Freed; Results of Peach Twig Borer Test Plots, W. P. Durus, entomology division of university; California Experiment Station, C. M. Haring, director; Pear Blight, D. G. Milbrath,

plant pathologist; Crop Reporting, agricultural statistician, U. S. department of agriculture; Some Practical Aspects of Bud Selection, J. Barnicott; Placer County Tree Troubles, Ralph E. Smith, professor plant pathology; Maturity of Fruit, (Committee Report), J. A. Teagarden; Exhibit at the State Fair, discussion by growers; Committee reports, etc.

### CAR SHORTAGE

As a result of numerous conferences held by the traffic officials of the different transcontinental railroads and state officials, during the past few days, with reference to the refrigerator car shortage, which has become so acute, definite action has been taken whereby the division of markets of the state department of agriculture will take official charge of the car conservation program in this state, to the end that shippers holding cars over 24 hours for loading and unloading will be strictly called to account.

Fred N. Bigelow, chief of the division of markets, and James P. Britt, assistant, have formulated plans for the control of the situation in the southern portion of the state and will institute a check on all shippers and receivers, in order to expedite the release of refrigerator equipment. Unless prompt and decisive action is taken, the 50,000 refrigerator cars estimated to be required to move the grape crop of the state during September and October, will not be forthcoming, resulting in serious loss, not only to the producers of the state, but to allied industries dependent upon the success of the proper marketing of the agricultural products.

### APRICOT GROWERS FIELD DAY

The apricot growers department of the Ventura County farm bureau in cooperation with the agricultural extension service are making plans for their first apricot growers field day to be held in Ventura some time during the latter part of October.

This field day is supplementary to the first apricot institute held in the state last spring and will discuss the major problems of the industry which can be worked upon this fall and winter. Frost control, brown rot and the black scale situation will be discussed with a field demonstration on the pruning of trees infected with brown rot, also proper spraying methods.

### DELICIOUS

It is possible the finest apple ever produced is one which was a chance seedling, discovered within the last third of a century. The Delicious perhaps possesses finest qualities for eating or cooking, and the tree stands up under more abuse from blizzard or summer's heat and drouth than any other and, still more satisfactory to the grower, is reasonably sure to come across with big production.

The reception which this fruit met in the market impelled some of its friends to ask a recognition of the discoverer of the apple. Pomologists met at Council Bluffs, Iowa, and dedicated a monument to Mr. Hiatt, discoverer of the apple. In making address at the time of the dedication, Prof. C. I. Lewis, formerly of the Oregon agricultural college, and more recently editor of the American Fruit Grower, said:

"The Delicious apple represents the crowning point of achievement in the origination of American varieties. No variety has been originated which is superior to the Delicious in quality; few can equal it in production. On the Pacific Coast where I am very familiar with orchardng it is not uncommon to find this variety yielding as high as 750 packed boxes per acre, whereas some of the older varieties often do not yield more than 200 boxes per acre. The high yielding varieties like Delicious, Jonathan, Winesap, Stayman and the Winter Pearmain, which tend to produce annually big crops, are the varieties which are making fruit growing profitable in the West. No apple of American origin ever had quicker distribution than the Delicious and none was ever accepted more readily by the American public. It is one of the best known varieties which we have, and rightly so, for its large size, its beautiful color, its delicious aroma and quality. In the origination of the Delicious apple a high standard has been set for us in the development of future varieties. How proud the state of Iowa must feel that it was the mother of this wonderful variety. Gradually some of the older varieties are slipping by the wayside; the Baldwin has probably passed its zenith, being an irregular bearer, winter killing frequently and being subject to Baldwin Spot, which contributed to restrict its planting.

'The future is going to see the demand for quality fruits, coupled with productiveness, vigor and good appearance. We see through all the ages man has gone through all sorts of hardship and privation to carry fruit with him to the ends of the earth. As a result, some races, especially in the tropics, subsist on fruit alone."

### AUSTRALIAN SCALE PARASITES

W. W. Froggatt, government entomologist for New South Wales, announces: "During the past season Luke Gallard, orchard inspector, has carried out further investigations regarding the life history of the Chalcid parasites that keep the olive scale (Lecanium oleae) in check in the County of Cumberland. He has bred out two generations of the scale, together with two broods of parasites, during the year.

"He says: 'In October I noticed that a number of young scales which emerged in September had developed a soft covering. These I kept under notice till January, 1922. They were then full grown and an occasional parasite had emerged. I collected 219 scales and put them away in a tube. From these I took about two dozen 114 adult parasitic wasps, thus showing that a fresh batch of both scale and parasites had passed through a complete cycle between the middle of August, 1921, and the middle of January, 1922.'

"Mr. Gallard also states that, in addition to the parasites noted in previous communications, he has bred another remarkable undetermined yellow species with banded wings extending well over the tip of the abdomen."

### YOUNG PEACH TREES CAN BE GASSED

September is the month to gas peach borers with paradichlorobenzene. Recent researches in New Jersey show that this method of attack may be useful in young peach orchards as well as in orchards of mature trees.

Provided only a half ounce of the powder is used to a tree, and provided it is left around the trunk of the tree no more than three weeks, paradichlorobenzene may be used to protect vigorous peach trees under six years of age, it is now believed.

For vigorous, fully mature trees, an ounce of the chemical may be used, and left in place a month. Previously it was thought that young trees could not stand the treatment, but now it appears that this is more a matter of tree vigor than of age.

The chemical is laid in a ring around the trunk, where it releases a gas that seeps into the ground and kills the borers. Ohio orchardists tried this method for the first time last year and found it entirely successful.


# Note these New Prices on U.S. Tires

ON July 29, 1922, the lowest prices ever quoted on U. S. Passenger Car Tires went into effect—Royal Cords included.

These new prices should give confidence to dealers and car-owners that no lower basis of quality tire prices will prevail.

Bear in mind that these prices apply to the most complete line of quality tires in the world. Remember, too—as you read the following table—that U. S. Quality has been positively maintained.

| SIZES | Royal Cord | FABRIC Nobby | Chain | Usco | Plain |
|---|---|---|---|---|---|
| 30 x 3 Cl. | —— | $12.55 | $11.40 | $9.75 | $9.25 |
| 30 x 3½ " | $14.65 | 15.60 | 13.00 | 10.65 | —— |
| 31 x 4 " | —— | 23.00 | 21.35 | 18.65 | —— |
| 30 x 3½ SS. | 14.65 | —— | —— | —— | —— |
| 32 x 3½ " | 22.95 | 20.45 | 16.90 | 15.70 | —— |
| 31 x 4 " | 26.45 | —— | —— | —— | —— |
| 32 x 4 " | 29.15 | 24.35 | 22.45 | 20.85 | |
| 33 x 4 " | 30.05 | 25.55 | 23.65 | 21.95 | |
| 34 x 4 " | 30.85 | 26.05 | 24.15 | 22.40 | |
| 32 x 4½ " | 37.70 | 31.95 | 30.05 | —— | |
| 33 x 4½ " | 38.55 | 33.00 | 31.05 | —— | |
| 34 x 4½ " | 39.50 | 34.00 | 32.05 | —— | |
| 35 x 4½ " | 40.70 | 35.65 | 33.55 | —— | |
| 36 x 4½ " | 41.55 | 36.15 | 34.00 | —— | |
| 33 x 5 " | 46.95 | —— | —— | | |
| 35 x 5 " | 49.30 | 43.20 | 39.30 | | |
| 37 x 5 " | 51.85 | 45.75 | 41.70 | | |

*Federal Excise Tax on the above has been absorbed by the manufacturer*

The dealer with a full line of U. S. Tires at these new prices can serve you better than you have ever been served before in the history of the automobile.

If there ever was any fancied advantage in shopping around for tires it disappeared on July 29, 1922.

United States Tires are Good Tires

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30 x 3½ USCO FABRIC $10.65

30 x 3½ Clincher and Straight Side Royal Cord $14.65

United States Tires
United States Rubber Company
Fifty-three Factories — The Oldest and Largest Rubber Organization in the World — Two-hundred and thirty-five branches

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We will ship immediately on receipt of order, any Remco tank, dimensions or capacities shown below, at prices listed:

WATER AND OIL TANKS
Made from 2-inch Clear Air-dried Redwood

| Capacity | Outside Dimensions | | | | Shipping Wt. | Price |
|---|---|---|---|---|---|---|
| | Diameter | | Height | | | |
| Gals. | ft. | in. | ft. | in. | Lbs. | |
| 500 | 5 | 5 | 3 | 11 | 440 | $24.00 |
| 750 | 5 | 9 | 4 | 11 | 580 | 30.75 |
| 1,000 | 6 | 6 | 4 | 11 | 655 | 35.25 |
| 1,500 | 7 | 1 | 5 | 11 | 830 | 45.00 |
| 2,000 | 8 | 1½ | 5 | 11 | 975 | 52.50 |
| 2,500 | 8 | 4 | 6 | 11 | 1,145 | 60.75 |
| 3,000 | 9 | 1½ | 6 | 11 | 1,270 | 69.00 |
| 3,000 | 8 | 5 | 7 | 11 | 1,290 | 69.00 |
| 4,000 | 9 | 10½ | 7 | 11 | 1,555 | 87.00 |
| 4,000 | 9 | 2½ | 8 | 11 | 1,580 | 87.00 |
| 5,000 | 10 | 11 | 7 | 11 | 1,745 | 98.25 |
| 5,000 | 10 | 3½ | 8 | 11 | 1,790 | 98.25 |
| 6,000 | 11 | 4 | 8 | 11 | 2,010 | 111.00 |
| 7,000 | 12 | 1½ | 8 | 11 | 2,160 | 118.50 |
| 8,000 | 12 | 3 | 9 | 11 | 2,375 | 130.50 |
| 10,000 | 13 | 7½ | 9 | 11 | 2,770 | 150.00 |

**We will allow 5 per cent for cash with order or 2 per cent for cash in 10 days from invoice date.**

All prices are for tanks complete, ready to erect, K. D., F. O. B., Pittsburg, Cal.

Complete instructions for erection accompany each tank. If erected accordingly, we guarantee a watertight tank.

Order from Above List

**We supply towers ready to erect at low prices, or will give you tower plans with your tank.**

**Redwood Manufacturers Company**

1604 Hobart Building, San Francisco
308 East Third Street, Los Angeles


# Legal Queries

**Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.**

**Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.**

### Fence Near Line

I erected a hog tight fence around my land. The posts, wire and labor were all paid for by me. The posts are on the lines but the wire is on my side of the fence. Can I move a portion of this fence without getting the permission of the neighbor. Do I have a right to take the fence down if I choose?—Subscriber, Bakersfield.

As the fence was erected at your own cost, apparently upon your own land, unquestionably you have as much right to remove the fence or take it down as you would have any other structure located upon your own property. It is only where the adjoining owner contributes his portion to the cost of the fence, or where the fence might be the sole means of establishing the boundary line, that you would be prevented from removing it.

### Support of Minor

I have a daughter who becomes eighteen on October 4. I have been paying the mother $25 per month until she becomes of age. How much must I pay in October?—Subscriber, Fullerton.

If the payment was by the contract or order to be made upon the first of October, undoubtedly it would be necessary to pay the full amount.

### Chickens Trespassing

A neighbor who lives across the road keeps chickens. They get into my young alfalfa field and do considerable damage. I have notified the owner of the chickens several times to keep them home. Can I shoot the chickens or put poison out for them? Can I put a chicken fence up and make the owner of the chickens pay one-half of the cost?—Subscriber, Wasco.

The killing of a trespassing domestic animal can be justified only by proof of necessity for the protection of property. Such necessity must exist at the time the animal is killed and the person killing is held in a due regard for the relative value of the property about to be injured and that of the animal killed. He would not be justified in killing a valuable animal found destroying property of comparatively little value. Dogs may be used in driving off trespassing animals and as a general rule the land owner is not liable for injury inflicted by them where they are not vicious. When a person places poison on his premises with intent to kill animals or others trespassing on his land he is liable for the injury or loss of such animals as may be poisoned by eating the food, although he notifies the owner of the animals of his intention to put out poison food. It is only where the boundary line of adjoining owners is co-terminous that one owner can require the other to pay his proportion of the cost of the fence and then only when the other has fenced his land. (We believe that where a land owner is honestly making a campaign on squirrels, gophers or other trespassing wild rodents and puts out poison baits, and gives notice that poison is out, he is blameless of any loss that may come because of livestock trespassing on his property and securing the poison.—Ed.)

### Ownership Along Stream

I own land bordering on the San Joaquin River. Am I entitled to wood growing on the banks of the river and can I keep people from trespassing upon my land?—Subscriber, Viola.

Except where the grant under which the land is held indicates a different intent the owner of the land, when it borders upon a navigable lake or stream where there is no tide, such as the San Joaquin River, takes to the edge of the lake or stream at low water mark. When it borders upon other water than a navigable water the owner takes to the middle of the stream. When it borders upon tide water he takes to the ordinary high water mark. Consequently as to any wood growing above the low water mark the owner would be entitled to such wood and to keep parties off from his land.

### Fencing Property

I have built all of my share of the fence around my land, but an adjoining owner who runs sheep refuses to do any fencing. Can he be made to fence his share?—Subscriber, San Ardo.

The law does not afford any means whereby an adjoining owner can be compelled to fence. The sole provision is that a party who does fence his land can recover from the other, if he afterwards makes use of it, a just proportion of the value at that time of any division fence which the first owner made. Of course, if you do not intend to fence you propably could not recover for trespassing sheep or cattle unless you are located within one of the counties having special statutes applicable to them.

### Retaining Rights to Oil

Some years ago a deed was made for land which did not contain any clause reserving an oil right. To whom does the right belong? If necessary to have any provision concerning this right what steps are necessary?—Subscriber, El Monte.

The deed transferred to the grantee all of the actual title to the thing transferred which the transferrer has at the time of the transfer unless a definite intention was expressed or implied, that is to say, it transferred the whole property from the center of the earth to the sky, together with all contents such as oil, water or other minerals. It doubtless would be a very difficult thing for the grantor to show any intention of reservation at this time. If there is any desire so to do it would probably be necessary to consult your local attorney as to what action could be taken. The grantee needs no further provision than the original deed.

### Verbal Agreement Invalid

Some years ago a realty broker agreed to sell certain land to me upon a cash payment and the balance within a year from that date. He agreed that he would sell the land before the last payment fell due. This agreement was made verbally before witnesses. The first payment was made but he now says that he cannot sell the land. What can be done?—Subscriber, Porterville.

There are certain things that require writing in order to make them valid. One of these is an agreement which by its terms is not to be performed within a year from the making thereof. The second is an agreement for the sale of real property or of an interest therein. The third is an agreement authorizing or employing an agent or broker to purchase or sell real estate for compensation or a commission. It would seem from the question that this matter would fall within one of those three clauses and, therefore, the only thing that the purchaser could do would be to continue to make his payments and purchase the land. It might be that upon a more thorough investigation of the question some method of avoiding this statue of frauds, as it is termed, might be devised, so that an action could lie for mistake, fraud or some matter such as that.

### Trespassing Chickens

A neighbor adjoining my vineyard has a flock of turkeys and chickens which continually eat my grapes and scratch up the vines. He doesn't seem to care although I have spoken to him. What steps could be taken to stop the trespassing?—Subscriber, Lankershim.

This is a comparatively similar question to one heretofore stated. The legal method pointed out is for the land owner to take up the trespassing turkeys and chickens as estrays and


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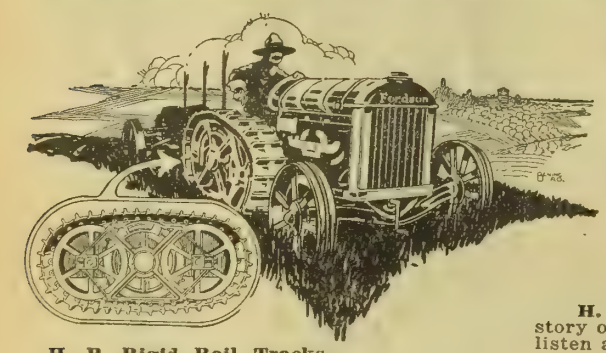

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**Ventura County Fair at Ventura, Oct. 3rd to 8th.**
**Riverside County Fair at Riverside, Oct. 10th to 15th.**

If you cannot attend any of the County Fairs to see them, write us for literature.

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North Sacramento California

H. P. "40"

hold them under the estray act. He is entitled not to exceed 15 cents per day for the keeping and care of each of the birds taken, together with the other costs incident to the estray act. Probably if the fowls are taken under this act once or twice it may be sufficient to cause their owner to take measures to restrain them.

### Overdue Rent

I rented a furnished house from month to month. The tenants are in arrears in their rent some two or three months. What notice do I have to give to require them to vacate. Can I hold any personal belongings or furniture for rent. Can a garnishment be made upon the man's wages?—Subscriber, Hemet.

A three day notice to pay up delinquent rents or remove from the premises would in this case be sufficient as the parties are more than a month in arrears with their rent. Their furniture and clothing is exempt from execution, but as any action which you would take for collection would be one for the common necessaries of life you would be entitled to levy attachment or execution upon the wages of the defendant and one-half of such earnings rendered at any time in 30 days next preceding the levy of the attachment is subject to execution or attachment. All of the wages earned more than 30 days prior to the levy is subject to the execution.

# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Spray for Mosquitoes

Would you kindly inform me in your next issue of the Cultivator the best spray for mosquitoes around outdoor buildings and plants?—Subscriber, Anaheim.

We take it our subscriber is inquiring for an oil for spreading on the surface of stagnant pools where the mosquitoes breed. The best control is secured by the use of ordinary kerosene but a few drops to a spoonful being sufficient to cover say a few yards or a square rod of water surface. In addition give thorough drainage to all pools where water remains standing. Old cans, tubs and buckets sometimes holding water are the cause of a mosquito pest. Where mosquitoes are already bad the burning of punk, incense or any material which causes a dense smoke gives relief.

### Blackberries Trespassing

Blackberry plants are rooted five feet from property line. Neighbor claims damages from runners dropping on his land and taking root.—Subscriber.

This seems to be the case of altogether too neighborly blackberries. These plants certainly should not create a condition serious enough to cause neighborly illfeeling. A turn or two with the cultivator, together with a bit of pruning back of the vigorous growing plants would probably result in an increased crop for the owner of the plants.

### Septic Tank

Where can I get information as to how to make a septic tank?—Subscriber, El Monte.

See page 409 of the Cultivator of April 15, 1922. Had the inquirer sent his name we would have been glad to have mailed him a copy.

### Drying Prunes

Would you please answer me through the Cultivator what process do you have to put prunes through before you pack them? How long do you keep them in the solution and how hot does it have to be?—Subscriber, Gridley.

See Mr. Barnard's article in the Cultivator of August 19, page 171.

### Tomatoes Rot

Would you kindly tell me what I might do to save my tomato crop? The green tomatoes are large and firm, but as soon as they start to ripen a brown rot spot developes in them.—Subscriber, Petaluma.

This is probably a fungus disease and the only remedy we know of is to train the vines up on the ground and thin them out so that they will get as much sunlight and ventilation as possible. The use of sprays or fungicides is not advisable on tomatoes.

### Storing Sweet Potatoes

Can you tell me it there is any way of keeping sweet potatoes other than packing in dry sand? I am a small farmer, and would be grateful for some less laborious way.—Subscriber, Chino.

Dry sand is one of the best materials to use for the storage of sweet potatoes. Straw makes a good packing material provided the potatoes can be stored in a dry place in bins that can be ventilated and where a fairly uniform temperature can be maintained. In order to be assured any degree of success in keeping sweet potatoes they must be handled with extreme care from the time they are dug to prevent bruising or breaking the skin.

### Making the Slicker Less of a Sticker

Can you give me a formula or recipe than can be applied to a black gum coat or slicker that will stop it from sticking together? It sticks to anything it comes in contact with except water.—Subscriber, Los Angeles.

It is difficult to recommend anything to prevent a gum coat from sticking that would not have a detrimental effect on its waterproof qualities. A liberal application of talcum powder might have the desired result and would probably not injure the gum. The ladies put away their bathing caps with a coating of talcum powder to prevent the rubber from sticking together. We see no reason why the same process should not work with the slicker.

### Gypsum on Alkali Soil

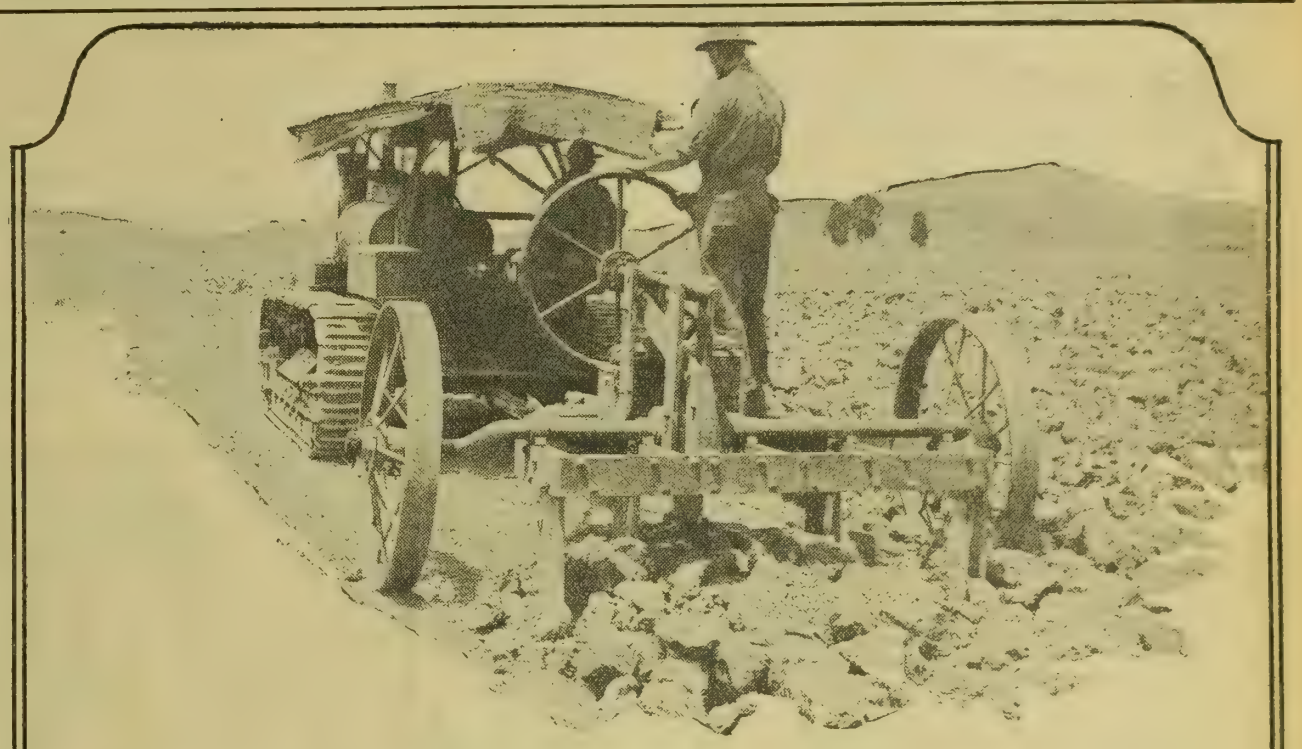
My land, which is planted to grapes, shows black alkali in spots. Unless cultivated deeply immediately after being irrigated it will cement together. Will lime help this ground and if so where can I get the lime at a reasonable price?—Subscriber, Delano.

As a corrective of black alkali conditions gypsum would be better. Make application of 1000 pounds or even a ton to the acre. This will change the black alkali or sodium carbonate to white alkali or sodium sulphate. This in turn may be partially removed from the soil by heavy irrigations, especially if it is possible to underdrain. For best results it is necessary to continue heavy irrigations and keep soil in moist condition.

### Value of Rabbit Manure

Will you kindly give me the relative value of rabbit manure compared with other manures? This manure is from self cleaning hutches and contains practically no urine. What elements should be applied with it to make it an ideal fertilizer for strawberries and raspberries? Would a mulch of green manure with alfalfa hay wastage make a good mulch during the winter?—Subscriber, Santa Barbara.

Under the conditions stated I think its value would be about the same as sheep manure. Would suggest using the alfalfa hay only as a mulch during the winter and applying the rabbit manure early in the spring, working it into the soil so that it will immediately become available to the plants. We are unable to find analysis of rabbit manure.

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By shattering the hardened strata of earth, the hard-pans and plow-pans, the air and water get deep down into the soil. New soil resources are unlocked, bacterial action begins to work the soil into plant food; the little feeder roots reach out and draw the plant food in.

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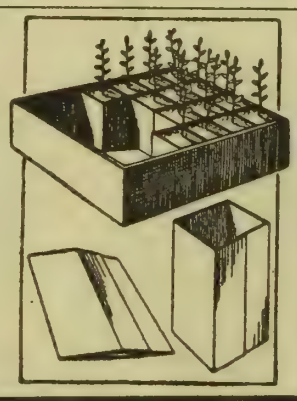

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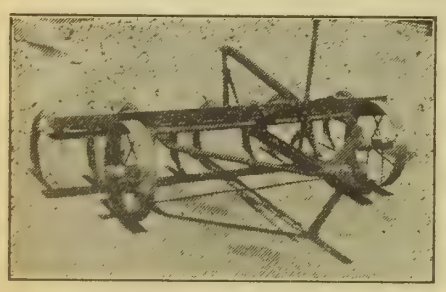

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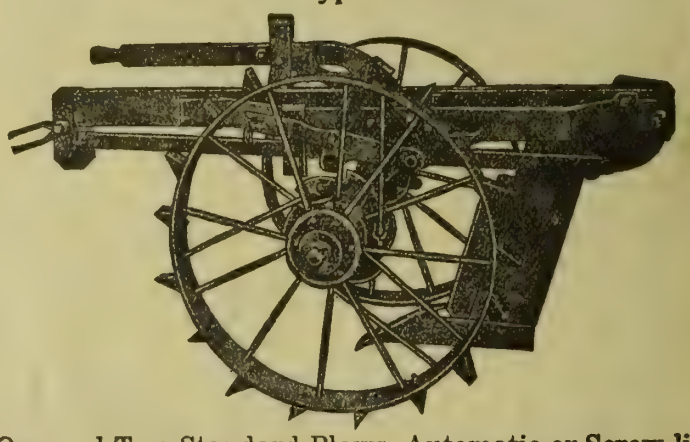

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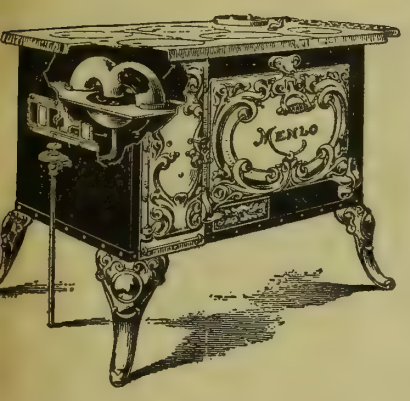


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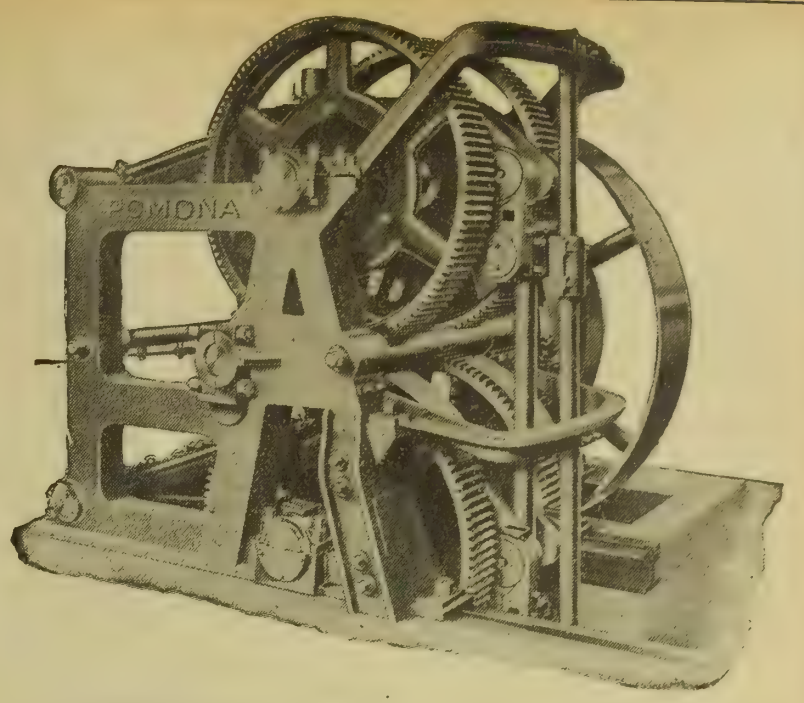


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With Regular friends and true;
Let me play the game on a Regular plan
And play that way all through;
Let me win or lose with a Regular smile
And never be known to whine,
For that is a "Regular Fellow's" style
And I want to make it mine.

Oh, give me a Regular chance in life,
The same as the rest, I pray,
And give me a Regular girl for wife
To help me along the way;
Let us know the lot of humanity,
Regular woes and joys,
And raise a Regular family
Of Regular girls and boys!

Let me live to a Regular good old age,
With Regular snow-white hair,
Having done my labor and earned my wage,
And played my game for fair;
And so at last when the people scan,
My face on its peaceful bier,
They'll say "Well, he was a Regular Man!"
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LOS ANGELES


### SING HI, COOK

By Clara Peterson

SING HI lived in Honolulu until he was 12 years old. Because he had no home he learned almost as soon as he could walk how to take care of himself. Kind people fed him what was left in their dishes, bits of sweet potato and baked banana, morsels of nut paste and sometimes even a slice of little roasting pig which Sing Hi would remember for days afterward. It wasn't long before Sing Hi himself could climb the coconut trees growing near the beach. Then as easily as a monkey he would reach up and pick the ripest coconuts to fill his tiny stomach.

When he was ten Sing Hi went to work in the kitchen of a great hotel on the shore. He helped the cook. He learned how to stuff fish and how to pound kukui nuts for seasoning, but he learned also how to cook things the Americans liked—roast beef and mashed potatoes, apple dumplings and lemon pie.

Because Sing Hi had such a bright little yellow face and such beautiful slanting eyes the ladies who came to the hotel, and the men too, were very kind to him when he could get out of the kitchen, and Sing Hi learned to read and to know things about every country in the world. There was only one country, however, that he really wanted to see, and that was China, for Sing Hi could never forget that he was a Chinese boy.

In the spring when the poinciana trees covered themselves with crimson flowers like big red umbrellas, and all the streets were lined with blossoms, Sing Hi would look about him as he trotted along and say, "It must be lovelier than this in China."

When he walked through the parks and saw little lakes filled with water liies of pink and lavender, and islands where palms and oleanders grew, Sing Hi would say again, "It must be lovelier than this in China."

One day a boat from China came to Honolulu. All day the quiet Chinese sailors unloaded bales of silk and china dishes. Sing Hi forgot his work at the hotel. He forgot everything except sitting as near to the busy pier as he could get and watching with wide open eyes the scurrying sailors. Some of them even nodded kindly to Sing Hi. He did not know that he looked far handsomer and happier than most Chinese children in his flowered coat and trousers with the big yellow sash. His pointed hat, like a very broad ice cream cone, sat jauntily on his little black head.

The next evening when the Chinese boat sailed out of the harbor Sing Hi was in it. He was going back to China and he had promised to do all the dishes to pay for his passage. He had only the clothes he wore, but in a dark corner of the boat he piled the books he had brought—a geography, The Water Babies, Robinson Crusoe and an American cook book.

But somehow the great thronging Chinese city where they landed was a disappointment to Sing Hi. He left the boat with his books in his arms, saying goodby very carefully to the cook and all the sailors. It seemed to him that there were a million people at the waterfront; hungry, tired, wrinkled yellow faces. Sugar was being unloaded from the ship that had carried Sing Hi, and the moment the last sack had left the deck hundreds of Chinese women crowded toward the boat to scrape from its deck and from the gang plank the precious grains of sugar that had spilled.

He walked aimlessly through the narrow streets. They were lined with crates and baskets. The shopkeepers seemed to be pushing their stores into the road. At every turn Sing Hi was crowded against a wall or a workbench where ivory carvers and workers in wav moved their yellow fingers deftly and did not look up. He found himself wishing that everything was not blue. Men and women both wore cotton robes, all of the same deep blue, though now and then the street would clear suddenly and into sight would come a mandarin in his green sedan chair, holding his head proudly above his stiff, embroidered gown.

"I shall walk into the country," said little Sing Hi. "There surely I shall get away from poverty and hurry. There I shall find great trees and lovely rippling streams, and perhaps I shall gather berries for my lunch.

For several days Sing Hi wandered in the country. He slept at night along the highway and shivered in his thin clothes. But he looked in vain for woods and brooks and flowered hills. Everything was yellow, the ground and the little rivers. Sometimes he would think that he had found a flower and would stoop to pick it, only to find that it was a leaf covered more thickly with yellow dust than the others. There were many granite boulders and often not a tree to be seen, but everywhere people were living. He saw them in tiny huts with sagging roofs. The women with bound feet stayed indoors. The others worked with the men in the fields, forever bending over their small pieces of ground which must be made to feed so many.

The ship's captain had given Sing Hi 20 brass cash when they parted and with it he bought food from peddlers along the high road—a bit of melon, strips of fish tied together with grass blades, a few peanuts. Sing Hi found himself longing for the coconut trees of Honolulu.

Now and then he came to temples which he did not dare approach closely. They were beautiful because they always had trees around them. Their scalloped roofs shone in the sun and sometimes the sound of drums and cymbals came from them.

When Sing Hi's money was gone he found no one he could ask for help; all he met were poorer than himself. On the third day when night was coming Sing Hi wiped the tears from his eyes. He was tired and hungry and even his four books seemed too heavy to carry.

Where the river wound around a yellow cliff Sing Hi followed wearily. He walked several paces without lifting his eyes. Then he stopped and stared across the river. He saw what seemed to be a park enclosed by a high stone wall. There was a scarlet pointed tower at each of the four corners of the wall and cedar trees waved their branches within. Built into the wall straight across was a gate of stone, carved until it was frail and lacy looking. The gate swung open and out of it had just come a Chinese boy of Sing Hi's age. Sing Hi could see the setting sun sparkling on the golden dragons in the boy's jacket. It sparkled too on a tree loaded with peaches in the garden behind him.

As Sing Hi gazed the boy put up his arm timidly and motioned with his right hand. Sing Hi stepped into the river and waded toward him. When the river became too deep he held his precious books above the water and swam with one hand for he could swim like an eel, having often dived for pennies from the hotel pier.

When at last Sing Hi found himself before the boy he felt strangely bashful. They stood staring at each other but Sing Hi was conscious too of the peaches glimmering behind them for he was very hungry.

"My name is Chang Low," said the boy gravely. "My honorable father is the great mandarin of this district. From the tower I saw you circling the river. What is your name and where are you from?"

"My name is Sing Hi and I have traveled across the ocean. I am hungry. Would your honorable father allow me to work for him and to sup in the kitchen?"

The boy shook his head although his eyes sparkled at the thought.

"My honorable father is very angry. Someone has stolen his great great-grandfather's ring of jade. He has offered 100 taels for its return."

"I do not know where to search for the ring," said Sing Hi, slowly. "But I can cook, most wonderfully can I cook." He looked again at the peaches.

Chang Low clapped his hands together and nodded his head so that his black pigtail swung up and down.

He picked the lowest peach and handed it to Sing Hi.

"Our servant, Ming, has need of someone to help him. Wait, I shall ask."

So it happened that Sing Hi went into the mandarin's kitchen. For five days he worked faithfully; he dressed the fowls and peeled the vegetables, he sorted the rice and the beans, he stirred whatever Ming put to bubble in the iron pot on the stove. Sometimes through the arch when the thin door swung open Sing Hi would see the mandarin and his son seated at dinner. There were curtains of sky blue silk with green and orange storks embroidered on them. There were thick rugs that looked like blue and lavender satin and there were incense burners which were idols with strange and hideous faces.

Always, whether the door was open or shut Sing Hi could hear the mandarin grumbling about his ring. He was glad that Chang Low's honorable father had never seen him, did not know about the new kitchen helper, for somehow Sing Hi was afraid of the mandarin. He did not want to leave this new home for when the kitchen work was done he and Chang Low spent happy hours under the cedars. Sing Hi told of all his adventures and was starting very slowly to read the books to Chang Low. When they were tired of that they fished in the yellow river or swam lazily in the pool hidden among the trees.

Then Ming fell ill and Sing Hi promised to take his place. Yes, he could cook most wonderfully! Ming hobbled to a missionary doctor and left Sing Hi in the kitchen. He looked around joyfully. Now he would prepare the finest dinner the mandarin had ever tasted—roast pork and apple sauce, new peas in cream, mashed potatoes with rich brown gravy, custard pie as high as one's finger.

Sing Hi was flushed with delight as one by one at dinner time he sent in the delicious dishes. The little house boy who attended the dining room trotted back and forth through the swinging door, grinning proudly, too. Never in all his life had he seen such queer things to eat.

That afternoon when the kitchen was as clean as scouring could make it Sing Hi ran happily to the pool where Chang Low was to meet him. The mandarin's son was weeping.

"My father is very angry. He has not found his jade ring and he is afraid that bad luck will come to him. Also at dinner he was disturbed. He was called away as we finished dining or he would have gone to the kitchen to speak to Ming. Then he would have seen you. He stared at those strange foods and at first was afraid to touch them. Then he ate them all and smacked his lips, though he frowned. Ah, Sing Hi, those are not Chinese foods. Are those all you can prepare? My father will send you away. What shall we do?"

Sing Hi brought the American cook book from under the head of his mat and studied it feverishly. What, what could he give the mandarin for supper! The two boys bent over the book for an hour, sadly forgetting to play. Then Sing Hi arose and hurried into the house.

That night the mandarin came wearily home. The jade ring of his fathers had not been found. The police had caught a thief who wore such a ring but it was no more like the mandarin's than a star is like the sun.

The house boy placed before the mandarin a bowl of steaming soup. Ah, such fragrance—the breath of herbs, the smell of juicy beef and lean white veal!

The mandarin dipped his spoon into the broth. He bent over the bowl and his mouth fell open with surprise, for there among the cubes of meat were long, soaked pieces of straw and grass. Sing Hi, sugaring apricots in the kitchen, felt himself lifted by the collar and hurried into the dining room.

"What mess is this, and who are you?" shouted the mandarin angrily.

Sing Hi looked unhappily at the bowl with the straw hanging over its edge. He felt Chang Low gazing sadly at him.

"Honorable sir, your servant Ming is ill and I take his place. I cook American foods, and those you do not like. At the hotel where I used to live I heard often that Chinese ate bird's nest soup. In my cook book I found a soup recipe. Then when the meat grew tender and the herbs were added I brought from a tree top the inside of a crow's nest. Into the kettle I stirred it that the soup might become Chinese."

The mandarin was sitting again before the soup and he spoke quite angrily, though his eyes twinkled, as he lifted a spoonful of the liquid.

"Bird's nest soup is indeed a delicacy. But it is not made of crows' nests—Bah—The nests of cliff birds—"

The mandarin stopped talking and bent over his spoon in amazement. Sing Hi and Chang Low and even the house boy crowded forward, for in the bowl of the spoon lay the jade ring!

After that the mandarin often told his friends the story and pointed proudly to his son and Sing Hi studying together. Sometimes the crow walked around on the grass beside the boys as though looking for another ring to steal. Whenever he found anything that glittered, though it was no more than a piece of glass, he would caw loudly and fly away with it, for he had a new hiding place.

Of course Sing Hi got the reward, which made him very rich indeed, and when he and Chang Low grew older they went to the university together.

## MARSHMALLOWS

Here is marshmallow recipe called for: One box of Jell-O should be soaked in 12 tablespoons cold water while cooking four large cups sugar in one cup water. Cook syrup till it spins a very fine thread and pour on the gelatine, beating constantly. Beat for half hour at least, as this is what makes them tender. Have ready plates or pans dusted with powdered sugar and leave plenty of powdered sugar on top of marshmallows to prevent crust forming. Use any kind of flavor desired, adding it during the beating process. I usually add coloring to part, for variety. Another change is to cut the marshmallows and roll in ground nuts instead of powdered sugar. Cut in squares when cold.—Mrs. Brown, Bakersfield.

### COMING EVENTS

(Corrections and Additions Requested.)

Short Courses, Davis, October 2-December 9.
Placer County Fruit Growers Convention, Auburn, October 4-5.
Ventura County Fair, Ventura, October 5-8.
Butte County Fair, Oroville, October 2-7.
Pork Day, Turlock, October 11.
Los Angeles County Fair, Pomona, October, 17-21.
Southern California Fair, Riverside, October 10-16.
San Francisco Livestock Show, October 18-22.
California Horsebreeders Association, Los Angeles, October 18-22.
International Festival of Dates, Indio, October 18-22.
Pork Day, Fresno, October 20.
California Industries Exposition, San Francisco, October 27-28.
Yucaipa Apple Festival, Yucaipa, November 9-12.
Pacific Slope Dairy Products Show, Fresno, November 13-18.
Pork Day, Hanford, November 16.
Fruit Show, University of California, Berkeley, November 16-18.
Valley Citrus Fair, Visalia, November 26-December 2.
Orange and Olive Festival, Oroville, November 28-December 2.
First National Walnut Exposition, Santa Ana, December 4-9.

COAST AND GENERAL

Arizona State Fair, Phoenix, October 30-November 4.
Pacific International Livestock Show, Portland, November 5-12.
Northwest Fruit Growers Exposition, Seattle, November 11-19.

### NOT ALWAYS A SIGN

As usual, Mrs. Subbubs enlivened the dinner table conversation with an account of the new servant.

"I don't know much about her yet," she said, "but she is good-natured and harmless, at any rate."

"How did you find that out?"

"By her singing. She is always singing at her work."

"That's no sign," said Mr. Subbubs. "A mosquito does that."


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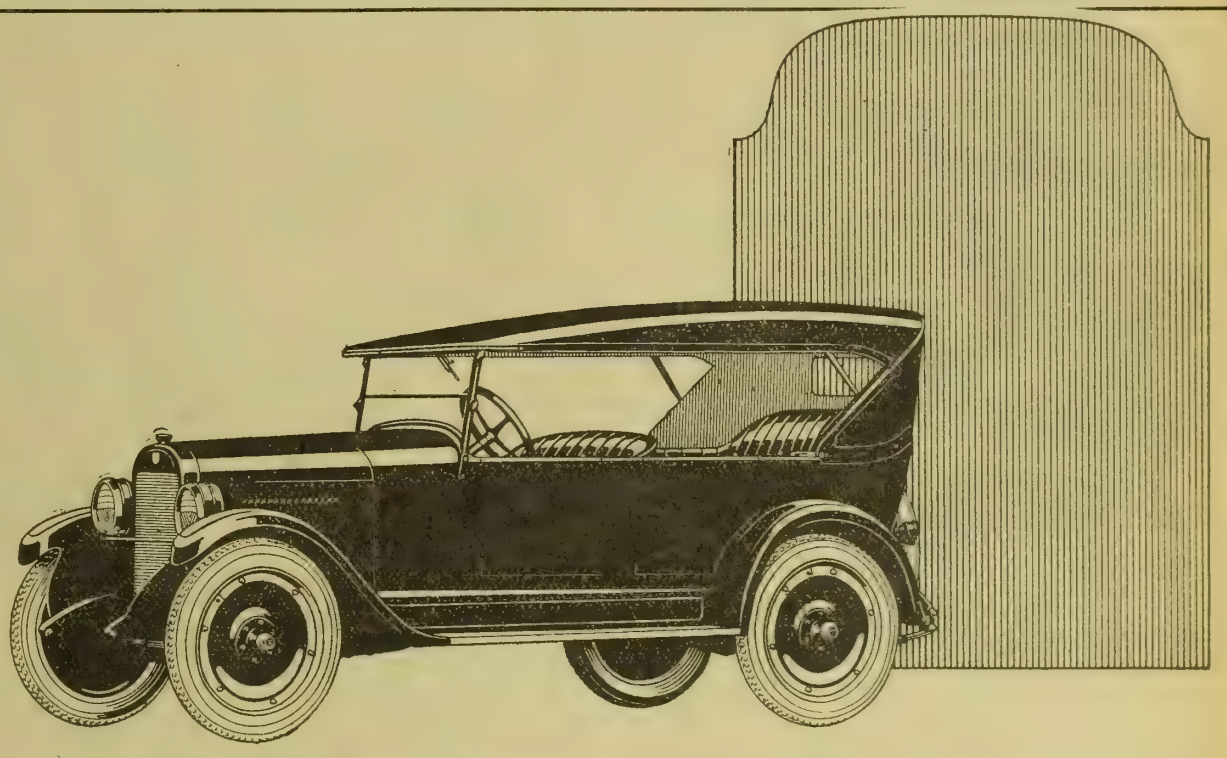

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# Good Livestock at San Diego

By Jack Klein

FOR the fourth time the San Diego County folks came forward in a quiet way and and put on their county fair under the auspices of the farm bureau. Starting in a small way this show has grown until it ranks with all the other fairs of the state.

Beautiful Balboa Park, which was the scene of the exposition in 1915, is the location of the fair and it is a most wonderful situation. Many of the exposition buildings are of the permanent type and they are particularly well suited to show purposes.

The farm centers were all active and prepared beautiful exhibits which were judged by Ernest Braunton, Wm. Hertrich and Geo. P. Weldon. Escondido was the winner with Japatul and El Cajon close competitors.

The livestock department showed a decided increase over previous years and the quality was fine.

Being more or less of a range county the interest in horses is still great and there were many beautiful animals ridden by skilled horsemen to keep the crowds amused. Some very good purebred draft horses were also shown by John S. Hull of Nestor and Winsor Ranch. The fair is for San Diego County entries only, and this tends to produce a greater rivalry between the small breeders of the county than if the classes were open to all comers. This helps to make the fair one of great interest to the local people.

The Holstein show was small with Claude L. Weston of Mission Valley showing the grand champion bull and Jas. Ballantyne of Santee exhibiting the champion cow.

In the Jerseys Winsor Ranch of Bonita exhibited a long string and won all the female classes and champion cow as well as a number of firsts in the males. A. P. McComas of Ramona won the champion bull.

The Guernseys outnumbered all other breeds and four first class herds were shown. G. T. Drinkwater of Lakeside won firsts and grand champion cow; F. B. Naylor of San Diego was next and C. R. Grice of Santee and Russell S. Cox of San Marcos were also generally in the running. Cox had the honor of showing the grand champion bull. Most of these animals will be shown at Riverside and Pomona against the best herds of the state.

The beef cattle were limited to a small herd of Herefords shown by D. H. Ogden of Alpine.

# Showing Calves in the Ring

By Fred E. Klussendorf

Assuming that the animal you are to show has been selected with all the skill at your command; that it is an animal showing constitution and capacity; that it conforms as far as possible to the highest standards of breed type; that it shows all the indications of production and dairy temperament and quality; that it has been properly fitted; that you have led and posed it every day for a long time and that all these things have been done faithfully and well, you are ready to lead it into the ring.

Have a neat looking halter on the calf. It need not be an expensive one but should fit well and be of good appearance. Don't have a rope on it big enough to tie an elephant nor have fringes hanging all around, but let it be clean and neat.

Have your calf or older animal so trained that it will walk into the ring with head up and without any pulling and hauling. Take your place in the line and keep a space of at least three feet between your animal and the next.

### In The Ring

Now remember that for the length of time your animal is in the ring your whole attention should be given to that animal and to the judge. Do not let your attention be drawn from your work in the ring. This means no visiting with Johnnie Jones; no looking over the crowd to see if they are all watching you. You must be entirely occupied with seeing that your animal is standing squarely on its feet; that you keep it properly posed at all times. Above everything, at this particular point, do not allow it to stretch itself after the manner of a saddle horse—as so many the past year seemed inclined to do. Some believe that this may cover up a sloping rump, but it never deceives the judge, and it usually brings out other faults.

As the judge comes down the ring toward you stand on the opposite side from him so that he may see at a glance the top line, length and depth of body, and the entire general outline of your animal. After he has passed you quietly step to the other side—always remembering that your animal, yourself and the judge are the only things to be considered by you while in the ring.

When the judge walks up to you to examine your animal, be sure to stand on the opposite side, and, as he feels of the hide, allow the head of your calf to very slightly turn toward him. This will enable him to take hold of it more easily and determine its softness and quality. He will now examine for veining and milk-well openings, for ribbing and openness of vertebrae; in females, for placing of teats, attachment and quality of udder; in males, for placing of rudimentaries and how well cut out behind; also for length and levelness of hip. As he walks to the head of your animal to examine that and to better observe the spring of fore rib and depth of chest, stand slightly to one side. Your calf should be so well trained that you will be able to do this without the animal moving from position.

Be courteous to the judge and superintendent or other persons in charge. Do as you are told by them, and, should you leave the ring without a ribbon, do not go away discouraged but with a determination to get the blue next time. Find out where your faults were and correct them.

After the ribbons are given out, if you have any question that you would like to ask the judge, do not hesitate to do so. The entire purpose of the show ring is to teach us, as breeders of dairy animals, what are the essentials of a really high class animal. The fact that you may fool the judge temporarily does not help the breed or the person showing. It is as much to your interest to know what are the faults of your animals as it is to know whether you are first or last. Whether Ted Smith wins or Johnnie Jones wins is not the most important point. But it is absolutely vital that the proper animals shall be placed at the top, in order that you boys and breeders may study and take home with you in your minds just what constitutes an animal of the best conformation.

## CALIFORNIA JERSEY BREEDERS ANNUAL

California Jersey Breeders held their regular annual meeting during the state fair, Tuesday evening, September 5. It was a large and enthusiastic meet, there being about 60 breeders present. The item first on the program was the election of officers, and the following were elected for the ensuing two years: President, J. W. Coppini, Ferndale; vice president, Grant A. Brown, El Monte; secretary, W. E. Foley, Ferndale; treasurer, J. H. Sawyer, Lockeford.

Several matters of business came up, among them being motion authorizing

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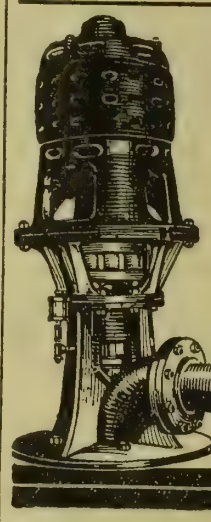
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the treasurer to draw a check for $20 as a contribution to the school essay fund in connection with the purebred sire campaign in Marin and Sonoma Counties this fall. It was also decided to offer a trophy for breeders young herd at California Annual Livestock Show to be held in San Francisco next month; also to give a cup as prize to the school team standing first in the judging of Jerseys during the convention of the boys and girls agriculture club winners next month.

Talks were made by Frank B. Astroth, field agent of the American Jersey Cattle Club, and Dr. C. L. Roadhouse, University Farm, Davis, and Prof. P. M. Brandt who judged the Jerseys.

The Jerseys had by far the largest show of any dairy breed at the California state fair this year, there being exhibited 193 animals in all.

### STATE FAIR BUTTER AND CHEESE CONTEST

Creamery Butter—1, Jackson Creamery Co., Jackson, 94; 2, A. Wirtz, Hollister, 93¾; 3, Chas. A. Holm, Salinas, 93½.

The following entries received cash prizes pro-rated for all entries scoring above 90. There were five creameries with entries scoring below 90.

Fort Jones Creamery & Meat Co., Fort Jones, 93; Salinas Creamery Co., Salinas, 92½; Monotti, Larimer & Co., San Francisco, 92¼; Surprise Valley Creamery and Cheese Company, Cedarville, 92¼; Danish Creamery Association, Fresno, 91½; Imperial Valley Milk Products Association, El Centro, 91½; Milk Producers Association Central Cal., Modesto, 91½; Oakdale Creamery, Oakdale, 91½; J. W. Smith, Ceres, 91½; East Bay Creamery, Oakland, 91; S. P. Peterson, Ferndale, 91; Gustine Creamery Co., Gustine, 90½; Northern California Milk Producers Association, Sacramento, 90½; West Coast Creamery, Oakland 90½.

Best Exhibit—Jackson Creamery Co., Jackson.

Butter Display—1, Northern California Milk Producers Association, Sacramento; 2, Sonoma Mission Creamery, Sonoma.

Goat Butter—1, Bralef Stock Ranch, Santa Rosa; 2, Gem Goat Dairy, Sacramento.

Cheddar Cheese—1, H. A. Kalk, Sheboygan Falls, Wis., 95; 2, Northern California Milk Producers Association, Sacramento, 91; 3, Coos Bay Mutual Creamery, Coos Bay, 90½; 4, F. F. Moser, Arago, Ore., 90. (There were three cheese entries scoring below 90.)

Best Exhibit—H. A. Kalk, Sheboygan Falls, Wis.

California Cheese—1, Northern California Milk Producers Association,, 91¾; 2, Northern California Milk Producers Association, 91½; 3, J. Oreggio, King City, 91¼.

(There were five cheese entries scoring below 90.)

Monterey and Jack Cheese—Northern California Counties Association, Redding, scored 92½. (There were four entries in this class, three of which scored below 90.)

Goat Cheese—1, L. P. Lommel, Napa, (grating cheese) 91; 2, L. P. Lommel, (Roquefort) 90.

Special prize best exhibit of goat's cheese—L. P. Lommel, Napa. (Breakfast cheese.)

Display Dairy Products—1, Northern California Milk Producers Association, Sacramento; 2, Associated Milk Producers, Holt; 3, Northern California Counties Association, Redding. (There were four entries in this class.)

Best Display Milk Powder and Condensed Milk—Northern California Milk Producers Association, Sacramento, highest award, gold medal.

### WAKE UP! SWINE BREEDERS

**By Bruce S. Bennett**

From present indication and all outward signs the swine breeders of California have not awakened to the possibilities presented to them. Sales of dairy cattle the past six months show a strong demand for good animals. Swine sales held last January and February indicated a good market for purebred swine at very satisfactory prices. When a breeder can realize two to three times the price of pork for bred gilts it affords a margin of profit that should in every way be satisfactory to both buyer and seller.

### COW TESTING

The Kern County Cow Testing Association reports through Tester Rousseau number of cows tested for the month, 877; average pounds milk per cof, 702.4; average pounds fat per cow, 26.6. 79 cows produced more than 40 pounds fat during the month. The three best cows of the month were owned by A. R. Buttles, H. G. Hull and C. P. Morgan. Mr. Buttles' cow produced 74 pounds fat. The two highest herd averages were made by the dairies of C. P. Morgan, 36.9 pounds fat and A. V. Bennett, 36.2 pounds fat.

# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Fresh Cow—Little Milk

We have a fresh cow that is giving only a quart or two at a milking. Before we turned her dry she was giving a gallon and a half a day and could scarcely dry her up. She was dry about six weeks before calving. About two weeks before she calved she began to make bag and then it seemed to disappear and when she came fresh there was scarcely any milk at all. She is apparently healthy and all right and the calf seems to be perfect. The milk is good. What is the trouble and what can we do for her?—Subscriber, Bakersfield.

Something must be wrong with the feed or water. Give her sloppy feed and green alfalfa or corn fodder if you can get it. Mix three pounds of opsom salts and two pounds of common salt and give her a handful of it once a day in the feed. That will thin the blood and may start a greater flow of milk.

### Poor Sow

I have a brood sow that will have a litter in about a month and she is very poor. She has been feeding in a barley field with a little alfalfa. Other sows on the same feed are in good shape. Can you tell me a tonic that will put her in good shape?—Subscriber, Live Oak.

Any one of many things might be wrong with her. The others may annoy her or the trouble may be in the mouth with the teeth. Better separate her from the rest, feed her liberally and watch her to find out what is wrong with her. Hogs need very little medicine. Give her sour milk with some corn meal in it. May be a little baking soda will help some.

### Discharge from Nostrils

I have had a good, eight year old cow for over two years and she is doing fine; eats well and gives a fine amount of milk. She was tested for tuberculosis last winter and was all right. Lately for a month she has had a discharge from her nostrils. I noticed it once before last summer or winter. She acts as if she had a cold. What can I do for it?—Subscriber, Sebastopol.

It may be due to a loose tooth in the upper jaw. If there is such it should be removed. Or she may have coughed and forced some feed up into her nostrils from the back passages. That would be hard to reach. If you can not find anything wrong give her a teaspoon of sulphate of iron in a little feed once a day.

### Heifer Sucking Cow

I have a heifer, seven months old, sucking cow. I took the heifer from the cow when three days old, kept her separate for a couple of weeks and then turned her in with the rest of the stock using one of the baskets to keep her from sucking. Everything went well until the basket got caught in the brush and was pulled off and the calf commenced to suck the cow the same day. She was about two months old at that time. I have used everything I know of since to break her but have been unable to do so. Have used a different kind of basket and also one of the prods used by the cattlemen around here but in some way or another she manages to twist the thing around and get to the bag. Kindly advise me through the Cultivator if there is a way to break her.—Subscriber, Arroyo Grande.

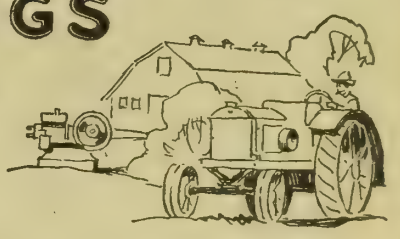
It seems that you have tried about every known means. About the only remedy left is to separate her from all other cattle. Some get the habit and seem to be incurable.

### PER HUNDRED

The farmers of the state are now ready to purchase animals at prices within reason, and it's up to the breeder as to whether or not this demand is supplied. In other states, in various sections, public sales of swine have been absorbed nearly in their entirety by farmers. There is no reason to doubt that the same conditions exist in California.

The depression of the past two years has cut deep into the ranks of state's swine breeders, but among all breeds there remains the nucleus for strong organization whose efforts can put the business back where it belongs. It is to be hoped that the coming season will see many public sales of purebred swine of all breeds, and it's strictly up to the breeders as to whether or not there are more hogs on the farms of the state.


McQUAY-NORRIS
PISTON RINGS
PISTONS
PINS



*They will cut down your Gas, Power and Transportation expense*

Your tractor, truck, engine or pump, and your automobile all depend upon the motor's piston rings, pistons and pins for economy and the machine's length of life. There is great waste in all of them when wear has taken place in these three vital units. And these parts wear faster in farm motors than they do in city-used motors, because of dusty roads and fields.

Dust works into the cylinders through the carburetor and mixes with the lubricating oil where it acts as an abrasive and produces more wear than happens in city automobiles that operate on paved streets. There is special need for farmers to overhaul their gasoline motors.

Thousands of added miles of car life and many added hours of power usefulness can be given most motors by renewing their piston rings, pistons and pins. The gas and oil saving will generally pay the expense of renewing them. They really need renewing just as much as tires do. There is this difference: you can see tire wear easily, but you cannot see piston ring, piston and pin wear. Power loss in the motor and an increase in gas and oil consumption tells you of it, however.

Sometimes only piston rings are required to restore these losses due to wear. There is a McQuay-Norris ring for every purpose and price—all made of Electric Iron.

If, however, the cylinders are worn enough to necessitate regrinding or reboring, then McQuay-Norris *Wainwright* Pistons and Pins are needed as well as McQuay-Norris Piston Rings. The McQuay-Norris line offers a complete renewal service for motor wear. Send for our Free Booklet, "To Have and to Hold Power," which explains the whole subject of motor wear and its correction. Address Dept. AB.

McQUAY-NORRIS MANUFACTURING COMPANY, ST. LOUIS, U. S. A.

**Pistons and Pins** McQuay-Norris *Wainwright* Pistons and Pins—gray iron pistons as light in weight as safety permits—specially designed for replacements—available in standard sizes and over-sizes—also in semi-finished form 75-thousandths over-size—pins of special hardened steel, ground to exceptional accuracy.

$1.25 Per ring. LEAK-PROOF—an exclusive two-piece design preventing loss of gas and compression. Gives equal pressure at all points on cylinder walls. For all piston grooves except top, which should have Superoyl. Each ring packed in a parchment container.

$1.00 Per ring. Superoyl—Keeps lubricating oil out of combustion chamber. Collects excess oil on each down stroke of piston and empties on each up stroke, which ordinary grooved rings cannot do. Each ring packed in a parchment container.

50c Per ring. *JIFFY-GRIP*—a one-piece ring. Non-butting joint, which can be fitted closer than ordinary step cut—velvet finish—quick seating. "Seats in a jiffy." To keep them clean and free from rust, each ring is packed in an individual glassine envelope.

**Snap Rings**—of the highest grade. Raised above the average by McQuay-Norris manufacturing methods. Their use insures all the satisfaction possible for you to get from a plain snap ring. They are packed twelve rings to the carton and rolled in waxed paper.

2307-F

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**Profitable Poultry News**—Capacity 200,000 Chicks—off every week of year. Now booking delivery every fall, winter, spring month. Why? Booked ahead at substantially reduced price till further notice; further, it's impossible to supply demand for our 189-290 egg Leghorns, Reds, Rocks, Anconas, Minorcas, Wyandottes, Orpingtons, Brahmas, Ducks, Turkeys. For quarter century imported, trapnested, selected for vigor, growth, beauty, eggs. Large, rapidly growing chicks reasonable now for fryers, roasters. Pullets, breeders, reasonable. Write Profitable Poultry, 13 North Fair Oaks, Pasadena.

BABY CHICKS

Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.

Write for prices

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**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

BABY CHICKS
**White Leghorns, Anconas, R. I. Reds.**
**Order now for Fall and Spring delivery**

THREE MONTH OLD PULLETS
All selected—no culls

"QUALITY SUPREME"

ORANGE COUNTY HATCHERY
Santa Ana, California

ORDER NOW
For October delivery, all breeds of baby chicks. We have only the best selected stock. Also a complete line of coal brooder stoves, oil and electric brooders. We have the most extensive line of brooders and incubators on the Pacific Coast.
C. E. HILL COMPANY,
418 11th Street, Oakland, Cal.

**Certified White Leghorn Baby Chicks** hatched in the world's largest electric hatchery. Choice free range, high egg producing breeding flocks inspected by the Sonoma County Farm Bureau. Safe arrival guaranteed. MUST HATCH INCUBATOR CO., 438 Seventh St., Petaluma, California.

**For Sale**—Pedigreed White Leghorn Cockerels, the kind that puts the lay into your pullets. By their use it is easy to double egg yield first season. We have them from stock as high as 306 eggs. Few pullets to spare. California Poultry Farm, Rt. 1, Box 160, Modesto, Cal.

**The Archibald Hatchery** will supply through September and October White and Brown Leghorns, Anconas, Minorcas, Rocks, Reds, Orpingtons and Wyandottes. Our folder may interest you. B. W. Archibald, Soquel, Santa Cruz County, California.

**Baby Chicks from my pure-bred flock of** S. C. White Leghorns, carefully bred and selected for laying and standard qualities good, vigorous fall chicks at reasonable prices. Write for particulars. J. R. Heinrich Poultry Yards, Arroyo Grande, Calif.

**Baby Chicks**—High-grade chicks for less. Our chicks are from strong, vigorous stock, noted for producing fast growing heavy laying birds. Free feeding direction with every order. We hatch every week in the year. Write for price list. Hargett & Son, Route 2, Box B, Compton, California.

**White Leghorn Baby Chicks.** From free range Hoganized stock. Breeding flocks inspected by Sonoma County Farm Bureau accredited hatchery inspector. Full count and safe arrival guaranteed. For price write to the Lafranchi's Hatchery, Petaluma, California.

**Booking Orders Now for Fall and Spring** delivery. Order now, prompt delivery. Rhode Island Reds and White Leghorns. All orders given prompt attention. Oroville Hatchery, Irene Uren, Prop., Oroville, California.

**Fall Chicks**—Hatches every week. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. Stubbe Poultry Ranch and Hatchery, P. O. Box 67-E, Palo Alto, California.

**Watch Us Grow**—We are now booking orders for fall chicks. Brown and White Leghorns, Rhode Island Reds, Barred Rocks and Anconas. Ohlen's Hatchery, Campbell, Calif.

**White Leghorn Baby Chix for summer** and fall months from stock Accredited by Sonoma County Farm Bureau. We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Slightly Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

## POULTRY

**Petaluma Electric Brooders** are world beaters for raising chicks. No danger of fire, less care, better chicks. They grow faster, and are stronger and more vigorous than by any other plan. Our Brooders give them "pep." Send for advance circular. Petaluma Electric Incubator Co., Petaluma, Calif.

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Half turkey, half chicken. Turkey flavor meat, 200 eggs per year. A few young gobbler roosters ready for service $6. Photo booklet 10c. Spencer, Rt. 1, Santa Cruz, Cal.

**Bargain Sale of Breeders** including all prize winning S. Wyandottes, Minorcas, Rocks, Black Leghorns and Anconas. Also young stock. Making room for increased hatchery. Q-P Farms, 27 Dutton Avenue, San Leandro, Cal.

**White Orpingtons**—They combine meat and egg production. Superior stock from three months up. J. J. Verkouteren, Route A, Box 145, Gilroy, Cal.

**Eastman's Bred-to-Lay** Hoganized and Trapnested Barred Rocks. September chicks. Fairmead Poultry Farm, Fairmead, California.

**White Plymouth Rocks** April hatched cockerels $2.50 each or $25.00 per dozen. Cocks $3.00 each. Mrs. B. M. Jesch, Fallon, Nevada.

**Pit Games**—Old and young trios. R. H. Crane, Santa Rosa.

**For Sale**—White Leghorn pullets, 75 cents each. H. E. Gleason, Madera, California.

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ONE ACRE AND INDEPENDENCE

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The fine art of earning a comfortable living on one acre in California.

For those who desire to dwell in sunny California without living up hard earned capital.

For 18 years proprietor of the most intensive Egg Farm in the world and Founder of the Famous Charles Weeks Poultry Colony at Palo Alto, California.

The Charles Weeks Poultry Colony No. is now being established at Owensmouth, California, 26 miles from Los Angeles.

Write for literature.

Charles Weeks, 1124 Loew's Theater Bldg., Los Angeles, Calif.

SUTTER BASIN LANDS
**In the heart of the Sacramento Valley, rich, deep "river bottom" soil, with a complete irrigation system is offered to good farmers. Any crop you may want to grow will find a good home here. Most liberal terms.**
SUTTER BASIN COMPANY,
304 California Fruit Bldg.,
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**For Sale**—160 acre ranch at $15.00 per acre in San Diego County Mountains. 45 miles east of San Diego, about half tillable land. House, barn, well and good spring. 32 stands bees, some furniture and tools. Fine fruit and bee country. Best climate. Address George Mickelwaite, Potrero, California.

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**For Sale**—160 acres, 8 miles east of Coalinga, fenced, 2 room house, poultry houses, excellent poultry ranch, good market for everything at Coalinga. Oil rights go with it. Account illness will sell reasonable. E. V. Molette, La Habra, California.

**Paradise, The Orchard Home Place**—Water, electricity, telephone, good roads, healthful climate, reasonable prices. Box C. Publicity Committee, Paradise, California.

**For Sale**—75 acre ranch, pumping plant, plenty of water, house, barn, other buildings, near good school. Write to R. W. Boyer, Santa Ynez, Cal.

**Forty Acres** one-half mile north Denair, over 20 in walnuts, one tree 139 lbs. nuts. Seven in grapes. $25,000. J. T. Snider, Denair, Stanislaus Co., Cal.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**Summer Resort** with ranch for sale. Inquire of owner P. O. Box 194, Point Arena, Mendocino County, Cal.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## GOATS

**For Sale**—Several very fine pure Toggenburg does, bred to my celebrated buck. Also buck kids. C. U. Widmer, Upland, California.

## CATTLE

**Jersey Bull Calf For Sale.** Dandy bull calf whose sire traces six times to Financial Count in five generations. Dam is Financiers Lady Joy who has a R. M. record of 423.67 pounds of fat at 2 years of age. Again on test and has made 327 pounds fat in 5 months. A splendid bull priced to sell. Grant A. Brown, El Monte.

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aaggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys—Grape Wild Farms—Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Registered Guernsey Bull:** Name of animal—Parish Gay Boy, born July 29, 1920. Sire, Imp. Hayes Gay Boy of Edgemoor—Dam, Nellie Parish. Will sell reasonably. For information write to Gus Matchinske, 1532 J St., San Diego, Calif.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

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**Aberdeen-Angus Cattle**—Registered bulls; heifers always on hand. Everything priced to please buyer. Brook Hollow Farm, Hollister, California.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls of various ages** for sale. Millbrae Dairy, Millbrae, California.

**Herefords**—"Veramont Stock Farm," H. M. Barngrover, Prop., Stockton, California.

**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

**Registered Herefords**—Anxiety IV strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

## MISCELLANEOUS

**Natural Leaf Tobacco**—Chewing, 5 pounds, $1.75; 15 pounds, $4.00. Smoking, 5 pounds, $1.25; 15 pounds, $3.00. Send no money, pay when received. Farmers Tobacco Association, Paducah, Kentucky.

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Peach Tree Borers killed by Krystal Gas** (P-C Benzene). Pound tin $1.00; five pounds $3.75, postpaid or C. O. D. Home Products Inc., Rahway, New Jersey

**Smoked Salmon—5 pound box, $1.25; salt** salmon bellies, 5 pounds $1.25, delivered by mail. Coffin Fish Co., Seattle, Washington.

**Tillicum**—Fluid grafting—Covering Wax; no heating required. Sample 25c. No stamps. Paul Kruger, Watsonville, Cal.

**Free Tobacco**—Write for sample of Kentuckys best smoking tobacco. Hawesville Tobacco Co., Hawesville, Ky.

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GIANT BRONZE TURKEYS

Large turkeys can be raised at practically same cost as small ones. It is in the strain. One of our toms will give you five more pounds of meat to market in all his get the first year; besides vitality and beauty.

GOLD NUGGET STRAIN
J. Will Blackman, Originator

Again prove their superiority by winning at California State Fair, September, 1922. Gold Special Sweepstakes for best turkeys in the show. All breeds competing. In open class they won 1st old tom, 1st and 2d yearling tom, 1st and 3rd yearling hen. This, along with practically every Gold Special Sweepstake at the West's greatest shows since 1915, prove that they have

AN UNEQUALED RECORD

Toms and hens for sale. Book orders now for December delivery as each year we are sold out early.

BLACKMAN & MUMFORD
609 East Third St., Los Angeles, Cal.

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

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**Early Flat Dutch Cabbage**—Jersey kale, Swiss chard plants, 20c doz.; 60c per 100; $5.00 per 1000. Early Snowball and California Wonder cauliflower plants 25c doz.; $1.00 per 100; $8.50 per 1000. All plants postpaid. J. W. Taylor, R. F. D., Box 93, Palo Alto, Cal.

**Carolina Strawberry Plants for Fall Planting**—the most prolific and best berry. Gives crop the first year. Postpaid $1.50 per hundred. Write for prices on larger quantities. G. M. Hawley, El Cajon, Rd. No. 2.

**200,000 Winningstadt** and Cannonball cabbage and Pearl Cauliflower plants. Ocean View Nursery, J. B. Jordan, Box 40, Manhattan Beach. Phone 4951 Redondo

**Best D. Lotus** seed for Japanese Persimmon stock, also choice budded Japanese persimmon trees. It will pay you to write me today. Fred W. Kelsey, El Monte, Cal.

**Hairy Peruvian Alfalfa Seed.** Buy direct from grower. Write for sample and prices. R. E. Stephens, Bard, California.

**For Sale**—About a million cabbage plants. L. C. Johnson, Pomona, Cal.

## FOR RENT

**For Rent**—40 acres, well improved $1600. 40 acres, fair improvements $1400. 75 acres fair improvements $2500. 27½ acres well improved $1500. 12½ acres well improved and equipped for poultry $75 per month. All first class land and located in the San Fernando Valley. W. Planalp, Van Nuys, Cal. Phone 45-R.

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**Tamworths, The Bacon Breed... James J.** Summerfield, Santa Rosa.

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**Weanling Boars and Gilts by Pathfinder Wonder (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.**

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

**Winsor Ranch Durocs**—The best of stock at reasonable prices. BONITA, CALIFORNIA.

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**POLAND-CHINAS STRALOCH FARM**
**Two and one-half miles west of Davis, Calif. on Highway, C. Harold Hopkins, Woodland, California.**

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**For Sale—500 EWES bred for early lambing to Shropshire bucks. Delivery any time. Price, $9.00 per head. No broken months. Address Route A, Box 227, Redlands, California. Phone Suburban 9152.**

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STRALOCH FARM
**Two and one-half miles west of Davis, Calif. on Highway, C. Harold Hopkins, Woodland, California**

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**Rebuilt Windmills, Pumps,** new and used tanks, cylinders, irrigat. pipe guaranteed do same work as new ones that cost so much. Over 12,000 sold. Ask anyone who has one. Tanks: 25,000-gal. fine Redwood, $135 on cars; 50,000-gal. $250 on cars; 9,000, $68; new galv., 1,000-gal., $35.25; 2,000, $48.25. New Galv., surface irrigat. pipe, 3, 4, 6-inch, for less. When its Tanks or Mills see DEMMITT CO., 120 N. Main, Los Angeles.

**Fine 15 h. p. Western gas engine $250.** Just rebored with new piston and rings. Old style but fine shape. DEMMITT TANK CO., 816 Yale St., Los Angeles.

## WANTED

**Wanted Throughout California, men with autos to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call. J. H. Yetter, 317 Central Ave. Los Angeles.**

**Wanted**—Real farmer with equipment to lease, buy or share 400 acres Owens Valley. Best land for apples, pears, alfalfa, hogs and general farming. Alex Murray, 320 South 6th, Alhambra.

**Wanted**—New crop walnut meats and cull walnuts. Fred L. Mitchell & Son, 214 French St., Santa Ana, Cal.

**I Want Farms for cash buyers. Will deal with owners only. R. A. McNown, 870 Wilkinson Bldg., Omaha, Nebr.**

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**Attention: Million acres Government land** for farming, grazing, timber. Near R. R. Plenty water. Send for folder. Rally, 1111 So. Alvarado, Los Angeles, California.

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**For Sale**— Collie Pups, pedigreed, eligible for registration. Macks Collie Kennels, M. R. A., Box 1317, Sacramento, Riego, Cal.

## GUINEA PIGS

**For Sale**—Guinea Pigs. Females, 75c, males 50c. Mrs. Albert Stone, Route 1, Box 195, Escalon, Cal.

## DUCKS

**White Muscovy Ducks**—A limited number of finely bred White Muscovy Ducks for sale. One drake and two ducks for $10. Stanford Ranch Co., Vina, Cal.

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**Get My Prices** on Japanese persimmons, Kadota and Black San Pedro figs, Concord grapes, Muscats, Malagas and Thompson Seedless, rooted and Black Monukka cuttings. Nursery stock growing at El Monte, and Vista near San Diego. Easily accessible to Southern planters. Good stock at right prices. Fred W. Kelsey, El Monte, Cal.

**For Sale**—Native Northern California Black Walnut Seedlings. Two to four foot, good heavy stock. The Native Northern Black Walnut is the most resistant grown. Write for prices. Anderson Water Co., Anderson, Shasta County, California.

**For Sale Grafted Walnut Trees** for searus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E 4th Street, Santa Ana, California. Phone 572-W.

**For Sale**—Hachiya Persimmon trees. Large trees of finest stock. Circular. Sherwood Persimmon Nursery, Fullerton, Cal.

**For Sale—Grafted Wlnut Trees** for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**For Sale**—Hachiya Persimmon Trees, grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**Tree Agents** and working partner wanted. Cash Nursery, Sebastopol, Cal.

**For Sale**—All kinds fruit trees, also vines. K. S. Kamada, R-3, Box 29, Dinuba.

**HORTICULTURAL PRINTING**

**Catalogues and Booklets**, office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St. Los Angeles.

**PATENT ATTORNEYS**

WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

**PIGEONS**

**White King Pigeons** unmated pairs $3.00, mated pairs, $5.00, and Pearl Guineas $5.00. Paradise Valley Poultry Ranch, National City, Cal.

# GUERNSEY COWS

**produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.**

**Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.**

## ROSEMOOR FARM

**W. H. Dupee, Owner Riverside, Calif.**

KING KORNDYKE PONTIAC MEAD
Backed by Producing and Transmitting Dams. HIS Dam, De Kol of Valley Mead 2nd, and HIS Sire's Dam, Miss Valley Mead De Kol Walker, have made a total of FIVE RECORDS—Averaging 1038 lbs. Butter in 7 days. For HIS SONS from A. R. O. Dams, write or see us:
**Los Angeles County, Farm, Hondo, California Three Miles From Downey on Downey-Long Beach Boulevard**

## Italian Vineyard Company
## GUERNSEY CATTLE

**Herd Headed by the King of Hollow Hill**
**BERKSHIRE HOGS**
**Stock of Both Breeds For Sale**
**Alex. Wilson, Supt. Guasti, Cal**


### THE CALIFORNIA NATIONAL

(Continued from Page 331)

Dixon, 4; University of California Agricultural School, Davis, 1.

Dairy Shorthorns: J. D. Rowe, Davis, 13; Santa Rosa Stock Farm, 18.

**Horses**

Ratto Stock Farm, Napa, Belgians; F. H. Divan & Son, Monroe, Wisconsin, Shetlands, California Polytechnic School, San Luis Obispo, Percherons, Clydesdales and standard bred light draft horses.

**Sheep**

Bullard Brothers, Woodland, Rambouillets, 18; G. N. Merritt & Son, Woodland, Rambouillets, 11; J. G. Hubbard, Moro, Oregon, Southdowns, Oxfords, Dorset Horns, Lincolns, 49; Straloch Farm, Woodland, Hampshires, 15; Corriedale Sheep Company, Hollister, 60; University of California Agricultural School, Davis, fat wethers, 12.

### WOOL GROWERS TO MEET

Secretary Wing writes that a meeting of interest to all wool growers will be held at the place of E. B. Hiatt, eight miles from Cloverdale on Friday, October 13, at 2 p. m. The following officers and directors of the California Wool Growers Association will be present: A. T. Spencer, director and chairman of the committee on transportation; George J. Cleary, director-manager of the Whitney Estate, Rocklin; Frank Bullard, treasurer, Woodland. There will also be present Dr. J. P. Iverson, chief, division of animal industry, state department of agriculture, Mr. Poole, in charge coyote control, United States biological survey, Professor James F. Wilson, sheep specialist, university farm, Davis; E. E. Kaufman, agricultural statistician, and F. A. Ellenwood, vice president National Wool Growers Association, if he returns from New York in time for the meeting.

Questions taken up will be: Coyote control, eradication of sheep diseases, possibility of forming a branch association of the California Wool Growers Association. Another meeting will be held at Eureka on October 10 and the same people will be present.

### THE HIGH SCHOOL JUDGING CONTEST

One of the interesting features of the California state fair was the high school judging contest which was held on Saturday, September 2. Twenty high schools competed on the five classes of livestock: horses, beef cattle, dairy cattle, sheep, swine.

Considerable interest was manifested in this contest by visitors and exhibitors. It is one of the educational features of the fair. The Esparto high school won the contest; Salinas high school was second and three high school students from Santa Cruz were third. They made the trip alone without a coach, and they are to be congratulated upon the fine showing that they made.

One of the high school instructors commenting upon the contest mentioned the fact that "the actual judging of livestock is only one of the significant features of the contest. One of the other important features is the training at home. In addition the contest affords an opportunity for instructors and students to get together—exchange ideas, and to receive inspiration." These students had been trained by various instructors, by going out into the country visiting herds and getting ideas from breeders in their own committees.

M. J. Warner, former principal of the Esparto High School, was superintendent of the contest, and B. H. Thomas, W. E. Tomson and E. H. Hughes were the judges.

## Livestock News Notes

**LIVESTOCK SALE CALENDAR**

October 26, C. W. Anderson, Burbank.
November 16, Dispersal, Arthur & Maxfield Holstein Co., Hanford.

Superintendent W. R. Harriman of the Los Angeles County farm reports records some of the county farm Holstein cows have been making. Jane Garden Pontiac De Kol as a junior two year old made 103.2 pounds of butter from 78,379.4 pounds of milk in 365 days. Princess Alcartra 2d, a senior two year old, made 540.6 pounds in 305 days, and Gerben Piebe Roderick 665.76 pounds also in 305 days. Burrm **Orndyke Vale at 30 months** o. age made 24.64 pounds butter from 438 pounds milk in 7 days and is milking over 60 pounds a day on year test.

"Ayrshire Milk Facts" is the title of a new booklet issued by the Ayrshire Breeders Association, Brandon, Vermont. This 16 page folder tells of the experience of several people in using Ayrshire milk in hospitals and public homes. The little lady on the title page is a product of a California Ayrshire farm. Copies of this booklet will be supplied breeders, doctors, mothers and others interested in the problem of securing better milk on application to the Brandon office.

A good many inquiries for Ayrshires were reported by the Ayrshire exhibitors at Sacramento. Mr. Starr of the H-G Ranch at Buellton reports the sale of three bull calves while Norabel sold the only one they had for sale. A good inquiry for females also developed. There is no question but that the man who shows his stock to the buying public at the fairs stands a better chance to sell than does the man who stays at home. Many fair visitors will buy for stock when they can pick it out of a show string. The moral is to show your stock even if you have only a few head of calves.


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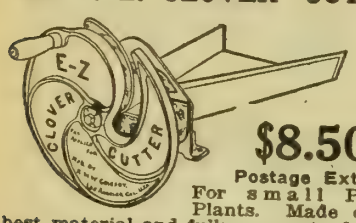


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# Poultry Queries

(Conducted by Jean A. Koethen)

### Slobbers

What is good for slobbers in rabbits?—Subscriber, Chico.

Remove animal from others—rub alum (powdered) in mouth and on wet hair. Keep all food and water from animal for 10 or 12 hours and then feed sparingly for one or two days. Cause is indigestion from improper feed or a quick change in feeds.—W. D. W.

### Colds

Can you tell me what to do for rabbits with colds?—Subscriber, Chico.

If subscriber will tell what organs are affected, can prescribe direct remedies and manner of using remedy.—W. D. W.

### Pigeons

Please tell me where I can purchase pigeons for breeding stock for commercial purposes.—Subscriber, Porterville.

At present I know of no place where commercial pigeons can be bought in large quantities. The different pet stock dealers in Los Angeles or cities near to Porterville might have a few. At present, Mr. Hollender, of Hollender & Funk, Los Angeles, is secretary of the Pigeon Club, and might be able to make inquiries of club members who have the varieties wanted.—W. D. W.

### Sprouted Oats

Please outline the most approved methods for sprouting oats in quantities sufficient for 400 to 600 laying hens. How can mold be prevented?—Subscriber, San Gabriel.

I have never seen any exact statement as to the amount of grain which should be sprouted daily for 100 hens, but if we follow the method of feeding at the Santa Cruz egg laying contest, which sets aside one-fourth of the hard grain allowance for sprouting, of oats to be sprouted daily would be about 3 pounds or 6 quarts for each 100 hens. The oats are soaked for 24 hours in water which is a little warm (about 100 degrees) when it is put on the oats. To guard against mold, add 10 drops of formalin to a pail of soaking oats. After 24 hours pour the oats into the trays of a sprouting cabinet or into ordinary lug boxes with holes in the bottom for drainage, cover with burlap and moisten every 12 hours. The temperature should always be kept above 60 degrees; for this reason the sprouting cabinet is kept in a room that can be artificially warmed. The sprouting cabinet is a rack seven feet high and two feet square, the trays having a four inch marginal board and metal bottom. Many feeders begin to feed on the fifth day, when there are many little white sprouts, but no green. Others wait a little longer till the green shows. As a rule the hens like it best when the green is just beginning to show.

### Lame Goose

A goose nearly matured recovered from an attack of diarrhea only to lose the use of one leg, which is stiff. Can anything be done for her?—Subscriber, Simi.

You might paint the stiff joint two or three times a week with tincture of iodine. Keep her in a shady place and feed plenty of green feed. If she does not recover soon it might be best to eat her.

### Weak Legs

Some of our turkeys, four months old are getting weak legs. They have bone meal in their mash, but possibly not enough. Have had some trouble with feather picking.—Subscriber, Burbank.

A handful of bone meal to a gallon of mash should be ample. The trouble with your turkeys is not lack of bone meal. More likely they are not getting sufficient exercise. Turkeys four months old ought to do well on plain bran and rolled barley, with green feed and sour milk. Perhaps you are overfeeding, and the bodies are too heavy for their legs. If they are on alfalfa range they do not need a great deal of grain.

### OCTOBER, COAXING THE PULLETS

April pullets should begin laying in October, but they will not unless they have inherited the laying tendency—fecundity, experts call it—and have been well cared for through their six months of life. Pullets should not be forced for early maturity. On the contrary, they should be held back by a ration that is more fattening than forcing till they have developed the necessary frame and muscle. When they are ready to lay, however, at six months old or perhaps a little earlier, they should be given a ration which gives all materials for egg production and something more to stimulate the appetite. Cracked corn is an important part of the ration of pullets in their first season. A good laying mash always before them is another essential. Green feed is a sine qua non. Sour milk is a great help, and sprouted oats or barley stimulate the appetite. Here is a typical day's program: Morning, sprouted grain; 10 a. m., cut alfalfa in feeders, enough to last all day; 2 p. m., mash moistened with sour milk—just what the flock will clean up in 15 minutes; 4 or 4:30 p.m., mixed hard grain, preferably wheat, barley and corn, all they will eat, and a little for early morning.

### CULL FOR BREEDERS

Hens lay the majority of eggs during their first two laying seasons, and especially during their pullet year, if they are early hatched.

If a hen lays well during her pullet year she should be kept for another year as a breeder. The older she is and the more culling she survives the better, for then she has proved that she has the vitality to stand up under long continued laying and consequently is valuable as a breeder.

Dispose of all weak or deformed chicks as soon as they are hatched. Sell all weak, late hatched or undeveloped pullets. Keep all mature, vigorous, healthy pullets.

Get rid of all hens that are weak, sick, or overly fat, the early molters, those with shrunken scaly combs, those with sunken, dull, listless eyes, those with thick pelvic bones, small abdomens, hard, fat, egg sacks, small,, dry, yellow vents, and those with prominent, yellow shanks, beaks or ear lobes. Save hens that are healthy, strong, active, late molters, those with waxy, full red combs, prominent, bright eyes, thin pelvic bones, large abdomens, soft, flexible egg sacks, large expanded, moist vents, and those with pale shanks, beaks and ear lobes.

Cull all aged male birds that lack constitutional vigor and vitality. Cull all aged hens that do not show exceptional qualities as egg producers.—Paul C. Jamieson, Colorado Agricultural College.


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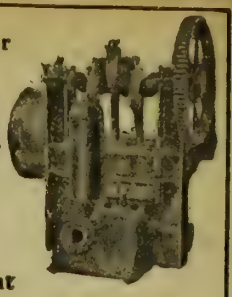

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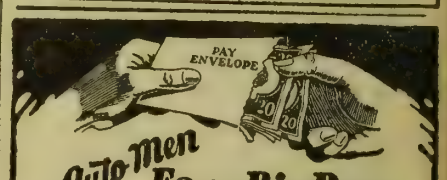


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## RESULTS OF CITRICOLA SCALE CONTROL IN CENTRAL CALIFORNIA

(Continued from Page 333.)

by many growers. We have found that where machines used have maintained a high pressure and the trees are thoroughly covered the results in percentages of dead scale invariably run much higher than in the case where low pressure was maintained and poor distribution of material occurred. A man might better not spray at all than to do a poor job. Another important issue with the grower in choosing the formula he will use in spraying is the cost compared with the probable final results. It has been conclusively proven to us that the most expensive sprays do not always give the best control. It is evident that the grower who is spraying in a haphazard manner with a machine that does not maintain a good pressure and is not thoroughly wetting the trees is working at a financial loss and might better discontinue such work. If all spraying was done in the best possible manner of application at the season of the year that sprays have proven most effective, and with the materials that are giving the best control when costs are considered, I will venture that we would kill at least two scale per unit of cost where one is killed today, and would thus net more on this investment.

After spending much of my time during last year collecting data on spray work and tabulating results on some 6,000 acres there are many questions that might seem simple that I am unable to answer to my own satisfaction and will say that we need more collective evidence on the many issues pertaining to this work. I do feel that the average grower who goes to examine a few of the groves where spraying has been done and is willing to accept as final answer to these questions his conclusions from this limited evidence, is not doing justice to his own business.

### Regarding Scale Conditions This Season Compared With Last

There was a smaller acreage fumigated this year than was covered last season, largely because there were far fewer groves this summer that were severely infested with scale. Late last fall there was an unusually heavy natural mortality, and innumerable groves where no control was applied that were moderately infested last summer are now in little worse condition than they were a year ago and in many cases we find them to be far cleaner. This effect by climatic conditions upon the scale has in many cases been mistaken for the effect of control measures that were applied and in reality did not alone accomplish this clean up. The immense amount of spraying done together with the natural heavy kill retarded the increase of scale to the extent that the number of heavily infested groves where fumigation would be resorted to was greatly reduced. This season in the trees that are scantily foliated and in poor condition or have become very dry during part of the summer we find a heavy mortality, while in most of the healthier trees it remains alarmingly low, indicating that unless there is some very unusual change in this condition we may expect and be prepared to combat a serious condition during the coming season.

The limited time allotted me at this institute prohibits taking up all of the numerous details concerning gray scale control, many of which are more or less important, therefore I will merely touch upon a few which I consider of most importance.

Perhaps the two most important and least understood issues in connection with practical scale control are, first—The ratio of scale increase from year to year under various local environments and the ways in which these environments affect the development of scale, some direct others indirect in their respective actions. Second—The important issue of discriminating between scale control and prevention of scale increase. This question is very often asked by the citrus grower: "I have some gray scale on my orange grove. What should I do about it, spray or fumigate?" I believe this question cannot be answered intelligently unless the proper knowledge of existing conditions is secured.

If the grove in question is vigorous and heavily foliated, with plenty of irrigation water and surrounded by other groves or plantings of a like nature, I would unhesitatingly say in reply to the query that if the infestation is severe or moderate to severe the proper means of control would be fumigation. On the other hand if the grove was in a run-down condition because of lack of water, and adjoined an open grain field or bare hillside, and was lightly infested, or light to moderately infested, spraying with lime-sulphur solution oil and spreader should be employed as the proper means to prevent scale increase.

This of course, is also true to my belief in the case of any grove which is lightly infested, but I could not conscientiously advise a grower to spray a severely infested grove for the purpose of controlling gray scale, and this does not mean that this has not been accomplished. It has in a number of instances to my personal knowledge, but the conclusions arrived at by the writer are taken from averages and not extreme cases. These averages are secured from a careful inspection of 3567 acres of sprayed groves, and 2091 acres of fumigated groves this year, coupled with casual inspections and careful investigations during the past eight years, covering approximately 9,000 acres of sprayed groves and 14,500 acres of fumigated groves. From these observations and careful investigational inspections the following conclusions have been reached:

1. Both spraying and fumigation are necessary methods to be employed by the citrus grower in combating citricola scale in Tulare County at this time.

2. When costs and efficiency are considered, conscientious fumigation with hydrocyanic acid gas has proven itself to be the proper method for the control of citricola scale on groves moderately to severely infested.

3. Spraying with lime-sulphur oil and spreader has proven itself to be an efficient means of preventing scale increase on groves lightly to moderately infested, providing the work is done in a thorough and conscientious manner. There are no doubt other benefits derived from lime-sulphur spraying although as this paper deals with only scale control, I will therefore merely make casual mention of this phase.

In conclusion wish to state that in summing up the matter of citricola scale control in Central California, it appears to the writer that spraying with lime-sulphur solution oil and spreader is the "ounce of prevention" and fumigation with hydrocyanic acid gas the "pound of cure."

## VOCATIONAL EDUCATION IN AGRICULTURE

J. B. Lillard, state supervisor of agricultural education, writes regarding the program for agricultural education for the next year in California. He sends a statement made by C. H. Lane, chief, agricultural education service, federal board for vocational education, from which we quote:

"Agricultural instruction as organized in connection with the vocational programs of the states is so fundamentally sound and practical that it is challenging to the citizenship of the nation to assist in instilling in the minds of our boys and girls the highest ideals of farmer-citizenship.

"One of the greatest problems with which our country has been confronted during the past year is that of a depressed agriculture, resulting in a large way from the pressure of the readjustment following the World War. We are living in a new era and are now in the beginning of an epoch making period. No one can visualize the problems of the future. Vocational education in agriculture equips our future men and women of the farm with a broader vision and a clearer understanding of, not only their individual privileges and responsibilities, but the causes and effects of economic influences upon their united efforts in the interest of maintaining a sound and prosperous agriculture.

"No one will question that agriculture is the basis of our national prosperity and it therefore must be placed and continued on a sound basis, and I know of no better way for gaining this than by developing the best thought and efforts of the young people of our rural communities. More than 50,000 boys and girls have carried on in the United States during the summer months practical work on their home farms under the leadership of approximately 2,000 trained agricultural teachers, and every farmer within reach of a vocational department of agriculture in the high school should see to it this fall that this boy or girl is given an opportunity to take advantage of this new movement in education carried on cooperatively between the United States government and state boards for vocational education."

## CALIFORNIA HAS LARGE CITRUS ACREAGE

Three-fourths of an acre of citrus fruits for each person in California in 1920 is the record California growers have made. About 78 per cent of the acreage is in bearing oranges and 20 per cent in lemons, while new plantings are about 62 per cent oranges and 35 per cent lemons.

Formerly the Navel orange made up about 70 per cent of the orange crop but in 1921 it was only a little over 56 per cent. On the other hand, the Valencia has increased until now it makes up about 43 per cent of the oranges.

To assist growers in understanding cultural and market practices, the University of California college of agriculture is offering its services in several ways. The county farm advisors, the division of citriculture, the citrus experiment station and a correspondence course on citrus fruits are all helping growers to keep up with the best practices and to understand changes in the citrus industry.


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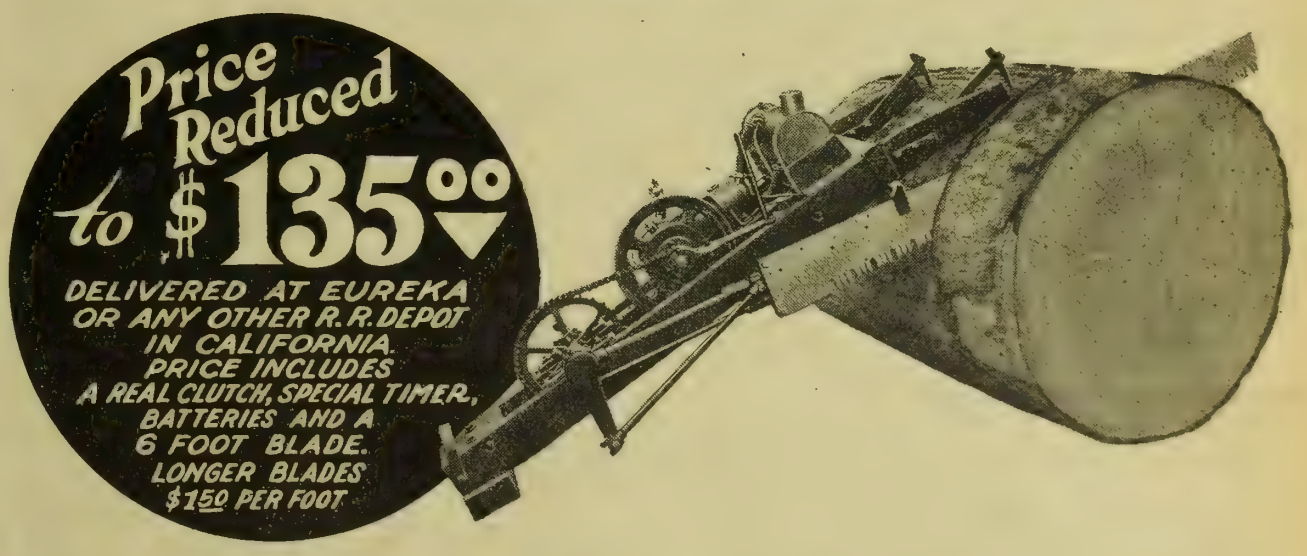
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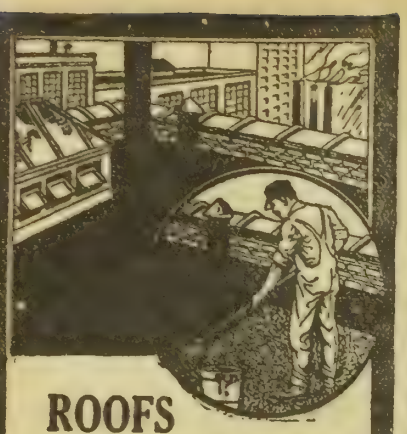

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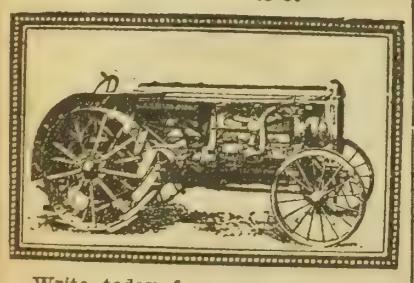

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# Los Angeles Markets

Los Angeles, September 27, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 54 cents.

Prices Creamery Extras past week:

| September | 21 | 22 | 23 | 25 | 26 |
|---|---|---|---|---|---|
| '22 | 51½ | 53 | 53 | 54 | 54 |

### CHEESE

Brokers' prices:
California flats, 24@26.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 46; case count, 38; pullets, 34.

Prices Fresh Extras past week:

| September | 21 | 22 | 23 | 25 | 26 |
|---|---|---|---|---|---|
| '22 | 46 | 46 | 46 | 47 | 48 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 19; colored, 30; broilers, 32; roasters, 27; old roosters, 14; fryers, 28; ducks, old, 15; ducklings, Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 45@50; capons, 35@43.

Belgian hares, 11@15; old, 8.

### LIVESTOCK

(Quotations furnished by Federal-State Livestock Market News Service, 1014 Pacific Finance Building, based on prices off cars at Los Angeles.)

Cattle: Market strong and active. Beef steers, good grade, 7.75@8.00; medium grade, 7.00@7.50; common grade, 6.00@6.75. Beef cows, good grade, 5.75@6.00; medium grade, 5.25@5.50; common grade, 4.00@5.00; canners and cutters, 2.00@2.50. Bologna and butcher bulls, 3.00@4.50.

Calves: Market steady, 150 to 200 lbs., good, and choice, 8.00@8.50; 200 to 250 lbs., good and choice, 7.50@8.00; 250 to 300 lbs., good and choice, 7.00@7.50; over 300 lbs., 6.50@7.00.

Hogs: Market firm. Good and choice, grain-fed Californias, 150 to 200 lbs., 10.75@11.25; 200 to 250 lbs., 10.25@10.75; 250 to 300 lbs., 9.25@10.00; over 300 lbs., 8.00@8.50; smooth sows, 250 to 300 lbs., 7.50@8.00; rough sows, 250 to 300 lbs., 7.00@7.50.

Sheep and Lambs: Market strong, demand active. Lambs,, good and choice grades, 12.75@13.25; medium grade, 12.00@12.50; ewes, medium and good, 6.00@6.50; yearling wethers, medium and good, 9.00@9.50.

Above quotations are for full-wooled.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, September 26 by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement moderate, market steady. New Stock: Locals, best, sacked 1.35@1.65; mostly, 1.50@1.65; poorer, low as 1.00 cwt. Northerns: Rivers, 2@2.15 per cwt. Sweets: Locals, Nancy Halls, 2½@4; Jerseys, 2@3 lb. Northerns: Nancy Halls, 3½@4 lb.

Onions: Demand and movement slow, market steady. Stocktons: Yellows, 1.25@1.50; Whites, 1.25@1.50. Locals: Whites, 40@60; Spanish, 75@90 lug. Garlic, Mexican best, 7 lb.; Northern, 6@7; poorer, 5.

### PRODUCE MARKET

Trading featureless, the supply outbalancing the demand and practically no change in price. Northern Gravensteins were practically cleaned up, and supplies of local apples are increasing. Northern lettuce continues scare and is selling at around $3.75 per crate.

Peaches, pears and plums are selling well at unchanged prices, and much stock is being drawn out of cold storage. The onion market is slightly firmer following advances in shipping districts.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, September 26, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: San Pedro: Kentucky Wonders, and Limas, 7½@8.

Bunched Vegetables: Per dozen bunches: Turnips, beets, parsnips, 30@35. Parsley and radishes, 15; spinach, 25.

Cabbage: Market steady, quality generally good. Field cr., best mostly, 2.75@3.00.

Cauliflower: Per doz., 90.

Cucumbers: Local, lug, 1.50@1.75; Pickling, 2.75@3.25.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, best, 3.00; poorer, 2.50@2.75.

Corn: Green, local, best, lug, 60@90.

Eggplant: Local, 3@4.

Lettuce: Market steady. Locals: Ordinary, leafy, 75@90 cr.; Northern, 3.75@4.00; mostly, 3.75.

Okra: Lb., best, small, 6@7.

Peas: Best, Northern, lb., few best, 12@13; poorer, 6@10.

Peppers: Locals: Bells mostly, 3@4; Chilis, 3@4 lb.; Cherry and Floral Gem, 8; Pimentos, 5@6.

Squash: Market steady. Locals: Summer, lugs, 45@50; Italian, lugs, 70@80; cream, 65.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs, best pink, 75@90; ripe, 40@60.

### FRESH FRUIT

These are actual prices obtained September 26 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurans, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Bellefleurs, many green, fancy, 4 tier, 90@1.10; 3½ tier, 1.10@1.35 per box; loose, 2@2½c lb.; loose, King Davids, 3c; Jonathans, 3½c lb.

Grapes: Demand slow, market steady. Northerns and Locals: Muscats, 3½@4; Malagas, 4½@5; Black Hamburg and Rose of Peru, 5; Black Prince, 6; Tokays, 6@7 lb.

Peaches: Market steady. Locals and Northerns: Freestone and Clings, all varieties, best 3@4; poorer, 2 lb.

Pears: Demand good, market steady. Northerns and Locals: Bartletts mostly, 4½@5; overripe, 2@3 lb.

Plums and Prunes: Demand and movement moderate, market steady. Per lb.: Locals, 3@4, according to variety and quality. Northerns: 3@4½ lb.

Watermelons: Demand moderate, market dull. Locals: Klondikes, large sizes, 1.25@1.50 cwt.; smaller, mostly, 1.00 cwt. Northerns: Black Diamond, large, 1.50@1.75.

### CITRUS FRUIT

Grapefruits: Market steady. Locals: packed box, fancy, 9.00@10.50; small sizes, 7.00@8.50 according to size and quality.

Lemons: Demand and movement light, market steady. Special brands, fancy, 8@9; choice, 6.50@7.50.

Oranges: Demand moderate, market steady. Valencias, special brands, $10@11 according to size.

### HONEY

Honey flow in Southern California curtailed after orange flow by drouth. Crop alfalfa honey light due to damage to crop in Northern section by adverse weather conditions and to reduction of acreage in Southern California. Demand and movement moderate, market steady. Carloads f. o. b. usual terms per pound. Extracted, White Orange mostly, 9½ cents; White Sage, 8@8½; Light Amber Sage, 6½@7; Light Amber Alfalfa, 4¼@6½. Comb: Buyers reported offering $2.70 per case for carlots f. o. b. Inyo County points ,but no large sales reported.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

Prices quoted f. o. b. L. A. to producers:

| | |
|---|---|
| Tame Oat | 20.00@22.00 |
| Barley Hay | 16.00@18.00 |
| Rabbit Alfalfa | 24.00@26.00 |
| No. 1 Dairy | 22.00@24.00 |
| Standard Alfalfa | 16.00@18.00 |
| Wheat Straw | 8.00@10.00 |
| Barley Straw | 7.00@ 9.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around $22 as a fair average. No. 1 dairy is varying from $15 to $17 with $16 as a mean or average price. Standard alfalfa is not much in evidence. Few offer it; fewer want to buy. If sold it brings from $10 up.

### GRAIN

L. A. Grain Exchange prices:
Barley: October delivery, 100 ton lots, 1.36¼@1.37½.

# San Francisco Markets

San Francisco, September 25, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras (Sept. 26) | 55 |
| Prime Firsts | 45½ |
| Cal. Firsts | 44½ |

Prices Extras past week:

| September | 20 | 21 | 22 | 23 | 25 |
|---|---|---|---|---|---|
| '22 | 51 | 51½ | 52 | .... | 52½ |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats, fancy | 24½@26½ |
| Oregon Trips | 23½ |
| Oregon Young America | 26 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras (Sept.26) | 57 |
| Extra Pullets (Sept. 26) | 38½ |
| Undersized Pullets No. 1 (Sept. 26) | 23 |

Prices California Extras past week:

| September | 20 | 21 | 22 | 23 | 25 |
|---|---|---|---|---|---|
| '22 | 52½ | 51½ | 51 | .... | 53½ |

Petaluma comment under date of September 25:

Extra ranch eggs were higher today, the dealers paying 47 5-6c; extra first and pewee eggs were 32 1-3@18 5-6; receipts were heavy.

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of September 25 by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers, 1 to 1¼ lb.s 36@38c per lb.; 1½ to 1¾ lbs., 30 to 33c lb. Colored, 28 to 30c per lb. 2 to 2¼ lbs., 28 to 30c per lb. Colored 28 to 30c per lb. Fryers: 2½ to 3¼ lbs., 30 to 32c per lb. Colored, 29 to 31c per lb. Young Roosters: Colored, 3¼ lbs. and up, 30 to 33c per lb. Staggy, showing spurs, 23 to 28c per lb. Colored Old Roosters: 17 to 18c per lb. Leghorn Old Roosters: 14 to 15c per lb. Leghorn Hens: 2½ to 3 lbs., 18 to 22c per lb. 3 lbs. and over, 23 to 25c per lb. Large Colored Hens: 28 to 32c per lb. Off stock, 26 to 27c per lb.

Ducks: Young, 18 to 20c per lb. Off stock, 10 to 15c per lb.

Geese: Young, 20 to 22c per lb. according to quality.

Live Turkeys: Old, 32 to 35c per lb. Spring 40 to 42c per lb. Dressed turkeys nominal.

Belgian Hare: Live, 15 to 18c per lb. Dressed 18 to 23c per lb.

Jack Rabbits: $2 to $2.50 per doz.

Squabs: Live, fancy, 50 to 52c per lb. Common, $3 to $3.50 per doz. Old pigeons, $2.50 to $3.50 per doz.

Guinea Fowls: Young, $8 to $10 per doz.

### LIVESTOCK

Quotations furnished by the Federal-State Livestock Market News Service:

Cattle prices per cwt. (delivered off cars from San Francisco)—Beef steers, good grade, $7.75@8; medium grade, $7@7.50; common grade, $6@6.75; beef cows, good grade, $5.75@6; medium grade, $5.25@5.50; common grade, $4@5; canners and cutters, $2@3.50; bologna bulls, $2.50@4.

Calves—150 to 200 pounds, good and choice, $8.50@9; 200 to 250 pounds, good and choice, $7.50@8.50; 250 to 300 pounds, good and choice, $6.50@7.50; over 300 pounds, $5.50@6.50.

Hogs—Good and choice, grain fed Californias, 150 to 200 pounds, $11@11.50; 200 to 250 pounds, $10@11; 250 to 300 pounds, $9.50@10.50; 300 pounds up, $8.50@9.50; smooth sows, 250 to 300 pounds, $7@7.50; rough sows, 250 to 300 pounds, $6@6.50; rough sows, over 300 pounds, $5@6.

Sheep and Lambs—Lambs, good and choice grades, $11.50@12; medium grades, $11@11.50; ewes, medium and good, $5@6; wethers medium and good, $7@8.50.

### FAT HOG AUCTIONS

California Farm Bureau Marketing Association reports:

| No Hogs | Av. Wt | Dock | Price |
|---|---|---|---|
| **Turlock, September 20** | | | |
| 44 | 173 | .... | 10.00 |
| 13 | 185 | .... | 9.50 |
| 2 | 255 | .... | 9.00 |
| 16 | 115 | .... | 9.00 |
| 3 | 370 | 20 | 7.00 |
| 78 hogs | | | |
| 1car, 14 consignors, $1,290.05. | | | |
| **Madera, September 21** | | | |
| 96 | 180 | .... | 10.20 |
| 11 | 145 | .... | 9.45 |
| 7 | 247 | .... | 9.20 |
| 114 hogs | | | |
| 1 car, 3 consignors, $2,073.94. | | | |
| **Fresno, September 22** | | | |
| 75 | 197 | 50 | 10.15 |
| 2 | 315 | 20 | 7.15 |
| 77 hogs | | | |
| 1 car, 6 consignors, $1,537.69. | | | |

Totals: 3 cars, 269 hogs, 23 consignors, $4,901.68.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Rivers, $1.15@1.35. Salinas, $2 cwt. at wharf. Jobbing: Rivers, $1.35@1.50 cwt. Sweets: Merced, new stock, 2½@3 per lb.

Onions: Green onions, $1.75 box. Stockton Browns and Yellow, 65@85c cwt. at wharf, jobbing price, 25@35c higher.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, September 18, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per doz., 6.00@10.00.

Beans: Kentucky Wonder, Blue Lake and wax, 3@4 per lb.; Italian, 6@7; Lima, 5@6 per lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Celery, 2.50@4.00. cr.

Corn: Green, 1.25@1.75 sack; Peninsula fancy, 2.50@3.00 sack.

Cucumbers: Lug, 70@90.

Eggplant: lug, Livingston, 50@65.

Lettuce: Local, best, 1.50@2.00 cr.

Peppers: Cal. Bells, 60@75 lug.

Rhubarb: Box, 1.00@1.50.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 75@1.00; beets, 1.00@1.25.

Spinach: Lb., 5@7.

Squash: Summer, lug, 75@1.00; Italian, 75@85.

Tomatoes: River, 50@75 lug. Peninsula, 75@85 lug. Plum tomatoes, 15@20, a berry drawer for best.

### FRESH FRUIT

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, September 25, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Apples: New crop apples, 75@1.25 lug box. Gravensteins, fancy, 3½@4 tier, $1.50@2.00 box. Smaller, $1@1.50 box. Crabapples, 50@1.00 lug. Bellflowers, best, 90@1.00 box. Winter Pearmains, 1.50@1.75 box. Newtowns, 4 tier, $1.35@1.50 box. Wealthy, fancy, $1.25@1.50 box. Jonathans, B grade, $1.50@1.75 box.

Avocados: Florida and Tahiti, $3@7 doz. Poor, 75@1.50 doz.

Bananas: Best Eastern and Hawaiian, 6½@7 lb.

Blackberries: 20@35 drawer.

Cantaloupes: Turlock, standard, $1.25@1.50; flats, 55@75. Honey Dew and Casabas, crates, 50@1.00.

Figs: Black, 75@1.25 double layer box. White, 60@75 crate.

Grapes: Thompson Seedless, 75@1.00 crate; large lugs, $1@1.50. Malagas, Muscats and Tokays, 75@1.25 crate. Malagas

and Muscats, $1.75@2.50 lug. Tokays, $2@2.75 lug. Rose of Peru and Isabella, $1@1.25 crate. Wine Grapes, track prices, Zinfandels, $90@95 ton. Muscats, $40@45 per ton.

Huckleberries: Lb., 20@23.

Peaches: 65@1.00 crate; 50@1.00 basket; $1@1.50 L. A. lug; $1.25@1.75 large lug. Clings, $1.50@2.00 large lug.

Pears: Bartlett, $2@2.25 box. No. 2, $1.25@1.75; small box, $1@1.25.

Pomegranates: $1@1.25 small box; 75@90 crate; lugs, $1@1.25.

Persian Melons: 50@90 crate.

Persimmons: $1.25@2.00 flat crate.

Plums: Best, $1@1.25 crate.

Quinces: $1.00@1.50 box.

Raspberries: 35@50c drawer.

Strawberries: Local, 45@50, drawer.

Watermelons: Southern, 1c lb. No. 2, for less.

### CITRUS FRUIT

Grapefruit: Southern California fancy special pack, $8.50@9.00 box. Choice, $7.50@8.00 box.

Lemons: Special pack, $8.50@9 00 box. Choice, $6.50@8.50. Lemonettes, $3@4.00 box.

Oranges: Valencias, fancy boxes, 126-216s, $10.00@11.00; 250-288s, $9@9.50; smaller, $8@8.50; choice, $6@9.00 box.

### DRIED FRUITS

**Apples, 1922 Packers' Quotations f. o. b. Cal.:**

| | |
|---|---|
| Choice | 8¾@9 |
| Extra choice | 9 @9½ |
| Fancy | 10½@11 |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | @18½ |
| Slabs | @19 |
| Choice | 22½@23½ |
| Extra choice | 24 @25 |
| Fancy | @27 |

**Apricots, 1922, Cal. Prune and Apricot Growers Assoc. prices:**

Santa Claras and Northerns.
Packed in 25-pound boxes, f. o. b. plant:

| | Sunsweet Brand | Growers' Brand |
|---|---|---|
| Standards | | |
| Slabs | | 19½ |
| Choice | 24½ | 23½ |
| Extra choice | 26½ | 25½ |
| Fancy | 30½ | 29½ |
| Extra fancy | 32½ | 31½ |
| Fancy Moorpark | 32½ | 31½ |
| Extra fancy Moorpark | 33½ | 32½ |

**Figs, 1922, Packers' prices f. o. b. Cal.:**

| | |
|---|---|
| White Adriatic | |
| Standard (in 25s) | @6¾ |
| Choice (in 25s) | @ 8¼ |
| Fancy (in 25s) | @11¼ |
| Extra fancy | @12 |
| Bricks, 12 No. 10s | @1.02½ |
| Bricks, 24 No. 8s | @1.65 |
| Bricks, 53 No. 6s | @2.65 |
| Bricks, 70 No. 4s | @2.75 |
| Layers, 10-lb., 4-row | 1.45@1.60 |
| Layers, 10-lb., 5-row | @1.35 |
| Black Mission | |
| Standard (in 25s) | @12 |
| Choice (in 25s) | @13 |
| Extra choice (in 25s) | @14 |
| Fancy (in 25s) | 16½ |

**Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:**

California Peach and Fig Growers' opening prices, October-November shipment:

| | |
|---|---|
| White Adriatic— | |
| Prime (in 25s) | @ 6½ |
| Standard (in 25s) | @7¼ |
| Choice (in 25s) | @ 9¼ |
| Extra choice (in 25s) | @11¼ |
| Fancy (in 25s) | @12¾ |
| Paste (in 75s) | @ 5½ |
| Bricks, 12 No. 10s | @1.10 |
| Bricks, 24 No. 8s | @1.75 |
| Bricks, 50 No. 6s | @2.80 |
| Bricks, 70 No. 4s | @2.95 |
| Layers, 10-lb, 4-row | @1.60 |
| Layers, 10-lb., 5-row | @1.40 |
| Calimyrna | Withdrawn |
| Black Mission | Withdrawn |

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 20-30s | | @25 |
| 30-40s | 10¾@11 | 14½@14¾ |
| 40-50 | 8½@8¾ | 11½@12 |
| 50-60s | 7½@7¾ | 10¼@10½ |
| 60-70s | 7 @7¼ | 9¼@9½ |
| 70-80s | 6½@6¾ | 8¼@8½ |
| 80-90s | 6¼@6½ | 7 @7¼ |
| 100-120s | in 50-lb. boxes, 6 c per lb. | |
| 120 up | in 50-lb. boxes, 5½ per lb. | |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | 10¼@10½ | 10½@10¾ |
| Choice | 11 @11¼ | 11¼@11½ |
| Extra choice | 12½@12¾ | 13 @13¼ |
| Fancy | 14¼@14½ | 15¼@15½ |
| Extra fancy | 15¾@16 | 16¾@17 |

**Peaches, 1922, California Peach and Fig Growers' Assoc. prices, September-October shipment:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @ | @11¼ |
| Choice | @ | @12 |
| Extra choice | @13¼ | @ |
| Practically Peeled— | | |
| Standard | @ | @12¼ |
| Choice | @ | @13 |
| Extra choice | @14¼ | @ |
| 11-oz. Cartons, 60 per case | | 7.00 case |
| 2-lb. Cartons, 24 per case | | 8.25 case |
| 5-lb. Cartons, 10 per case | | 8.50 case |

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | @ 9½ |
| Choice | 12½ |
| Extra choice | @13½ |
| Fancy | @15½ |

**Raisins, Sun-Maid Raisin Growers' Prices:**

Under the schedule of prices for the 1922 crop of raisins announced by the Board of Directors of the Sun Maid Raisin Growers to the trade August 9, the growers will receive 5¾ cents for Muscats, 6 cents for Sultanas, and 6½ cents for Thompson's sweat box basis. Northern bleached Thompsons, (Sun Maid quality) oil dipped, soda dipped or choice sulphur bleached Thompsons will bring the grower 6¼ cents. Fancy Northern sulphur bleached (Sun Maid quality) will bring $40 more per ton, extra fancy Northern sulphur bleached (Sun Maid quality) $60 more per ton. Southern bleached (Sun Maid quality) oil dipped, soda dipped and choice sulphur bleached will net the grower 6¾ cents. Fancy Southern sulphur bleached (Sun Maid quality) will bring 9cents. Extra fancy Southern sulphur bleached (Sun Maid quality) will bring 9 cents. Extra fancy Northern or Southern bleached packed by growers, (California brand) soda dipped, oil dipped and choice sulphur bleached are named at 5¾ cents. The price for fancy sulphur bleached (California brand) 9¼ cents. Muscat layers 3 and 4 crown, all packs will bring 7 4-10 cents. Six crowns will net 8 4-10 cents. A $15 bonus will be paid for making layers in addition to half-cent quality bonus for extra standard grade. Layers will be settled for on packout basis as provided for in the crop contract. "These prices," said F. A. Seymour, general manager, "will be returned to the grower on a sweat box basis. Their realization, however, depends upon the disposal of the entire crop at the new prices named by the board."

1921 crop practically sold out.

### BEANS

| | |
|---|---|
| Large Whites | 5.00 |
| Small Whites | 5.20 |
| Pinks | 4.60 |
| Mexican Reds | 4.25 |
| Red Kidney | 6.25 |
| Bayos | 4.85 |
| Henderson Bush Limas | 6.00 |

### HAY AND FEEDSTUFF

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions.)

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@18.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 16.00@18.00 |
| Wild Oat and Barley | 12.00@14.00 |
| Alfalfa Hay | 16.00@17.00 |
| Stock Hay | 11.00@13.00 |
| Straw | 9.00@10.00 |
| Barley, Ground | 30.00@31.00 |
| Rolled | 28.00@30.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 30.00@33.00 |
| Millrun | 31.00@34.00 |
| Middlings | 42.00@44.00 |
| Linseed Meal | 58.90@60.00 |
| Coconut | 33.00@36.00 |
| Alfalfa Meal | 25.00@27.00 |
| Cottonseed Meal | 50.00@55.00 |
| Molasses Beet Pulp | 38.00@40.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices S. F. Grain Exchange, Sept. 25, f. o. b. S. F. warehouse and storage charges paid.

Barley Feed. 1.17½@1.20; shipping, 1.30@1.37½.

Oats: 1.60@1.85.

Corn: Colored Milo, 1.80@1.95; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.56@1.58.

## Citrus Markets

Los Angeles, September 27, 1922.

Valencias show a great spread between lowest and highest offerings. In the auction as low as $1.85 has been reported and as high as $12.35 in New York on September 20. The small quantity offered has resulted in every consignment of good fruit being picked up immediately. Shortage of cars is interfering somewhat.

Lemon market is strong and much higher. Weather remains favorable to quick sales. Shipments are slackening and it is hoped that a steady winter supply may be kept in the market. F. o. b. quotations have run as high as $9.00.

**Shipments**

Shipments of citrus fruits to date since November 1, 1921. Southern California: Oranges, 22,429 cars; lemons, 4,431; total, 31,860. To same date last season: Oranges, 38,171; lemons, 10.853; total, 49,-024. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,603 cars; lemons, 185; total, 6,788. From Northern California to date Oranges, 22,429 cars; lemons, 9,431; total, 380. To same date last season: Oranges, 305; lemons, 5; total, 310.

### AT THE AUCTION

**September 25**

New York: 22 Val., 2.90@13.20; 2 lem., 6.40@8.60.

Boston: 7 cars Val., 2.40@9.50.

Pittsburg: 4 Val., 2.75@7.55; 2 lem., 6.40@7.55.

Cincinnati: 3 Val., 4.35@7.55; 2 lem., 4.30@7.30.

Cleveland: 1 Val., 6.45@7.75; 1 lem., 4.90@7.90.

St. Louis: 2 Val., 4.00@6.70; 1 lem., 4.40@5.65.

Philadelphia: 4 Val., 2.65@10.85; 1 lem., 6.40@6.95.

**September 26**

New York: 18 Val., 1.85@11.95; 1 lem.,

## Snappy Notes on Livestock

Any error herein is unintentional and subject to correction the following week. This summary is assembled from the best sources obtainable, and both producers and packers can assist by reporting actual sales or buys, giving names, dates and facts, and we will, if requested, withhold names. All we want is fact and a fair deal and correct information for the producers. Address A. L. Spellmeyer, care California Cultivator, 317 Central Avenue, Los Angeles. The Cultivator reaches over 40,000 producing farmers and livestock men.

Beef shortage exists on the Pacific Coast. Two things only prevent a great activity in western cattle and they are being remedied. One thing has been the low carcass beef price obtained by killers and the other the policy of giving a lower price for the small lot of cattle or hogs, to the detriment and discouragement of the small man. This has positively driven the small man out of the Southwest livestock production. Low carcass beef and trimming the small producer are twins in evil effect and one depends on the other. The larger Los Angeles killers have promised to remedy this small lot policy and give the small producer a price equal to the large, but it remains to be seen what their word amounts to in this matter.

A few fancy beef steers are sold at 8 cents here though it is possible better steers may only bring 7.50. A lot of steers at 6 cents was offered that equals the lots purchased on a 7.50 equivalent, but these packers can't seem to keep off manipulations. Carcass prices are two cents better than a month ago in some instances of actual retail sales. This is encouraging.

There isn't any stated price for Los Angeles fat steers except to buy them as cheap as possible at any price from 6 to 7 cents if a man ships in and 6 to 7 cents the same if he holds them at home. And these packers must change that custom soon if they are to have a livestock supply coming into the stockyards here in November.

Lambs are around the 12 cent mark and hogs are over 11. The entire meat trade is strong.

Wool and hides allow a margin now that counts in the killing. There is a stronger demand for feeder lambs and ewe lambs than it's possible to fill. Watch the market for the next two weeks, for something is due to break forth in cattle.—A. L. Spellmeyer.

### LIMA BEAN INFORMATION

Harvesting of Lima and Baby Lima beans is commencing to get well under way in the five counties of Southern California in which these varieties are grown.

Threshing has not proceeded far enough to permit of an accurate estimate as to total production. Some fields have yielded no more than last year, and others an appreciable increase. However, few, if any fields, are yielding over 85 per cent of the amount estimated six weeks ago. Size of Limas from early deliveries shows rather small, an evident result of the August heat wave.

From best information now obtainable, it appears that a liberal estimate of the total production of Limas would be not to exceed 1,200,000 bags, and of Baby Limas a total of about 160,000 bags, which will be considerably less than last year's crop of Baby Limas and carry over.

Since last year's production of Limas amounted to about eight hundred thousand bags, and the carryover in coast warehouses and in distributing markets probably 300,000 bags, it can be seen that the increase in Limas is not likely to exceed 100,000 bags, and, if so, will be less than the average annual consumption.

As about 1,100,000 bags of Limas were marketed last year, mostly at prices ranging from $5.75 to $9.25, it seems reasonable to assume that 1,-200,000 bags could be marketed this season, mostly at shipping prices ranging from $6.25 to $7.00 per cwt., when markets are bare and business conditions improved, providing growers will keep posted as to the real facts and move their crops to market in an orderly manner.

Shipments to cover sales made for September delivery are going forward as fast as beans can be delivered and cleaned, and numerous telegraphic requests for quotations are coming in from various markets indicating the wholesale trade is thinking about purchasing for October shipment.

The California Lima Bean Growers Association on September 20 confirmed carload sales of both Limas and Baby Limas for shipment during the first half of October at $6.25, and car of September shipment Limas at $6.50 f. o. b. rail cars. Considerable purchases of Limas from growers during past week at from $6.00 to $6.15 per cwt.

Free buying and selling is expected to develop within the next two or three weeks.—R. L. Churchill, manager California Lima Bean Growers.

### MODERN PLUMBING IN THE MAKING

An exhibit which is being installed at the Riverside fair shows the actual manufacture of bath tubs and how various forms of porcelain enamel plumbing fixtures are made. This exhibit was one of the most popular at the recent Pageant of Progress in Los Angeles. At no time, when the booth was open, was it not crowded. The exhibit itself shows a model reproduction of 38 acres of Whiting-Mead industries, including their foundries, enameling works, pottery plant, lumber yards and mills, and in the center of the display a model enameling oven where the model cast iron tubs are placed and the enamel properly baked on. The exhibit is interesting and educational. It should be seen by every visitor to the fair.

### WEATHER REPORT

| Stations | Rainfall— Week | Season | Norm. September | Temp.— Max. 23. | Min. 1922 |
|---|---|---|---|---|---|
| Eureka | 0 | .05 | .91 | 62 | 48 |
| Red Bluff | 0 | .30 | .46 | 102 | 58 |
| Sacramento | 0 | T | .21 | 98 | 56 |
| San Francisco | 0 | T | .12 | 74 | 52 |
| San Jose | 0 | T | .25 | 86 | 46 |
| Fresno | 0 | T | .08 | 104 | 62 |
| San Luis Obispo | 0 | T | .29 | 94 | 52 |
| Los Angeles | 0 | T | 0 | 102 | 62 |
| San Diego | 0 | .01 | 0 | 92 | 62 |


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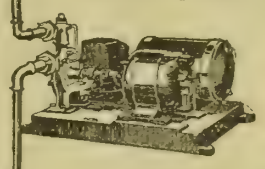

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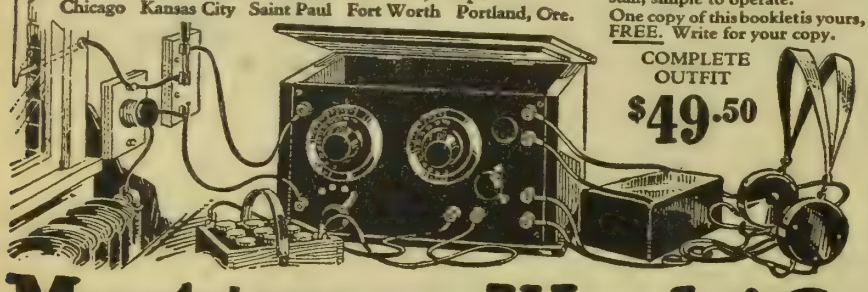

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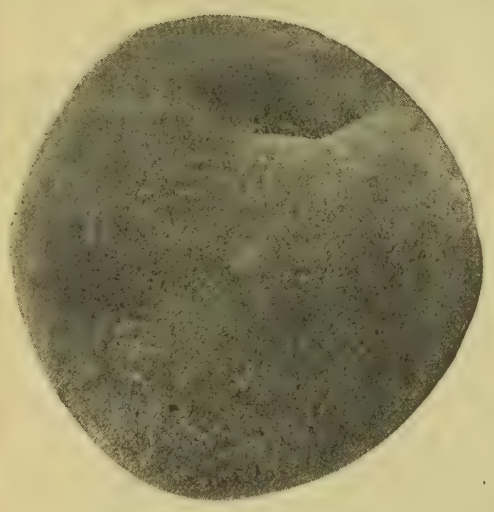

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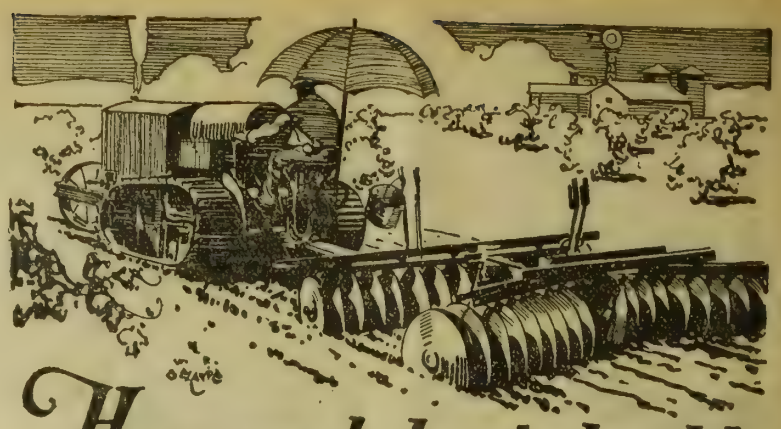

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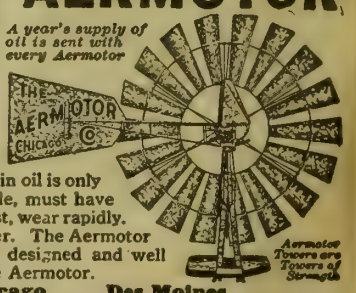


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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — October 7, 1922 — No. 15

## Japanese Beetle, Most Destructive of Pests

See Article on Next Page

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877
Combined with California Cultivator, 1914.
Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, Oct. 7, 1922

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## EDITORIALETTES

The beautiful maple leaf on the cover owes its beauty—or its ugliness—to the work of the beetle shown below the leaf. This pest is known as Popillia japonica, or, more generally, the Japanese beetle. Like many another small creature this little insect has succeeded in stirring up the United States. It has brought two states and the federal government into harmonious action, and a laboratory has been established and Quarantine 48 promulgated. The pest already has occupied a large section of New Jersey, has surrounded Philadelphia and is at work in many of the counties of Pennsylvania.

* * *

Quarantine 48 forbids the movement from the infested area of sweet corn, grapes, lettuce, forage crops, including all hay and straw, nursery stock, both ornamental and all greenhouse stock, soil, compost, manures and, one may almost say, every living green thing, between June 15 and October 15 of each year. The pest is not fastidious in its tastes and will eat smartweed, ragweed and almost everything which grows.

* * *

The beetles appear during the middle or latter part of June, but are most abundant and active during July and August. They feed on fruit, foliage and blossoms of most cultivated crops, as well as many shade trees and common weeds of field and roadside.

* * *

The devastation is not only awful in its completeness but swift in accomplishment. Quarantine Officer Shaw, in charge of plant quarantine work in New York harbor, said to us that he had seen trees carrying clusters of this pest working on apples or other fruits, and that from one apple he had at one grasp taken a double handful of the pests, leaving only the large core of the fruit.

* * *

The Japanese beetle laboratory has been established at Riverton, New Jersey, through cooperation of New Jersey, Pennsylvania and the U.S.D.A. The laboratory has issued bulletins, window hangers, and other publicity, giving warning of the menace. The penalties are severe, ranging from $500 fine and one year imprisonment, downward.

* * *

It is a satisfaction to see the vigor with which the people in this section have taken hold of the situation in the effort to control this pest. Even as it is, there does not appear to be the thoroughness which is generally observed in California. Especially is this true in intercounty shipments. There is not that thoroughness of organization shown by the horticultural commissioners of this state. Worse, however, is the fact that the producers generally are not awake to the real menace to agriculture. With gypsy moth, corn borer and a few other destructive pests, the East has had its lesson, but it seems a hard one to learn. Officials find difficult enforcement of any law or regulation with which the people are not in cordial sympathy. California quarantine is receiving that sympathetic support which will, we hope, result in keeping more pests than we already have the other side of the Mississippi and the Pacific.

* * *

The most discouraging feature in California is the increase in number of war vessels and transports endeavoring to land contraband fruits or plants. The officers are largely Eastern people and not in sympathy with agriculture, and not only neglect, but sometimes refuse, to obey department regulations. A recent bulletin of the California department of agriculture notes the fact that the largest interception of prohibited fruit fly material ever recorded at the port of San Francisco was made on September 1, last, on the arrival here of the U. S. navy transport Henderson. This transport came from the Orient, and in addition to a large passenger list of troops and civilians, had among its passengers the secretary of the United States navy and government officials accompanying him. The records of the California department of agriculture show that the refrigerators and storage rooms of the transport contained a long list (which this report enumerates) of prohibited fruits, against the law of California and the law of the United States to bring in, as possible and probable bearers of the Mediterranean fruit fly and other pests. Infestations by both the Mediterranean fruit fly and the melon fly were noted in this material, and all of it was boiled up and thrown overboard.

* * *

Nor are all Californians without blame. We saw the "City of Los Angeles," direct from Mediterranean fly infested Hawaii, sail into Los Angeles harbor last Monday and discharge her cargo and large list of passengers. These were, practically every one of them, Californians, and the great majority loyal supporters of the inspectors who looked through their baggage and belongings to intercept any possible pests. On the other hand, there were a few grumblers, those who looked at the two hour delay as unreasonable. They were anxious to get to their homes or back to their desks—that for the moment being more important than saving the fruit industry of the state. And these—a very few—called the effort of the inspectors bungling meddlesomeness.

* * *

One of these impatient ones insisted that while the ordinary rabble of Asiatics coming in on a vessel from Japan or Hongkong might well be examined, representative citizens, nearly all members of the chamber of commerce and all thoroughly understanding the penalty to California in case of introduction of serious pest, should be exempt. But a few minutes after the remark was made, the speaker was shown two avocados which a passenger had endeavored to get by the inspectors.

* * *

As a rule the Chamber of Commerce folks were real sports. They fully realized the menace to California's future and aided in every way in most rigid enforcement of the quarantine.

* * *

One feature at the Southern California fair to be held at Riverside next week will be Horticultural Commissioners' Day. Director of Agriculture Hecke will be there and make address to the commissioners on the evening of October 10, and the next morning there will be an automobile drive to citrus groves, a stop at the experiment station and a trip to the top of Mt. Rubidoux. The headquarters, however, on the fair grounds, will be in the farm bureau tent. At a meeting to be held there, an address will be made by Lee A. Strong in which he will touch upon the present fight being made to prevent the entrance into California of the Mediterranean fruit fly.

* * *

It will take almost 800 refrigerator cars daily to handle the grapes and other fruit of California during the next few weeks. We won't get that many cars, but shippers, state department of agriculture, farm bureau and others are pulling on every string which can be reached to get as many cars as possible. The water shipment which was forwarded in chamber charged with carbonic acid gas, has proven a disappointment. Those who tried the experiment, however, assure us success will yet be had in water shipment of fresh grapes.

## WALNUT PRICES

Opening prices on California walnuts just named by California Walnut Growers are No. 1, 22½ cents; No. 2, 17½ cents, and fancy budded, 26 cents. Last year's closing price for No. 1 was 27 cents. The tariff argument that "higher tariff, higher prices" would obtain has one knockout blow in the action of the walnut people. The association states:

"In refutation of the assertion made by interests which strongly opposed the passage of the tariff bill, to the effect that it simply will enable manufacturers and producers to impose upon the public, we have just advised the wholesale and manufacturing trade of a material reduction in the price of both unshelled and shelled walnuts. This happens just at a time when the new tariff bill gives us a 200 per cent increase in duty on shelled walnuts. We feel that you will be glad to know that the efforts you put behind the tariff schedule, which resulted in its passage, will not prove to be a boomerang to embarrass you, nor a pretext to gouge the American people."

## CALIFORNIA IS PROTECTED

Growers of almonds, dates, figs, grapes, lemons, oranges, olives and on down to walnuts, are generally pleased with the recognition which congress extended to California products. Statements have been issued giving credit to our two state senators and practically all of our representatives, for the magnificent work they gave to secure justice to California. We rather take it that in addition there are some faithful workers in some of California's cooperative organizations who have also done some exceptionally hard work. As one incident of many of these jobs we refer to seeing in a little inside office in the House office building in Washington only a few weeks ago R. H. Taylor of the Almond Growers, formerly of the university and afterwards with the state department of agriculture, with sleeves rolled up, gathering facts and figures and bringing them together in most convincing statements as to the impossibility of California laborers competing with Mediterranean laborers in producing almonds. Mr. Taylor was working for the "5 and 15," but instead of that protection the almonds were really given "43/4 and 14." Other California products protected make a list altogether too long for us to give, but amongst them are: Berries, 1¼; berries dried, 2½; cherries, 2; prepared or preserved, 40 per cent ad valorem; citrons, 2; candied, 4½; figs, 2; prepared, 35 per cent ad valorem; dates, 1; grapes, 25 cents per cubic foot; raisins, 2 cents per pound; lemons, 2; oranges, 1; grapefruit, 1; olives, 20 cents per gallon; dried ripe, 4; peaches and pears, 1; evaporated, 2; plums, prunes, etc., fresh or dried, ½ cent; honey, 3; walnuts, 4; shelled, 12; pecans, 3; shelled, 6; olive oil, 7½ cents per pound; dried beans, 1¾.

This, of course, succeeds the emergency tariff bill. Literally thousands of amendments or changes have been made since it was originally presented, and practically two years of time has been given up to it in the congress of the United States.

## THE BUDGET

The Commonwealth Club of San Francisco is making a fight for a state budget amendment which will come before the electors next month. The club feels that the more or less loose methods of the past must be set aside and the business handled for the state with some of the same judgment which has prevailed in private and corporate interests. Mr. Boynton of the Commonwealth Club says regarding this bill:

"Government is a business and the state should be run on business principles. The administrative machinery is definitely established, and the cost of running various departments should be accurately estimated and expenditures conform to such estimates. Under the budget system every state department would submit in advance its estimated requirements and these estimates would be correlated by trained economists under the direction of the governor. The extravagant and wasteful practice of having the legislature appropriate specific amounts for definite purposes without consideration of available funds to meet these costs would be done away with and the taxpayer would know fairly accurately just what the state would spend in any year and where the funds will go."

# California Cultivator

Vol. LIX, No. 15 | Los Angeles, October 7, 1922 | One Dollar Yearly


# Subsoiling and Deep Irrigation

THERE is fascination in anything mysterious, and there is something mysterious in soil. We used to think it was a matter of chemistry; now we realize that physics has more to do with proper soil handling than does chemistry. There must be right conditions for the growth of billions of microscopic life in order to create right chemical conditions. As to tillage, "Touch only the merest surface without disturbing the tiny feeding roots which come up to seek the nourishment made available by sun and air" is heard from one orchardist, while another says—with even greater emphasis—"I know that my orchard has been improved in health and general appearance and in capacity to bear big crops of perfect fruit by putting in the subsoiler and tearing out rootlets, even roots, and forcing other roots to seek for the potash and other needed elements in the lower depths of the orchard. These diverse opinions may be because of different types of soil or innumerable conditions, or they may be due to differences in power of observation. Sure it is that by comparison of these opinions of practical soil culturists we are able to sift out the truth. The Cultivator is glad to aid in the sifting, and to that end gives the following practical ideas from three widely separated sections.

* * *

**A. E. Tatum, Visalia**

The subject seems to be going the rounds and occasionally is being added to and in some instances taken from, until now we have arrived at the point of issue which is used in connection with deep cultivation and subsoil irrigation used in connection with deep cultivation versus surface irrigation and shallow tillage.

Now we are discussing the subject from its different angles and attitudes, and I would like to say that I am the person who is going to do this very act, that is, I am going to do the subsoil-irrigation and would like to state that I am going to do this on the ground that is set to peach trees, cling. They are about nine years old and it remains a question to be solved whether it is wiser to so proceed or let the trees eventually die out or go down and reach new avenues of nutrition which will unlock the potash which lies in deeper tillage. As we are all aware, the new avenues and new foods are the only thing that will revive or stimulate the new rootlets finding their way into this new bed. Now we are all aware that the trees after attaining to this age will eventually rob their neighbor trees of more or less of their needed nourishment, and if we so confine their feeding area and apply the moisture where it is allowed to penetrate at will and slowly enough to be of some material benefit in putting into solution so as to be assimilated by the rootlets, we have at least remedied the seriousness of the affliction.

I want to state to those interested in this venture that I find at the age of nine years most all of the orchards have trees that you can very nearly push from their seatings. I have found in my orchards that I am able to push some of my peach trees over with just a little stubborn resistance as they are so shallow rooted. It is just a matter of slow starvation to the trees.

When I first decided to make the change I just asked myself was it wiser to continue the habit, let the trees rob one another and continue to run the water at the mercy of the sun and warm ground or go down and unlock the rich fertility already further down in the ground and take chances of cutting feeder roots and isolating the trees to give each and every tree just so many square feet of feeding surface and break the irrigation pan.

This year my crop was way off and with signs of going further off another year, so in evidence of all this and the possibility of making this either better or worse, I took the stand of going down after it, either more peaches or less peaches. As it was it would not pay expenses on the place, so now let's watch for results. I am going to use deep tillage also with the subsoiling irrigation.

I have made careful survey of different orchards that have attained some years and I find that all are beginning to wane, look shabby and no longer pay to cultivate. After an examination I find that all had surface tillage and surface irrigation, and that there is a pan they never did break through.

This idea of running water from a pump through small ditches about three feet apart over the surface of the ground adds plow pan every time and none of it is ever broken. If such a thing comes to pass that it is broken after the very first application of the ditch water the ground is run together, as it were, of a cement nature, just where it was at the beginning, and the persistent subsoiling and subirrigation and deep tillage go hand in hand to remedy the deficiency in the crops and conditions of orchards and vineyards.

Now if any reader has a few words to add to the already gained momentum, please do not sit back, but join the circle and let's thresh this thing out to an end which will make the better for all.

* * *

**Forrest Manning, Glendora**

In recent issue of the Cultivator I noticed an article on "Subsoiling and Deep Irrigation," also a reference to question by a Visalia subscriber, and an answer to it by Mr. Neff, all of which I have read with interest.

I am taking the liberty of writing my experience along that line. My Valencia grove, about 17 years old, is in a very heavy soil, though not adobe, and my observation on experiments I have made during the past two or three years leads me to agree pretty closely with Mr. Lehr of the Killefer Company.

For a couple of years I subsoiled once between the rows, beginning perhaps with the August irrigation, but some time during the 1921 season Mr. Nelson, the state soil moisture expert, gave a talk and demonstration at the Azusa Foot Hill Citrus Company's ranch in connection with the farm bureau program.

From Mr. Nelson's talk I got the following impressions, viz., that we were not running our furrows close enough to the trees and that after the danger of June and July drop was past one could subsoil at least twice

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# Dehydrator Plants Are Taking Care of a Big Crop

By J. H. Yetter

FRUIT evaporation, dehydration, cold storage, canning and all other agencies are taking care of an enormous fruit crop and demonstrating their great value to the growers of California this year as never before.

The average man thinks that the only worry or trouble a grower has is to produce a crop. This is not one-half or one-third of the battle as all the growers know. This year with California's unusual crop, with a fair demand for practically all of it, the transportation system of the country failed to maintain 100 per cent efficiency. This has made plain to the fruit industry of California the necessity of provision for taking care of the crop by dehydration, canning, cold storage, warehousing and reduction plants.

One of the best examples of foresightedness in operation in California today is a newly constructed plant by the J. H. Strait Company of Redlands which has installed a process evaporator with a capacity of 15 to 20 tons of apples per day. This plant is operating in two to three shifts, turning into a splendid marketable product such apples as are not selected for packing or canning.

Earlier in the season a run was made on apricots with splendid success, the fruit being turned out in excellent condition with promise of good marketing contracts. There are five or more outlets for the crop, the first being a green fruit trade, the next the canner, the third the evaporator or dehydrator and the poorer grades going to the cider mills or the vinegar mills, and it may be stated that there are other enterprising concerns in the Redlands district, one of which is operating a cider mill, another a vinegar plant, so that this district is as nearly 100 per cent efficient as any section of the country for taking care of its almost unlimited fruit production.

**How the Dehydrator Works**

California fruit growers have been

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**Cutting Sheds**

Here the fruit is prepared for the processing room. South end of the dry room is shown at readers right. Plant at Redlands.

**Dehydrated Sliced Oranges**

**Ready for Processing**

Showing south and east side of J. H. Strait Company dehydrator with pulley and truck load of fruit ready for entrance; also bleach houses.

# Agricultural News Notes of the Pacific Coast

## Northern California

A viticultural experiment station is to be built near Marysville, Yuba County.

September 13, Woodland, Yolo County, shipped 5,000 sacks of wheat from one mill.

Northern California, from San Francisco to Eureka, was visited by a rain on September 26.

Petaluma, Sonoma County, boasts a pear tree 67 years old, on the Thompson place, that is still bearing.

A new paved highway just opened shortens the distance from Yolo County points to the bay cities by 25 miles.

Prune harvesting in the Anderson Valley, Shasta County, is about over; the estimate is two and a half tons to the acre.

Corning, Tehama County, reports a heavy Smyrna fig crop, with several figs measuring nine and a half inches each in circumference.

The third annual show of the "Horticultural Round Table" will be held in Hilgard Hall, University of California, Berkeley, November 16-18.

Potato growers in the Stockton delta section have formed the California Delta Potato Growers Association, with headquarters in San Francisco.

Oswald, a small station in Sutter County, shipped 1,271 cars of peaches in 52 days, representing a value of $1,143,900, and more peaches to follow.

Colusa County vineyardists complain of great destruction of grapes by quails and the season does not open for killing them until November 15.

The Yuba County chamber of commerce announces that the fruit tree acreage of the county has grown during the past ten years from 1,538 to 9,790.

The famous Italian-Swiss Colony Wine Corporation, for years the heaviest shipper of wine from the Sonoma Valley, has filed an application at San Francisco for dissolution.

The Poultry Producers of Central California, Inc., have established headquarters at San Francisco, also distributing stores at Oakland and packing plants at Petaluma and Santa Cruz.

A new Phillips Cling peach has been found at Yuba City, Sutter County, a single tree, that fruits ten days later than any other in the orchard. It has been called, provisionally, the Giblin.

A 100 acre-tract five miles north of Yuba City in Sutter County will be planted to cherries the coming season, and the claim is made that this will be the world's largest tract wholly in cherries.

On September 18, Yuba City, Sutter County, shipped 145 cars of Phillips Cling peaches to outside canneries, the record for one day. Also the train record was broken with 85 cars of peaches in one train.

Exports of dairy products from San Francisco during the week ending September 23 were, in pounds: Butter, 55,479; cheese, 20,799; condensed milk, 92,675; evaporated milk, 559,280; eggs, 28,560 dozen. Nearly all this went to Hawaii and the Philippines.

## Central California

The Merced fig packing house will send out about 1,200 tons of figs this year.

Porterville, Tulare County, will ship 40 cars of pomegranates during October.

The Santa Cruz County fair will be held at Bush League Park, Santa Cruz, October 11-16.

Clovis, Fresno County, opened a new fruit packing house the last week in September.

Pear trees 60 years old are still bearing heavy crops at Saranap, Contra Costa County.

Reedley, Fresno County, reports that its cannery has a payroll of more than $8,000 a week.

The Brentwood district of Contra Costa County will grow 110 acres of cauliflower this season.

The Porterville, Tulare County, Poultry Association shipped 16,602 dozen eggs during August.

A Hanford, Kings County, farmer recently shipped 1,000 purebred Rambouillet ewes to Montana.

A firm of sheep feeders at Wren, Oregon, sent 65 purebred sheep, of five breeds, to the Fresno fair.

Mountain View, Santa Clara County, is shipping strawberries by the carload to Chicago and eastern points.

The almond growers association of Oakdale, Stanislaus County, shipped its first car of almonds September 21.

Exeter, Tulare County, will build a cooperative precooling plant that will have a 200 ton capacity to handle grapes.

At several points in Tulare County two year old Phillips Cling peach trees have produced a ton of fruit to the acre.

An orchardist at Winton, Merced County, sold from five large capri fig trees $110 worth of capri figs at one cent each.

A bunch of Thompson seedless grapes grown at Ceres, Stanislaus County, weighed a little more than seven pounds.

A syndicate from Pomona, Los Angeles County, has bought the 3,500 acre Spreckels ranch near Aptos, Santa Cruz County.

Horticultural Commissioner Brann says that Tulare County's crop of Emperor grapes, the harvesting of which began October 1, will be 100 per cent normal.

Modesto, Stanislaus County, has such a labor shortage in the canneries that the chamber of commerce has asked school girls to use spare time in the cannery work.

The sale of the lands of the fourth unit at Delhi Colony, Merced County, will open November 1, and consist of 87 farms and nine two acre farm laborer allotments.

Trees will be planted, through cooperative effort, from Livingston, Merced County, to Turlock, Stanislaus County, the state to furnish the trees without cost to planters.

Fresno County's grape acreage is reported as follows: Muscats, 70,605 acres; Thompsons, 60,167; Sultanas, 6,888; Malagas, 16,057; Feherszagos, 4,947; black grapes, 3,637; currants, 236.

## Southern California

All the streets in Oxnard, Ventura County, will be paved by January, 1923.

The Yucaipa, San Bernardino County, apple show will be held November 8-11.

The Deglet Noor Date Packing Association opened its new plant at Indio, for packing dates, on September 25.

The 1922 crop of Lima beans in Southern California is estimated at 1,200,000 bags; Baby Limas 160,000 bags.

The new $15,000 dehydration plant at Redlands has sent some of its dried orange products to foreign markets for trial.

Banning, San Bernardino County, reports a light crop of almonds and that all will be harvested early this month.

Broom corn is being sent from Waltrip, Imperial County, to Los Angeles, where it brings from $150 to $175 a ton.

Three tons of date palm leaves were sent from Coachella to New York, for the annual Jewish feast which opened October 7.

English sparrows have been observed at La Jolla, San Diego County, feeding on the snails which are such a pest in that territory.

A $275,000 pre-cooling plant for the pear growing industry of the South Antelope Valley has just been completed at Palmdale.

A new gypsum mine was discovered near Dixieland, Imperial County, and the first carload was shipped, September 20, to Los Angeles.

The Live Oak Canyon dam has been completed. This will protect the orange orchards west of La Verne, Los Angeles County, from flood waters.

The new state highway connecting the Victor Valley, San Bernardino County, with the county seat and southern cities has just been opened.

Fumigation for black scale in Riverside County, western district, began September 25, and, in connection with that for citricola scale, will run to at least October 15.

Farm Adviser Wahlberg says that but five walnut groves in a total of 141, chosen at random in Orange County, are planted far enough apart for best crop returns.

The Imperial Valley has a fine turkey crop but present prices for young toms range about 32 cents and raisers expect 42 cents about Thanksgiving, so none are marketable.

Evening meetings for citrus growers interested in the citrus survey of Los Angeles County will be held in October as follows: Azusa, 9; Glendale, 16; Covina, 23; San Dimas, 30.

Imperial Valley has sent out, in carload lots only, as follows: pomelos, 39, cantaloupes, 12,477; lettuce, 4,559; watermelons and casabas, 1,998; grapes, 36. Express shipments will add 300 cars to the total.

General picking of apples in the Yucaipa Valley, San Bernardino County, began September 15, with King David and Jonathan. Picking Delicious began on the 20th. About a half million boxes will hold the crop.

## The Coast and General

Yavapai County, Arizona, has 60,000 Angora goats.

The prune crop of Clarke County, Washington, will exceed 9,000,000 pounds.

Bellingham, Washington, reports the 1922 peach crop as the greatest ever known there.

Five hundred acres in Escambia County, Florida, were set to Satsuma oranges in 1922.

A new union railroad depot is to be built at Phoenix, Arizona. Bids to be opened October 19.

Palm Beach County, Florida, shipped over a half million dollars worth of potatoes during 1922.

For the first time Pima County, Arizona, is growing commercial lettuce with more than 100 acres planted.

The federal government is about to open for sale the timber supply on 550,000 acres in eastern Oregon.

An orchard of Delicious apples near Nampa, Idaho, but 11 years old, has yielded 40 boxes of No. 1 apples to the tree.

Shipments of pomelos from Florida began during September, but "full swing" will not be reached before October 15-20.

One-half the wheat crop of the Pullman, Washington, district has been sold at prices ranging from 85 to 92 cents.

All the d'Anjou pear crop in the Yakima Valley, Washington, is to be held in cold storage for the eastern Christmas trade.

A new million dollar sugar mill has just been completed on the Miami canal, Florida. Its capacity is 1,000 tons of cane a day.

The tobacco industry of Southern Florida faces a serious labor shortage which in turn will result in a shortage of Christmas cigars.

The average daily temperature in Arizona during September was seven degrees above normal, causing early ripening of all crops.

The Hawaiian Pineapple Company, of Honolulu has leased 12,000 additional acres and will at once plant 3,000 acres of pineapples.

More than an inch of rain fell in the Fort Bayard section of New Mexico last week and stock ranges and water conditions are much improved.

Hot weather during the entire month of September has matured the Arizona cotton crop very early, likewise Salway peaches and Verde apples.

The pineapple industry on the east coast of Florida is enjoying a revival; no Florida cuttings are propagated, but all obtained outside the state.

More than 5,000 cows and calves from outside the state reached Aricava, Arizona, in one week, to be distributed in the Tres Bellotes section.

On September 21 the new tariff on eggs went in effect: 8 cents a dozen in the shell, six cents a pound on frozen eggs and 18 cents a pound on dried eggs.

Many cattle from New Mexico and western Texas have been sent to ranges in the Tucson, Arizona section, on account of drouth in the former districts.

# What is the Best Pear Stock?

By Leonard Coates

The Cultivator has had several articles during the past few years by Mr. Wisker and others, in which dwarfing, standard trees, resistance to blight and other questions have been discussed. Mr. Coates renews the discussion, giving attention, not only to blight, but to excessive moisture and root aphis resistance. The questions are so full of interest that we have asked others to join in the discussion.

THIS is a difficult and unsolved problem in view of comparative resistance to excessive moisture, root aphis and pear blight.

For many years pears on Japan pear root have been called for by planters, but what created the demand is hard to say, unless the statement that this stock was resistant to the blight was the cause of it. Of course there is great variation in seedlings, but all of the type (or species, if there be but one) differ from the European in being deeper rooting and the roots being less fibrous. This would appeal to the California planter.

It is very evident, however, that the Japanese pear stocks will not stand as much water as the previously used French stocks, which had more fibrous roots and not so much downward vertical action. It is no uncommon sight to see young pear trees dead from sour sap, sometimes hundreds in an orchard, following a wet winter.

On the other hand the Japanese stock is not so liable to injury from aphis as the more fibrous roots, though, with the extra care now being displayed by nurserymen and county inspectors, not much more danger from this source need be feared.

Pear blight may be controlled through Vigilance (with a capital "V") and is quite costly. Furthermore, there is no way by which its recurrence, and in perhaps a more virulent manner, may be prevented. The owner himself, with the utmost care, may overlook some infection, so the danger increases with larger orchards and more or less careless or incompetent help. This has led to the introduction and experimentation with some Asiatic stocks, some of which are resistant, and, perhaps, immune to bacterial attack of this nature. A. L. Wisker is foremost in this work in California.

The first difficulty is the obtaining of seed of Pyrus usuriensis or of any other species which is true and unmixed by contact with other species. Some have been collected through the United States department of agriculture by the late Prof. Meyer and also by Prof. Reimer of Oregon, who is the leading authority on the subject, and who is carrying on exhaustive experiments to determine the comparative resistance of certain stocks.

It does not seem possible, however, that seedlings may ever be depended on, which would mean, first, proof of immunity of offspring of a certain tree, and then its complete isolation so that future seed may not by any possible chance have been pollenized from any other source. Therefore, the so-called "resistance" of any stocks on the market is problematical or at best comparative.

The only practical means to the desired end is, first, to find a tree that does resist infection, and then to double-work. When I put this question to Prof. Reimer he concurred in the surmise.

I found, on growing plants from Pyrus usuriensis (so-called), a great variation in foliage, color of wood, etc., evidence that all could not possess the same "resistant" property. I selected three strong seedlings of very distinct appearance or type, and Mr. Sydney Stokes, horticultural commissioner of Lake County, kindly consented to make a test in his own orchard by grafting these three types on different limbs on a well grown, mature Bartlett pear tree. These grafts will next spring be grafted back to Bartlett, and the resulting Bartlett wood inoculated with the disease. If, then, the blight is checked when it reaches any one of these usuriensis grafts, its resistance to the disease is established. If the blight spreads downwards through this wood there is nothing to do but to try again.

It will readily be seen by practical growers that once this immunity is established it is merely the matter of using the available wood to graft on to old trees until there is supply enough to begin double-working in the nursery and growing really resistant pear trees. This same principle, and practice, may easily apply in cases of other bacterial disease. A seedling, owing to its variation, can never be relied upon, while an individual specimen may be found that resists gummosis, let us say. Double-working may again be the remedy.

This brings us to a brief consideration of the quince as a stock for the pear. This stock has always been used for dwarfing the pear and is used abroad almost exclusively for that purpose as in the United States for the amateur's garden. To a less extent it is used in commercial planting, and where this is so in California a double-worked tree is grown in the nursery, or the Beurre Hardy on quince root is planted in the orchard and later top-grafted to Bartlett or whatever the desired variety may be. The reason for this is that the Beurre Hardy makes a perfect union with quince, which Bartlett and many other varieties do not, and budding or grafting any other pear to Hardy is absolutely free from any possibility of failure.

The Bartlett pear or any other variety so double-worked is a perfect commercial success, and the quince root thrives in heavy or wet land where the pear roots would languish. Furthermore, it is not a dwarf tree by any means although it will commence to bear fruit earlier than on any other root. Trees in my own orchard by actual measurement average eight feet high and 1¼ to 1½ inches diameter of trunk with a well branched form, many having fruit and planted in January 1920 as dormant bud trees so really only two year old trees at this date.

What is needed is an educated demand from the planter so that the nurseries will have some incentive to raise double-worked trees or any other and on certain types of roots which experience has shown to be superior.

Years ago I received a letter from a grower wanting pears on Myrobolan root: an instance of unthinking, unintelligent demand. It is the business of the nurseryman to supply the demand, but growers should remember that as it takes two to four years to raise a fruit tree so he should more thoroughly inform himself and if anything special is desired make a contract ahead.

* * *

By F. W. Sand

This is indeed a very interesting and educational article and I believe

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# This Month in the Vegetable Garden

## Northern California

By A. R. Gould

NOW that the days are getting shorter and somewhat cooler we can plan for our winter garden, but this does not mean that there will be less to do as there is no rest for the gardener, and those plots which we shall plan to use for our summer crops must be cleaned and dug over several times during the season. In fact, every plot should be well dug or trenched with manure before planting as plant food must be supplied if we expect results. It is poor policy to try to save on manure or any fertilizer as this is an essential to success. Decayed leaves and garden refuse should all be dug in as this is invaluable, and our observations lead us to believe that were this practice followed more religiously our soils would be in a much more fertile condition. Even the contents of the garbage can will make good manure if dug in deeply and allowed to rot.

Any plants affected by fungus diseases should be burnt and not buried as there is a chance of the spores giving trouble in the future. It is also advisable to avoid planting potatoes or tomatoes year after year on the same plot for the same reason. Our winter plots must be put more rapidly into shape now as the seeds will germinate more quickly during the next few weeks than when the ground is too cold. After the ground has been well spaded, manured and the plots leveled they should be well watered, and as the soil gets into condition it should be ready for sowing. The following may be sown or planted this month:

### Carrots

Sow for succession on well prepared ground in rows 18 to 20 inches apart, French Forcing and Danvers Half Long. By the end of the month those sown last month as advised will be ready for thinning at least six inches apart.

### Cabbage

If seed was sown last month there should soon be a fine stock of healthy plants to select from, and these may be planted out on the plot prepared for same on the first dull day. Plant at least 12 inches apart in the rows which should be two feet or more apart and water immediately after planting.

### Cauliflower

There is still time to plant these and they should be placed 18 inches apart in the row. They should be planted firmly and well watered after planting. Early Snowball is the best variety to grow and the soil should be heavily manured.

### Corn

Collect all the cobs saved for seed and place in canvas bags to dry. Dust maturing cobs of late crop with arsenate of lead to destroy corn worm.

### Lettuce

To maintain a successional supply sow Los Angeles and May King, also White Paris Cos which is a very popular variety and very hardy. Seed should be sown in rows 20 inches apart very thinly on rich soil.

### Celery and Leeks

These should still be given liquid manure twice weekly, and see that all stems are covered with brown paper covers for blanching. This crop will keep for many months in the ground, but if the plot is required for other crops this should be dug and stored in soil in the cellar.

### Beans

Collect all shell beans and store for winter use. The best winter bean to grow is the Broad Windsor, sown in rows two or three feet apart. This grows two feet high and has a wonderful flavor besides being very hardy.

### Kale and Brussels Sprouts

Plant these if they were not planted last month as we advised. They are both very useful and should be extensively grown. Plant at least 18 inches apart in rows which should be 30 inches apart on well manured soil. Water immediately after planting.

### Peas

Any of the early varieties may be sown, and it is essential that the soil be well prepared for this crop by trenching deeply. Sowing should be at intervals of three weeks or so from now on, and by this means a successional supply may be secured. Of the dwarf varieties the following are best to grow; Little Marvel, American Wonder, Premium Gem and Blue Bantam. Tall earlies are Gradus and Alaska or Thomas Laxton, three of the best. One pound of seed will sow a row 100 feet long. The rows should be two to three feet apart. They require plenty of water during the growing season.

### Beets

Sow thinly in rows 20 inches apart Detroit Dark Red and Crosby's Egyptian in rich soil. Later thin out to six inches apart. Store all matured roots for winter use in the cellar.

### Swiss Chard

Sow seeds of this useful vegetable in rows two feet apart. Giant Lucullus is the best variety. It is also excellent for poultry as green feed.

### Radish

Sow winter varieties Rose Winter

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# Preservation of Grape Juice

By W. V. Cruess, Fruit Products Laboratory, University of California

THE impending shortage of refrigerator cars has caused a flood of inquiries to the University for information on the preservation of grape juice. There are four general methods of preservation that might be used. There are refrigeration, canning, bottling and preservation in barrels by the use of sulphurous acid.

The canning of grape juice has been investigated by the university with fairly successful results.

### Extraction of Color

The consumer seems to demand a red juice. Therefore, red wine grapes must be used, although these may be blended with an equal weight or less of white grapes. Crush and stem the grapes in the usual manner as for wine making, using grapes that are in sound condition, crushers and other equipment that is free and clean from mold or yeast. If the operation is conducted on a small scale, heat the crushed grapes in a tank equipped with coil or in a jelly kettle. Copper, tin or aluminum may be used Do not use iron. If the operations are on a very large scale run the crushed grapes into open vats and drain off as much of the juice as possible. Heat juice in tank equipped with steam coil, or in continuous pasteurizer and return hot juice to skins. By either method heat grapes to temperature of 140 to 150 degrees Fahrenheit to dissolve the color. Press at once in basket presses. Continuous presses cannot be used.

### White Juice

Where it is not desired to have a red color crush grapes but do not stem. Press at once in basket presses without heating.

### Clearing Juice

The coarse pulp can be removed from the juice by straining it through sugar bags, cheesecloth or burlap. Red juice may then be filtered through a wood pulp filter if a clear product is desired. A centrifugal clarifier can also be used for either white or red juice to remove most of the sediment. These are obtainable from the Sharples or De Laval Pacific Company, San Francisco or Los Angeles.

### Filling Cans and Exhausting

Fill the can with the strained or filtered or otherwise clarified juice. Heat the cans in steam until the juice in the center of the cans registers a temperature of 175 degrees Fahrenheit. An ordinary can exhaust box, used by commercial canners of fruit, is suitable for the purpose. If red juice is canned, the cans must be inside enameled. The Number 10 can is probably most suitable for the purpose. The cans should, if possible, be held at the temperature of 170 degrees Fahrenheit for about ten minutes before they are sealed. If the heated cans are placed to one side for ten minutes after they come from the exhaust box and before sealing this will accomplish the desired purpose, which is to remove all of the dissolved air from the juice.

### Sealing and Sterilizing

Seal the cans at once and as full as possible, following the ten minutes' heating at 175 degrees Fahrenheit, described above. Place the cans in water at 175 degrees Fahrenheit for an additional twenty minutes.

### Cooling

Chill the cans in cold water, or under sprays of cold water following the sterilizing process.

### Spoilage

Those who have canned grape juice in the past have found that it frequently corrodes the tin plate and may even perforate or eat holes in the tin plate, with subsequent spoilage. We have at the University found the same difficulty, where the heated cans were not heated for at least ten minutes before sealing and in the manner described above. The preliminary heating before sealing is vitally important.

### Bottling of Grape Juice

Tin cans impart a notice ble flavor to grape juice and if the natural flavor is to be retained it is best to bottle the juice. The preliminary treatment is exactly as described above for the canning of juice. The strained or filtered juice is filled into grape juice bottles, leaving a space of about one and one-half inches below the cap to permit expansion. The bottles are then sealed with crown caps, using either a foot power or hand power capper, or an automatic capping machine, according to the size of the plant. It is not necessary to heat the juice before sealing the bottles. Place the bottles in a tank of water, with bottles horizontal. Heat the water to a temperature of 175 degrees for 40 minutes. Bottles must be completely covered with water during the heating process. Count time only after water has reached 175 degrees. Draw off the hot water and allow bottles to cool.

### Pasteurizing in Barrels

Juice prepared as for canning can be preserved in 25 or 50 gallon barrels and shipped to the eastern market. New barrels must be used and only oak barrels are suitable. The barrels should be soaked out with hot sal soda solution containing about two pounds of sal soda to one hundred gallons. They should be soaked with hot water to remove soda and woody taste before they are used. Just before barrels are to be used to receive the juice, heat the interior very thoroughly with steam. Then heat the juice in a continuous pasteurizer, or in a tank with steam coil, to 180 degrees Fahrenheit. Fill the steamed barrel with juice at 180 degrees. Drive into the bung hole a wooden bung fitted with a clean piece of muslin. Both the muslin and the bung should be boiled at least ten minutes in water and should be taken out of the boiling water directly before use, in order that they will be sterile. Paint the barrel with shellac at once and roll on its side. Store in a cool place.

### Preservation With Suphurous Acid

The most convenient method of preserving grape juice in the average winery is by the addition of sulphurous acid. Prepare the juice as for canning. Cool it by artificial means if necessary to the temperature of the storage cellar, which should not be above 60 degrees Fahrenheit. Use clean puncheons, barrels, or tanks that are as nearly sterile as it is possible to make them. Barrels may be steamed; tanks may be washed out with metabisulphite solution, or sulphurous acid solution. As the juice flows into the barrels or tank add slowly a solution of potassium metabisulphite in water, or a 6 per cent solution of sulphurous acid. Potassium metabisulphite is dissolved at the rate of one pound per gallon of water. For a clean container

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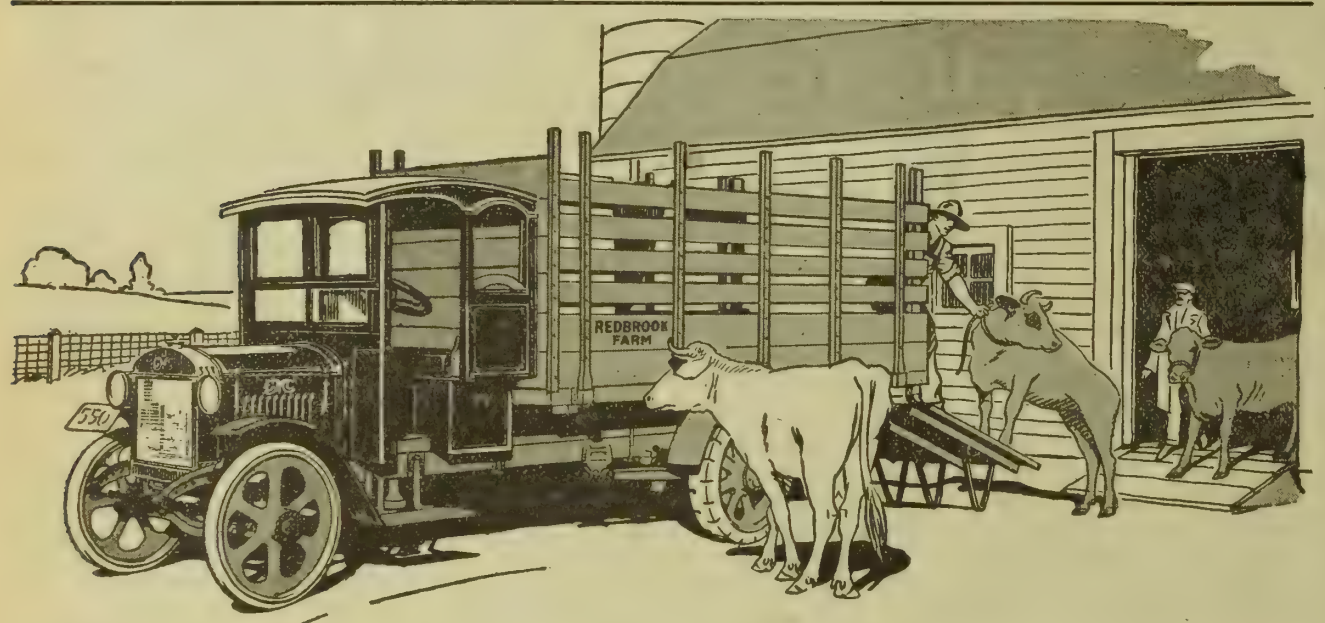



GMC

Model K41—Two Ton

$2375

*Chassis Only—At the Factory*

*GMC Chassis list at factory as follows: One Ton, $1295; Two Ton, $2375; Three and One-half Ton, $3600; Five Ton, $3950; tax to be added*

## Haul Stock This Fall With a GMC

Flashing along the good highways at a fast speed and also developing more pulling power in bad going than is averaged by trucks of like capacity, the Model K-41, Two Ton GMC truck, is the finest equipment yet produced for hauling stock and for other heavy work on the farm.

Like the "Jim-Dandy" one ton GMC, this truck has exclusive improvements that increase operating economy and reduce the time and expense of maintenance. Model K-41 is equipped with the GMC Two-Range Transmission, providing greater pulling power in combination with more road speed—a combination never before accomplished until the development of this distinctive feature by GMC engineers.

The Two-Range transmission has successfully multiplied economical engine power into greater power at the wheels and has opened up new fields for motor truck use, both in the city and on the farm. With this transmission a GMC truck will go anywhere that wheels can get traction and on good roads will speed 18 miles an hour with solid tires.

It has such other advantages as GMC Removable Cylinder Walls, Pressure Lubrication, Removable Valve Lifter Assemblies, Instantaneous Governor Action, Magneto Ignition, Conduit Wiring, Thermo-Syphon Cooling, Electric Lights and Generator, Provision for Starting Motor and many other refinements not usually found on motor trucks.

Write for an illustrated booklet "GMC Trucks on the Farm."

GENERAL MOTORS TRUCK COMPANY—*Pontiac, Mich.*
*Division of General Motors Corporation*
Dealers and Service in Most Communities

# General Motors Trucks

1872 GOLDEN JUBILEE 1922
Pioneers Together
—the staunch builders of this great country—and Montgomery Ward & Co., who first supplied their needs by mail.
Fifty years of progress together, and today this great new-old institution of Montgomery Ward & Co. is filled with the same spirit of the Pioneer—always progressing—always leading the way.
We enter our second half-century of service by offering you in this, our Golden Jubilee Catalogue, the fruits of fifty years' experience in making low prices on goods of dependable quality always.
Catalogue Number 97
MONTGOMERY WARD & CO.
Fall & Winter 1922 23

# Millions Buy from this Book on Faith in the Name "Montgomery Ward"

**Interesting stories from three of our oldest customers**

"I received my first Montgomery Ward price list in 1872, and I became a customer almost immediately. The catalogue has been coming regularly ever since, and I have been doing business with Montgomery Ward & Co. practically all of that time.

"I wish to state, that in all of those years there has never been any occasion to make a complaint or to return any goods we have ordered from Montgomery Ward & Co."

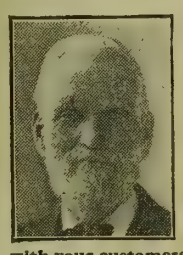
**William McCandless, Sloan, Iowa**
A Customer Since 1872

For fifty years, ever since Montgomery Ward & Co. was started, Mrs. Merrick has taken a keen interest in its development.

"I have been a customer from the first.

"I have always had the most courteous treatment from you," she said, "I believe that much of your success has been due to your unfailing policy of fair dealing."

**Mrs. Emma E. Merrick, Malcolm, Iowa**
A Customer Since 1872



Mr. Beatty is a real pioneer. He is the only man now doing business in Helena who came to Montana in 1862. He served under General Johnson in Utah (1857-8). He finally settled in Winston, Montana.

"I have traded with Montgomery Ward & Co. for 45 years," he said, "and I have never found anything wrong that has not been satisfactorily settled. If you continue to deal as fairly with your customers as you have in the past you will surely prosper."

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This book is saving many millions of dollars for the American people.

Is it saving money for *you* and for *your* family? Are you taking *full advantage* of your opportunity?

This book—our Golden Jubilee Catalogue—celebrates our 50th Anniversary by offering you the lowest prices possible on everything for the Home, the Farm and the Family.

It is filled with bargains—with merchandise of high quality. And every price is a Money Saving price for you.

For Fifty Years Montgomery Ward & Co. have earnestly worked to serve the American people.

Today millions of people are buying from this book on faith in the name "Montgomery Ward."

And it is our policy to keep faith with our customers. It is our policy to sell only serviceable goods, to serve you promptly — always to offer you a saving — and to deal with you always in the full spirit of the Golden Rule.

Montgomery Ward & Co. begins its second half-century of business existence. Yet today it is filled with the spirit of youth; alert, looking ahead, improving its service, filling orders quicker, and offering lower and lower prices.

To buy from this Golden Jubilee Catalogue is to be guaranteed a definite saving and entire satisfaction—and back of this guarantee is the reputation of Fifty Years of fair dealing.

Buy from this book. Fill all your needs from this book. Consult it daily to find the right price, the lowest price for dependable, reliable goods of standard quality.

**The Oldest Mail Order House is Today the Most Progressive**

# Montgomery Ward & Co.

Chicago Kansas City Saint Paul Fort Worth Portland, Ore.

# $14.95

## *New Low Price for* 30 x 3½ LEE Cords Oversize

**Here is the tire you have been waiting for—a staunch, long-wearing, easy-riding cord of recognized high quality—the Lee Cord now reduced to the remarkably low level of $14.95!**

**This 30 x 3½ Lee Cord is of genuine Lee quality—a regular, honest-to-goodness Lee, with the famous Lee Zig-Zag tread. Not one of the many "long discount" cords of popular price but uncertain value. Not a side-issue from the standard line, as with most tire manufacturers.**

**For the small car, the Lee Cord has many outstanding advantages. The exclusive Lee bead construction positively prevents rim cut—the Lee stays on the rim. You *can* buy a cheaper tire, but—you cannot find any to equal the Lee Cord in downright dollar-for-dollar value!**

*Car Owners:* Good dealers in most towns handle Lee Tires. If there is no Lee Dealer near you, write us for address where you can be supplied. The Lee line is complete—Cords, Puncture-proofs, Fabrics and Government Specification Tubes in all sizes.

*Dealers:* Valuable territory is still open for progressive business men who recognize the advantages of handling a well-known quality product on a strictly fair and square basis. Wire or write us for details.

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# Walnut Trees Too Close

ONLY five walnut groves out of 141 chosen at random, located in various sections of Orange County, which is the world's greatest walnut producing center, have the trees set as wide apart as they should be. This startling bit of information came to light when the California Walnut Growers Association announced the result of a survey which it conducted in Orange County last summer in cooperation with Farm Adviser Wahlberg.

Horticultural experts long ago arrived at the conclusion that walnut trees to produce the most satisfactory results should be set not closer than 60 feet apart. The wisdom of such a policy was recently proved by C. C. Teague, president of the California Walnut Growers Association, who announced that after taking out every other tree on his famous Limoneira Ranch he got heavier tonnage and better walnuts.

In the opinion of Mr. Teague most of the walnut groves in Southern California are crowded, and his conclusion is borne out by the result of the recent survey. He says that half the trees in many groves could be taken out with ultimate profit to the owner. The fact that the groves in Orange County, one of the best horticultural sections in the state, are badly cramped for room is conclusive proof that Mr. Teague speaks with authority.

The association in its survey assembled data concerning 141 walnut groves located in various sections of Orange County, representing 1,665.41 acres. These included 1616 bearing and 49 non-bearing acres. Five groves were set 60 by 60 feet, which is the proper distance; 69 were set 40 by 40; 20 were set 50 by 50; 9 were set 48 by 48; 11 were set 45 by 45; 7 were set 42 by 42, and the others, in single instances ranged all the way from 40 by 45 and 38 by 38 down to 30 by 30 and 24 by 24 feet apart.

W. T. Webber, salesmanager of the association, says that where walnut trees stand closer than 60 by 60 feet in the rows they do not get the necessary amount of sunshine and circulation of air. Association officials are agreed that if crowded groves are properly thinned, the net result for a year or two may be somewhat smaller than formerly, but the ultimate result will be greater in tonnage as well as in size and quality.

During the survey the association inspected 1309 groves in Orange County owned by 1239 persons. The average acreage per ranch is 12.42 acres. That Orange County ranks high in irrigation is indicated by the fact that 1285 groves, or 98.1 per cent of the total, are under irrigation, 24 being without irrigation facilities.

The production of these groves in 1921 was 16,746,346 pounds, an average of 1154.45 pounds per acre. The bearing walnut acreage of Orange County is 14,506.10. The non-bearing acreage, embracing trees under seven years of age, is 888.50, making a total acreage of 15,394.60 for the county.

The Santa Barbara Soft Shell variety leads in production. It makes up 56.67 per cent of the total acreage, which is 8,724.63. The Placentia comes next with 40.55 per cent, the acreage being 6,246.94. Eureka acreage amounts to 2.36 per cent, the Prolific shows .11 per cent, the Ehrhardt shows .12 per cent, Hardshells show .08 per cent, and Chase shows .07 per cent, with Klondykes credited with .04 per cent of the acreage.

According to the survey, 408 growers, or 33 per cent, use tractors exclusively, while 43 per cent use horses exclusively. It appears that 13 per cent use both horses and tractors, 4.4 per cent hire all their work done; and 28.7 per cent keep cost accounting records.

The survey just completed is, according to association officials, the most valuable compilation of information on the walnut industry which has ever been assembled. It was secured with the assistance of the Orange County farm adviser.

Similar surveys will be undertaken in Los Angeles, Ventura, and Santa Barbara Counties early next spring, the association says. It is hoped that these three counties can be fully covered during 1923. The complete result of the survey by counties, and the final report, will be available to the U. S. department of agriculture, the state department of agriculture, all county horticultural commissioners and farm advisers, and any other organizations having general interest in the walnut industry of this state.

# Peach and Fig News

By Ira J. Condit, California Peach and Fig Growers

It is difficult to estimate the dried peach crop of California this season on account of the variable conditions existing in the orchards. Some sections which delivered very few peaches last season are delivering large tonnages this season because of the difference in frost conditions this season and last. Some orchards which normally deliver excellent fruit are sending in a very poor quality of peaches on account of neglected conditions of the trees. It is probable that the expected large increase in tonnage will not materialize this season although the tonnage will be somewhat larger. On account of the slowness of the peaches to mature, the harvesting of the crop overlapped with that of grapes, making it difficult to handle the peach crop to the best advantage.

The peach market is not affected by importations since practically all of the peaches marketed in the United States are produced in California. The demand for the product continues strong. The use of the test grader has greatly facilitated deliveries of peaches and allows the grower to better observe the grading process. The fruit is classified as "A," "B" and "C" grades as soon as received at the packing houses and the returns made to the grower according to the percentage of each grade delivered. "A" grade includes all sound and properly colored fruit. "B" grade includes all peaches somewhat immature or slightly off color, while "C" grade includes the very dark, or slabby fruit. In test grading the sample of peaches taken from the grower's delivery is run over various sized screens and graded as follows: Standard, No. 34 screen; Choice, No. 42 screen; Extra Choice, No. 50; Fancy No. 58; Extra Fancy, all fruit passing over the grader.

According to latest reports, there are in California 107,786 acres of peaches in bearing and 22,518 acres, non-bearing with an estimated planting in 1921 of 6,057 acres. Fresno County leads in acreage with 25,150 acres in bearing and 1010 acres non-bearing. For several years past about 60 per cent of the California peach crop has been canned, 30 per cent dried and 10 per cent marketed as fresh fruit. The average production for the past 16 years amounts to 25,694 tons, the heaviest production being in 1917 with 39,000 tons.

### Figs

Naturally the most important event in the fig situation recently has been the debacle in Asia Minor and the destruction of the city of Smyrna. This will either completely cut off the importations of figs from that city or delay the crop for several months. The 1921 crop of figs in Smyrna was handled by nine houses employing 8,000 men, women and children. The crop consisted of 18,000 tons, of which 10,000 tons were sent to the United States. The two cent duty on figs does not prevent the importation of immense quantities of cheap figs from southern Europe, principally from Portugal and Spain. Ten days ago, Spanish tapnet figs were quoted in New York at 95 cents for 22 pound boxes. Such figs naturally compete with the

# To the Fruit Growers of California:

*By* J. E. BERGTHOLDT

Secretary and Manager of The Silva-Bergtholdt Company, Nurserymen, and one of California's most extensive growers of fruit.

YOUR MOST VITAL PROBLEM IS TO EDUCATE THE AMERICAN CONSUMER IN THE USE OF YOUR PRODUCTS AND TO EDUCATE THE RETAILER IN THE EFFICIENT DISTRIBUTION OF THESE PRODUCTS. THIS ACCOMPLISHED, EVERY ACRE IN CALIFORNIA THAT WILL GROW FRUIT, WHEN PLANTED, CANNOT SUPPLY THE DEMAND.

In my first announcement on "The Reason Why," I showed you that there were 44% less trees in orchard in the United States outside of California in 1920 than in 1910.

In my second announcement on "Another Reason Why," I called your attention to the evolutionary change in the diet of the one hundred and twenty million American people—consuming an ever increasing amount of fruit and vegetable products.

I showed you, also, that California, by reason of her natural climatic advantages, enjoys a practical monopoly in the production of the various articles of fruit food that go most largely into consumption.

REALIZING THESE FACTS, you, as a fruit grower of California, will be tempted to sit tight, in the anticipation that the decreasing competitive supply on the one hand and the increasing consumption on the other, will insure the prosperity of your business.

*But that won't work out in practice. Don't kid yourself.*

For example, if you were manufacturing a commodity which every person deemed an absolute necessity, the success of your monopoly would depend altogether upon the degree in which you intensively and intelligently exploited the sale of the commodity.

THIS IS AN AXIOM IN SELLING, AND ONE UPON WHICH EVERY SUCCESSFUL COMMERCIAL ENTERPRISE HAS BEEN FOUNDED.

## Publicity Needed for Green Fruit

During my thirty years' experience in horticulture, I have been a close observer of the marketing methods employed in the fruit industry. Your present co-operative marketing organizations are an evolutionary product of the experiences (and adversities) of the past.

All of these organizations, except the deciduous fruit (green fruit) shipping branch of the industry, are using a reasonable expenditure in intelligent publicity, a major portion of which is being employed in newspaper advertising.

It is a tragedy that the men constituting the heads of the various commercial fruit shipping companies and the California Fruit Exchange (green fruit) are so blind in their conservatism as to fail to see the advantage of the proper use of modern publicity methods. The products of this branch of the industry, constituting in value 20 per cent of the whole, are being marketed by means of the antiquated methods of a generation ago.

With the exception of the Pear Growers' Association, not one dollar is being spent in publicity toward increasing the consumption of these products. While the effort of the Pear Growers proved a modest experiment, it did demonstrate the efficacy and necessity of direct commodity advertising in green fruit.

Your various marketing organizations are all largely employing identical methods in their publicity.

## Bergtholdt Plan is Safeguard

A year ago, in announcing the Bergtholdt Plan to increase the consumption of your products and increase the efficiency of your retail distribution, I urged you to do your part toward getting under way this movement, which would absolutely safeguard the industry.

I covered the subject fully in four public announcements. I cannot afford to buy the space to reiterate what I then told you, although it is of vital importance to you. If you do not have copies of these announcements, write me and I will be glad to mail you a complete set.

The major portion of the advertising expenditures on the part of your various marketing organizations are employed in newspaper advertising, having a total subscription of approximately fifteen million.

In my announcements a year ago, I proved to you by authentic deduction that, granting these advertisements 100 per cent efficiency, your advertisements could reach but six million readers of the fifteen million subscriptions.

## Great Market Remains Undeveloped

Granting further that every one of these six million readers is a housewife, and that every one of the six million were prompted thereby to increase the consumption of your products—granting all of this—your present newspaper advertising, as now employed, is reaching but six million housewives out of the twenty million housewives of America. *How about the other fourteen millions?*

This is proof that newspaper advertising, though intensively employed, is inadequate to the task of influencing the whole.

Most of your organizations are publishing pamphlets, also, calling attention to the wholesomeness of their product and giving recipes for their use. I have been authentically advised that one of the most efficient of your marketing organizations, which has, for a period of years, made an intensive effort to distribute these pamphlets, succeeded in reaching, during these years, but three million housewives, and then only in a very fragmentary way. *How about the remaining seventeen millions?*

Most of your various organizations likewise employ practically identical systems of dealers' helps. The fact, however, that scarcely one in ten retailers exercises the efficiency in display and salesmanship of an average haberdasher, proves the inadequacy of these present methods toward increasing the efficiency of your retail distribution.

## Need for Greater Organization

By these statements I do not mean to detract from the great good that has been accomplished toward increasing the value of your products by the methods as now employed. The results realized, inadequate though they have been, are well worth the expenditure, and this method of direct commodity advertising and direct selling efforts on the part of the various organizations should by all means be continued.

These facts, though, do prove that your present methods are inadequate, and that the task of informing the one hundred and twenty million people of the United States and Canada of the attractiveness, the economy and the goodness of your fruit products; and the task of disseminating these products among the people of the civilized world, is so vast and stupendous that the means so far employed by your organizations, though efficient to a degree, are totally inadequate.

I REITERATE TO YOU THIS FACT—*the American housewife, of whom there are twenty millions, and the public eating house absolutely control the consumption of your product; and the retailer is the agency upon which you absolutely rely for its intelligent distribution.*

NO ONE ORGANIZATION ALONE IS BIG ENOUGH FOR THE TASK; COLLECTIVELY IT CAN BE PUT OVER.

Even if one of your organizations, by enormous expenditure and intensive effort, did accomplish the task, do not lose sight of this one great economic truth; that no branch of the industry of itself will prosper for long alone.

The organization designed to put over the Bergtholdt Plan must be commensurate with the vastness of the fruit industry of California.

## Market Expansion Object of Plan

This organization, in its direct appeal to the housewife, should create a book unlike any other publication or cook book, so edited and compiled as to fascinate and hold the interest of the housewife. It should embody suggestions as to the hygienic wholesomeness, the attractiveness and the economy of your products—so sincerely written as to be absolutely convincing; and, most important of all, it should contain a code of recipes compiled by the best expert culinary talent in the country. The book should be simple, wholesome, attractive and labor saving—a book de luxe, a gift that by its intrinsic value, its attractiveness and romantic interest, will be forever appreciated for its practical usefulness, and an indispensable necessity to every housewife.

This organization should, if possible, place a copy of this book in the hands of every one of the twenty million housewives of America, and should devise methods of publicity which will keep this book a live issue in every household.

## Development of Foreign Markets

This organization, by means of this book printed in foreign languages, should function toward increasing the consumption of your products in the export trade. Other methods should be evolved for developing foreign consumption.

This organization, in a department created and manned for the purpose, should function to increase the consumption of your products on the part of the public eating house.

Most important of all, this organization assisted by the best advertising and salesmanship talent that can be engaged, should function in a department of aid to the retailer with the definite object of increasing the efficiency of your retail distribution. It should evolve a system by which the co-operation of the retailer is obtained toward keeping the book a live issue with the housewife. It should evolve plans for inducing the retailer to SPECIALIZE in the sale of California fruit food products in a SEPARATE DEPARTMENT. It should evolve efficiency methods in merchandising, display and salesmanship; in other words, it should function to make every retailer and retailer's clerk an efficient specialist in the sale of your products.

## Fruit Growers Must Act

In the present status of the situation, it is up to the management of your organizations to create a preliminary organization. The functions of this organization will be, first, to secure by means of publicity, the support of every fruit grower outside of the organized branches of the industry, the aid of every factor engaged in the handling and manufacture of fruit products and of all allied industry; secondly, by publicity and a financial drive, equitably prorated, to OBTAIN THE NECESSARY FINANCIAL SUPPORT TO PUT THE PLAN OVER.

In the final analysis, however, it is absolutely up to you, the individual fruit grower, to set aside every other consideration and bring your influence to bear upon the management of the marketing organizations with which you are connected, to take action that will get this effort under way.

Your annual contribution to the cost of putting over the Bergtholdt Plan will be repaid to you, tenfold, each year in the increased value of your product. Every year that you defer you suffer, in depreciated values, many times the expenditure.

The consummation of this Plan will absolutely insure to you the permanence, the growth and the prosperity of the fruit growing industry, and through it, of California.

*This is the third angle of my story, and the most vitally important. It is now up to you!*

J. E. Bergtholdt

Secretary and Manager,
The Silva-Bergtholdt Company, Nurserymen,
Newcastle, California

S-02:10-3

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California Adriatics for cooking and bakery grade.

The California crop is being rapidly harvested and prepared for market. There is expected to be an increase in the tonnage of Mission figs but a decrease in Adriatics on account of frost damage to the trees last season. The canning of fresh Calimyrnas has withdrawn a considerable tonnage of this variety from the dried fruit market.

The three fig canneries operated by the association have practically completed the season's run and have handled about 1000 tons of Calimyrna figs and 150 tons of Kadota figs. The picking of the fruit has been handled principally by the association and picking costs have, in most orchards been reduced to the minimum. Since Calimyrna figs dry down about 3 to 1, the first returns are regarded very favorably by the growers in comparison with the returns received from dried figs.

### N. B. F. O.

The semi-annual conference of the National Board of Farm Organizations has been changed from October 3-5 to October 11-13. Several of the state farm organizations affiliated with the board are to hold their conventions during the week prior to October 11, and it is believed that a more representative attendance will result from the change in the plan for holding the conference.

# This Month in the Ornamental Garden

## Southern California

By Ernest Braunton

OCTOBER should be the busiest of the autumn months in the garden, a time of unusual activity. It is the month of first bulbs and for a long list of annual and perennial seed sowing. Bulbs need a deep, well pulverized rich soil, but containing no fresh animal manure. It is almost unnecessary to state such soil is very good for nearly all plant life.

The list of bulbs for present planting is: anemone, calla, cyclamen, freesia, gladiolus (dwarf), hyacinth, ixia, jonquil, lily, montbretia, narcissus, ornithogalum, oxalis, ranunculus, Spanish iris, sparaxis, tritelia, tuberose, tulip, Watsonia. The last, with freesia, are as well planted in September and should therefore be planted at once. Tuberous rooted begonias, that now are dormant, may be planted in pots, to be kept in house for spring flowering.

### Seeds to Sow

There is no flower that stands frosts better than calendula and when no other flowers are available through effects of cold weather, the calendula proves its value. Sow the seeds now. The following are also in order: acrolinium, alyssum, antirrhinum, bartonia, bellis, candytuft, carnation (annual), clarkia, collinsia, coreopsis, centaurea, cosmos, chrysanthemum (annual), cornflower, godetia hunnemannia, larkspur, linum, lupinus, mignonette, myosotis, nemophila, poppy (all kinds), phlox, primrose, pansy, petunia, scabiosa, schizanthus, stock, statice, sweet pea. A collection of native flowering plants, both perennial and annual, should be added to the list. A little South African daisy, by the almost tongue-defying name of dimorphotheca should not be left out. It comes in orange and shades of yellow.

### What to Avoid

Things to avoid are those flowers which fairly revel in hot weather and those easily injured by frost, also some that require dry treatment. Nasturtiums are subject to all these conditions and are best left for spring sowing unless one has a "hot" spot in a frostless section. The true marigolds have just flowered as they keep company with the zinnias, therefore they are better as autumn flowers. Yet in California they are, like coreopsis, sown throughout the year. It is now somewhat late for sowing seeds of pansy and cineraria and it would be better to secure plants.

### Flowering Shrubs

One may now begin to garden seriously in all lines, so that ornamental trees and shrubs are in order. The first of shrubs for all California is probably abelia; it is a jewel that grows but four feet high. Today the red berried shrubs are very popular and one may plant quite a list. Of the taller ones none is finer or more fruitful than Cotoneaster pannosa. Pyracantha coccinea and its variety Lalandi are equally good for berries. Several species of crataegus will also find a place in good shrubberies and as not all of these are in ripe berry at the same time, a variety is desirable.

Other good shrubs are: Buddleia magnifica, a blue flowered semi-herbaceous (not hard wood); myrtle coronilla, hypericum (best in semi-shade); hydrangea, aucuba and mahonia are also for shady spots. Of shrubby acacias A, cultriformis is the best for both flowers and foliage. Our native "wild lilacs," the ceanothus, in several species, are worth space in any garden. For dry places the Australian bottle brushes are excellent. Where foliage and not flowers is desired, Coprosma Baueri is very fine, especially at or near the coast. Duranta Plumieri is fine for blue flowers. Nandina domestica enjoys heat, yields white flowers and scarlet berries. Of the brooms one known as Genista fragrans is our freest flowering shrub with yellow flowers; the Spanish broom almost makes a tree and will grow in driest spots.

## Northern California

By A. R. Gould

OUR thoughts are now directed to obtaining the best supply of winter bloom, and to do this we have to arrange our beds and borders very carefully as doing things by chance in the garden rarely gets one anywhere and our seeds must be sown at the right time to produce flowers accordingly. We have to plan ahead so that we shall have something seasonable. This is also a good time to move shrubs. One word of warning, when moving shrubs have the soil around them as dry as possible and get a good ball of earth which should be moved intact and see that your hole is large enough before moving and water immediately the shrub is planted, not forgetting to plant with manure.

Take care of the lawns and continue to dress them with fertilizer to take out the brown spots and stimulate, and by all means keep the weeds out. It's a perpetual job but very necessary to secure a nearly perfect lawn. All vines will need attention as the long growths must be tied in and dead wood removed. Dig manure in to the roots of these and water well. Rose bushes may be pruned and the ground well cultivated around these when it will also be a good plan to apply good, farmyard manure.

### Chrysanthemums

These will soon be giving a wealth of bloom and should be shaded from the strong sun and the plants watched carefully for aphis and red spider, but avoid contact with any buds showing color. Feed twice weekly with liquid manure and complete the staking of the plants.

### Bulbs

These are invaluable for winter and spring bloom, and there is such a wide selection that almost every shade can be secured especially among the tulips. Among the earliest bulbs are freesia, crocus, snowdrop and narcissus, and these should be planted without delay, while the blue bell, Scilla Campanulata, a charming flower may also be included. The ground should be well prepared for planting and only the best quality bulbs planted. These should be purchased from a reliable dealer and a glance through the bulb catalog will enable you to select the varieties you need.

### Sweet Peas

The winter flowering types of these are now a very important feature of our winter display, and some charming colors may now be secured which will provide bloom for many months. The ground should be well trenched and watered before the seed is sown.

### Alstromeria

This golden lily from Peru is one of the best cut flowers we have and massed in a group for the border it is very effective. It will thrive in any good garden soil and may be planted any time this month.

### Ranunculus

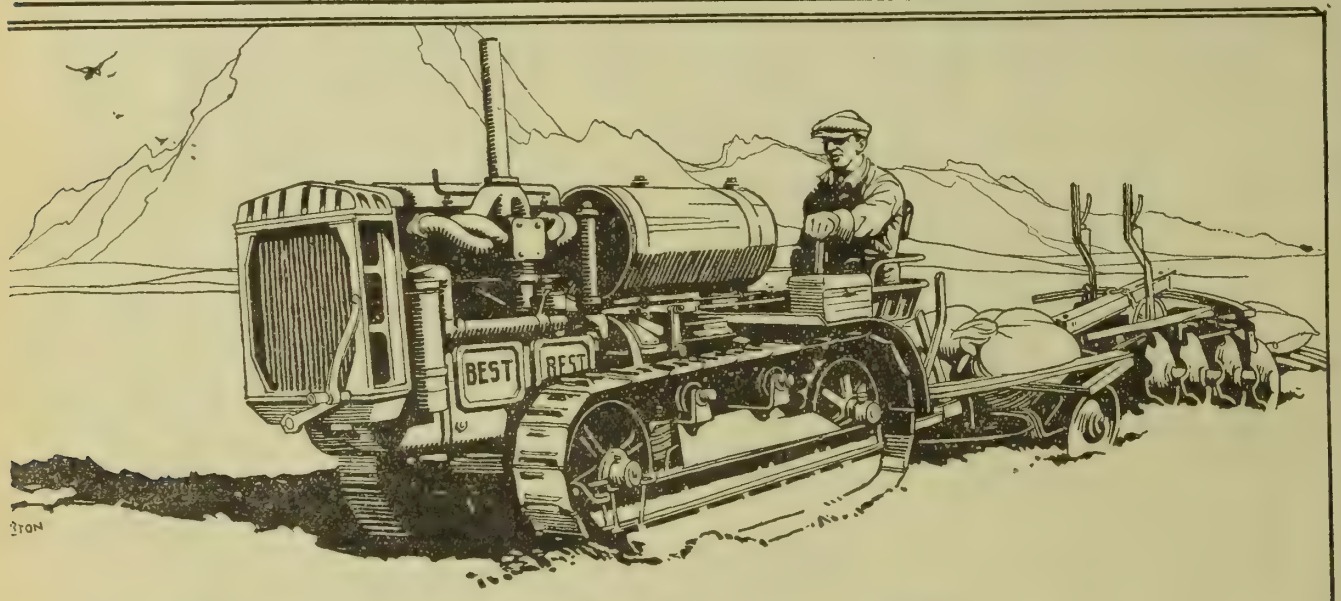
For early spring flowers no garden can be complete without them, and among the French mixed strain are some very beautiful colors. Bulbs of these may be planted now about six inches apart.

### Flowers to Sow at Once

Complete the sowing of foxglove, canterbury bells, English daisy, forget-me-not, snap dragon, viola, pansy, columbine, clarkia, godetia, nemophila, primula, cineraria, alyssum, bartonia, calendula, California poppy, stock, lupine and Sweet William. Sow these on the seed border and transplant with the exception of nemophila and California poppy which should be sown where they are to flower.

### Oxalis

These wonderful little flowers may




# Bigger and Better Crops

One of the greatest aids in increasing yields, is a GOOD tractor—the BEST kind of a tractor. Deeper tillage—better cultivation, produce bigger and finer crops, but it takes power of the right sort to handle this work satisfactorily. Best Tractors have that power. Plowing and other field work can be done rapidly—24 hours a day if necessary—and done more thoroughly and efficiently. Every advantage of weather can be utilized for better yields—then there is a saving in time, labor and hired help.

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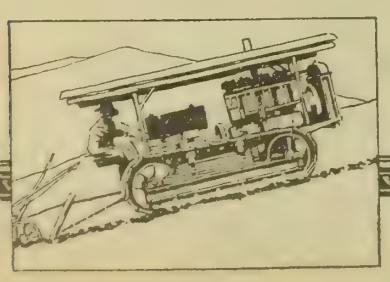

BEST TRACTORS

be had in pink, lavender and yellow and should be planted in fairly rich soil 8 inches apart.

## Southern Arizona

By M. E. Bemis

THE calendula is a hardy annual which grows to about one foot in height and with its colors, varying from palest ivory to a deep orange, is a fine plant for borders. A moderately light, rich soil is best for this attractive plant although it will grow readily almost anywhere. It is also well to plant them about eight to ten inches apart if planted in masses.

The candytuft, with its clusters of small white, crimson, carmine and lavender flowers, is good for edging beds. This hardy flower should be planted in good rich soil with plenty of water. The flowers will be larger if a few of the buds are removed.

Daisies are hardy perennials which bloom during the early spring and well into the winter, giving forth a profusion of many colored flowers. This is an easily cultivated flower.

Petunias are popular because of the ease with which they are grown. The seed should be scattered thinly on an even surface and barely covered with sand or fine mulch. The tender plants give forth a profusion of blossoms ranging from white to almost purple. They are fond of sunshine and will prove most attractive in beds and masses.

The extreme easiness of cultivation of poppies entitles them to a place in every Arizona garden however large or small. The seeds should be sown rather thinly in a sandy loam; they should then be covered very lightly as they are small. They grow to a height of 2 feet.

The Spencer sweet peas are easily grown in a variety of brilliant colors. Select a place where plenty of sunshine will reach the plants and dig a trench 18 inches in depth and about two feet wide. In the bottom of this trench put about three inches of well rotted barnyard manure, then mix a sprinkle of manure and commercial fertilizer with the dirt already removed and replace in trench. Open a trench across the bed about six inches deep and plant one ounce seed to every 15 feet. Cover the seed with about one-half inch of soil. Fill the last trench with water, soaking thoroughly; then follow with a sprinkle of fine manure to prevent the earth surface from crusting. After the peas have grown to eight or ten inches begin to draw the dirt toward them, gradually filling the planted trench. At a distance of about 10 inches from the row open a trench through which they may be irrigated through the rest of the season. After the peas are 12 or 15 inches high a mulch of fine manure should be put on the bed and gradually worked into the soil. The plants should be kept well watered, and it is well to cut the flowers each day while they are blooming so as to prolong the blossoming period.

### SMYRNA FIG AND RAISIN CROPS

Government officials in Smyrna have a lot of trouble checking up export figures, particularly with regard to figs. Although the total production of figs for 1921 was officially recognized at 44,950,000 pounds, the actual exports reached a total of 51,193,000 pounds. This difference of over 6,000,000 pounds is accounted for by the shipments from certain unscrupulous exporters who deliver "hordas"—culls—in place of figs.

It is believed that this year's crop will be between 50,000,000 and 55,000,000 pounds. However, if the expected rain fails to come this crop will be reduced to between 37,500,000 and 42,500,000 pounds. The expected rain also will affect the raisin crop similarly.

The "currant" crop of Greece for this year is expected to be only about half as large as the previous yield.


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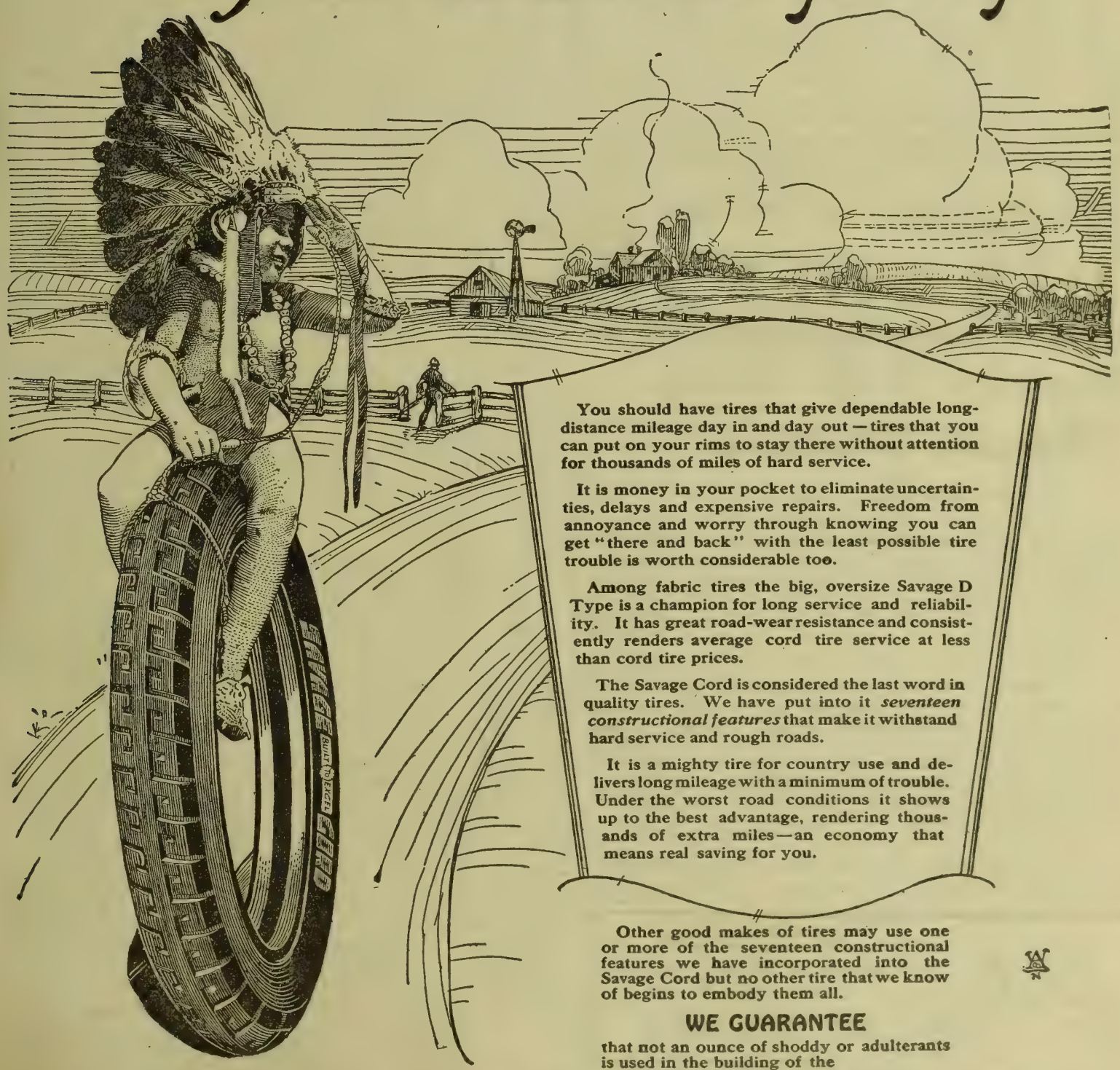


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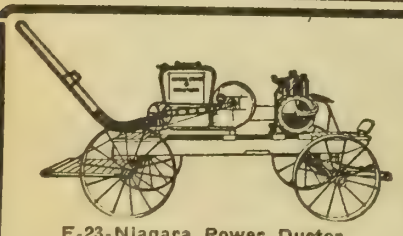

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# Legal Queries

**Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.**
**Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.**

### Spring on Government Land

Is there any way by which I can file on or hold water diverted from a spring rising on government land?—Subscriber, Cahuilla.

Water can be thus appropriated by the usual method of filing notice of appropriation setting forth number of inches desired and thereafter making actual diversion and beneficial use of the water. Since the appointment of the water commission it would be necessary for you to obtain the permission of the commission to make this diversion. Write to the water commission at Sacramento and it will send a deputy to investigate and award a permit.

### Grain Sacks

I sold through an exchange wheat and barley. Three-fourths pound was deducted from the wheat for each sack, yet they kept the sacks. Could I do anything about obtaining the value of these sacks?—Subscriber, Hanford.

Doubtless deduction was made for weight of sack under net container act. As it is probably assumed that the sack weighs three-quarters pound the price paid probably included the value of the sack. In any event in view of the fact that the money was offered in full payment for the shipment and received by you it probably would be considered that it was in complete accord and satisfaction.

### Naming Child

Is it compulsory to name a baby born in a hospital before leaving the hospital?—Subscriber, Stockton.

The act providing for the gathering of vital statistics requires that there be filed a certificate of birth which shall contain various items, among which is required to be given the full name of the child. It is however, provided that if the living child has not been yet named at the date of filing of certificate of birth a space for the full name of the child may be left blank to be filled out subsequently by a supplemental report. The hospital doubtless did not desire to be troubled with the necessity of filing such supplemental report as penalties are provided in case the full provisions of the report are not complied with. But it is not compulsory to name a child prior to taking it from the hospital.

### Rented House Damaged

I leased a house for a year, rental payable monthly. Tenants absented themselves on a vacation. When they returned they found that water boiler had burst by reason of excessive pressure turned on by the city for fire purpose. The house itself was badly soaked and considerable damage done tenants' furniture. Who will have to stand the expenses of repair and damage?—Subscriber, Anaheim.

Unless there was some provision concerning liability for repairs the lessor is not bound to make ordinary repairs and is not liable for damages caused to the goods of the tenant. On the other hand the tenant would be under no obligation to make repairs to the house and would be entitled to cancel his lease if within a reasonable time after notice of the damage the lessor has failed to place the house in a condition fit for occupation or at the option of the tenant, if the costs of repairs do not require an expenditure greater than one month's rent, he can after such notice repair to the extent of a month's rent and deduct the expenses of such repairs from the rent.

# Questions and Answers

**Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Pruning Tokays

What is the best method of pruning Tokay vines that have been frozen back? If grape vine has been headed so the crown is near the ground will the crown ever be any higher?—Subscriber.

The pruning of frosted Tokay grapes is much the same as that of other varieties which are not pruned to canes, the main idea being to select fruit wood which will preserve the form of the vine and produce a satisfactory crop. It is impossible to describe just how this should be done as each vine presents an individual problem. Do not use the quick growing sucker wood which often follows a severe freeze unless that wood is growing in the proper position that it may in two years time make a satisfactory arm or spur. Grape crowns that have been grown too near the ground may often be raised by using a short stake to which a well placed cane may be tied upright and a new head formed, the old arms below being removed gradually after the new head is able to take care of the growth.—F. K. H.

### Stemming Raisins

We dry our Thompson Seedless grapes for home use and find it a very slow and tedious task to remove the raisins from the stems, either before or after drying. Is there any machine on the market for doing this work, suitable for family use? If so where can one be obtained?—Subscriber, Hemet.

We know of no small machine which could be conveniently used for the removal of cap stems from Thompson Seedless raisins. This operation is accomplished in packing plants on a large scale by very rapidly revolving fan-like blades enclosed in a coarse screen cyinder. The blades throw the raisins violently against the screen and the stems are snapped off and are carried away by water. Less difficulty in removing the stems will be experienced if the raisins are very dry, after which a little rough usage or shaking around in some sort of container or rolling between the hands will accomplish the desired result. After removal the cap stems may be separated from the raisins by a blast of air from an electric fan. Perhaps some reader may have a better plan than this.—F. K. H.

### To Ripen Blackberries

I am raising Himalaya blackberries. This year at least 40 per cent will not get ripe. They are very large and red but will not ripen any further. They are getting irrigated once a week. Any information will be appreciated.—Subscriber, Oxnard.

Try withholding water and at same time make application of some form of potash.

### Market for Mustard Seed

Kindly tell me if there is any market for mustard seed. If so where.—Subscriber, Hamilton City.

Yes, the mustard seed market of the country is Ventura in this state. This being the center of its production, the larger buyers have located there.

### Orchard Queries

What is the best method of pruning six year old almond trees that were cleft grafted over to plums last spring. What is the remedy for slugs on cherry trees? Is it practicable to work over six year old orchard of almonds to plums? Is it best to graft or bud? Will it harm cherry trees to irrigate twice a month where alfalfa is grown in the orchard?.—Subscriber, Lodi.

Not knowing what shape your grafts are in, it is rather difficult for us to advise as to best method of pruning. In a general way we would say to prune them back so as to make them thicken up and thus form the proper foundation for the future head of the tree, also cut out any unnecessary or interfering limbs.

If the slugs are numerous, we would suggest calling on the horticultural inspector of your district, who will no doubt look over your trees and advise you just what is best to do.

It depends on the condition of the orchard. If it is vigorous and on suitable soil it might pay to work it over, but as a rule we think it best to pull out the old trees and plant new ones of the variety wanted.

Grafting is more desirable than budding in working over deciduous trees.

If your soil is of a sandy nature, deep and well drained, it may not harm your cherry trees to irrigate as often as you mention, but as a general practice we would not recommend such frequent irrigations.

### Loans from Stock Land Banks

Can you give us any information how to go about getting a loan from organization of Pacific Coast joint stock land banks?—Subscriber, Pomona.

The best way is to get in touch with the federal farm loan association. One such association covering Southern California has its offices in Los Angeles. However the Southern California branch of the joint stock land bank is maintained at the office of Bank of Italy in Los Angeles.

### Pear Blight

I am sending you a limb of a pear tree planted a year ago last February. Is it affected with blight? Otherwise the tree is growing and doing well. What is there to do?—Subscriber.

A case of pear blight; sometimes called fire blight. No spraying is effective. Cut out and burn all affected parts. See article by Jas. Mills Jr. in Cultivator of February 12, 1921, Page 197.

### Layering Loganberries, Etc.

When is the best time to cover the tips of Logan and Cory Thornless to make rootings?—Subscriber, Dunlap.

During growing season. Usually the rank growing vines will fall to the ground and falling leaves with cultivated soil will cover and root. Do not reset till dormant season.

### Wooly Aphis

A few choice apple trees are affected with something resembling cotton on limbs, with millions of little lice. Nearly all apples this year are wormy. Also a little bug about one-eighth of an inch long works inside of the apples. Will you tell me how to get rid of these pests, what spray to use and when to spray and how often to spray?—Subscriber, Whittier.

Your apple trees are infested with wooly aphis and the fruit with codling moth. Any of the soap or oil sprays will control the aphis in the tops of the trees but they will probably appear again the following year as they breed in the roots of the tree and on old trees it will be found extremely difficult to eradicate those on the roots. There are a number of parasites that hold the aphis in check. It is possible to control the codling moth by consistent spraying with poisonous sprays. The following spray is recommended: Lime three pounds, Paris Green one-quarter pound, water 50 gallons. Dissolve the lime and Paris Green and all the water. Spraying should be done just after the blossoms fall and before the calyx cups close and must be applied under a heavy pressure so as to fill each cup with the solution. Follow this with a second spraying about three weeks later


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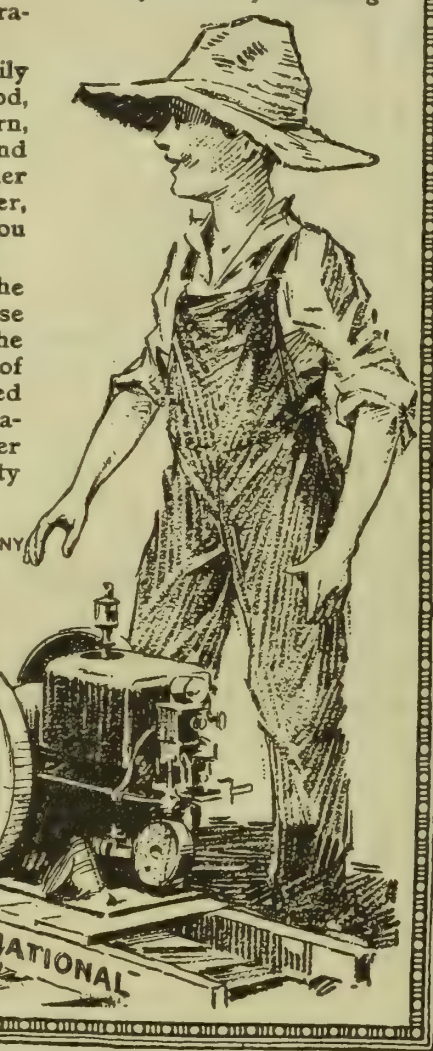


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and a third two weeks after the second. It is recommended that a spreader of flour paste at the rate of three pounds to 50 gallons of water be used in the second and third applications. This will give the fruit and foliage a coating of the spray that will kill all the worms present. A band of cloth or burlap tightly wrapped around the trunk of the tree will prevent the worm from coming up from the ground but should be taken off every week or ten days and all worms that have collected under it destroyed. If you will take the matter up with the horticultural inspector of your district he will no doubt be glad to advise and assist you in the work of cleaning up your trees.

### Water-Logged Walnuts

I have recently lost three walnut trees eight years old. The first grew on land where water table is six feet below surface. It had just begun to leaf out well when the leaves withered and tree died. When we dug the tree the soil had a peculiar odor and after, when tree was cut into stove wood, it smelled very sour. The second stood on higher ground and withered and died slowly. Another still has a few green leaves but will die. Trees were budded on northern black walnut stock and were fine trees. Did the fact that we had 28 inches of rain have anything to do with condition of trees?—Subscriber, Fallbrook.

A clear case of stagnant water about roots. Walnuts will be short-lived where water level is six or eight feet below surface. The 28 inches of rain certainly was a factor in hastening death.

### Kadota Figs?

Can you tell me what ails my fig trees? I have two Kadotas planted in 1921 which have made wonderful growth and this year were loaded with fruit, but they fall off when as large as marbles. A white Adriatic next to them matures fine fruit—Subscriber, Glendale.

It may be as well that the first year's fruit fell off for the strain on the young trees would be too heavy for first year when all vigor should go into tree growth. But we suspect your Kadotas are Calimyrnas and would next year get some wasp-bearing Capri figs in June. When figs are mature the Kadotas and Calimyrnas are quite unlike and easily recognized.

### Nematodes

Commenting on control of nematodes through chemical fertilizers, especially nitrate of soda, Dr. Snowden writes: "I thought you would be interested to see the fine work done by nitrate of soda on the only test we have now running on nematodes. I tried a plot with check plot and the beets are practically gone on the untreated plot, while the nitrated plot (400 pounds nitrate of soda per acre) is thriving.

Beets will, of course, stand a heavier application of nitrate of soda than will orchard trees. However, we believe there would be no harm in applying at the rate of 400 pounds per acre. 300 pounds is a common application, though usually applied in three different lots in one season. However, it would perhaps be well to have a care to secure perfectly even distribution where large quantities are used.

### Roof Paint

Can you give me formula for making good graphite paint for shingle roof; also for wine colored stain for siding? What should be the cost per gallon for each?—Subscriber, Upland.

Dry graphite for use on roof is usually mixed at the rate of about 3 pounds to each gallon. There is such a wide range of oils and an equally wide range of prices that it is hard to know what is best to recommend. Some will even use distillate and mineral oil. More prefer fish oil, while some still insist on the old-time raw linseed oil mixed with a little kerosene in order to secure greater penetration. Kerosene gives better results than distillate. Where raw linseed is used three quarts to one quart of kerosene makes a good roof stain. Instead of the graphite one may use Prince's Metallic. It is somewhat cheaper than the graphite which costs 7 or 8 cents. The cost of the paint can only be figured out in your own locality after inquiry as to linseed oil quotations. There are some excellent and very cheap roof paints now manufactured which may be bought ready to apply. For the wine colored stain the Prince's Metallic with the addition of a little lamp black might answer, but unfortunately that material varies greatly in color, sometimes being almost yellow and again a distinct red. In case you cannot get a good red, then an even better wine color may be secured by using Indian red with a touch of lamp black as needed.

### Best Apricot

I would appreciate your opinion as to the advisability of planting Moorpark apricot trees in this locality. The soil is river bottom sediment and very fertile as we have wonderful alfalfa upon it. Also would you advise planting Tilton apricot, or what variety? Please give reasons for your selections as we contemplate planting this spring.—Subscriber, Orland.

These questions must be answered by each community. There are some sections where the Tilton has done remarkably well. For instance, see cover illustration on last week's Cultivator. This is a Tilton tree, grown in Hemet, Riverside County. The Tilton has also done well in some portions of the southern end of the San Joaquin Valley. Many say that the Moorpark is absolutely the most perfect apricot grown. It certainly has a remarkable flavor and is of a large size, but it has a reputation for being a shy bearer. Possibly at Orland it might bear well. Orland apricot growers can answer as to best variety for that section far better than can one at a distance. We will appreciate it if apricot growers will write in of their experience or opinions.

### Mealybug

A prize Norfolk Island pine surrounded by ornamental grapevines and shrubs is infested with mealybug. There is also a smaller (white) scale and the vines are infested with red spider. What is the best spray?—Subscriber, Los Angeles.

For the mealybug it will perhaps be best to spray with miscible oil spray. See special spray number of the California Cultivator, September 24, 1921. For the red spider, dust thoroughly with sulphur or sulphur and hydrated lime. However, as a further suggestion, we may say that the cryptolaemus, beneficial insect introduced a few years ago, would prove helpful in control of this pest. The "crypts" are being distributed by the state department of agriculture and we have known of their being liberated in serious infestations of the ordinary mealybug in vines and other ornamentals and practically cleaning them up. At least, on this point information may be had by writing H. M. Armitage, State Insectary, Whittier. We may also add that serious infestations of mealybug have at times entirely disappeared, it is thought, because of the

work of some native beneficial insect.

### Cost of Aqueduct

What was the total cost of the Los Angeles aqueduct?—Subscriber, Lodi.

Approximately $24,000,000. This as to the aqueduct, tunnels, steel siphons and reservoirs. In addition there was about a million and a half spent for right of way, minor water rights, etc. The bonds sold to raise funds to cover cost of aqueduct have now been partly redeemed. Of the original debt only about $12,000,000 remains. The payment has been made from the revenues. We recently heard its engineer, William Mulholland, say that the $24,000,0000 property has been conservatively appraised at $52,000,000, but that in his estimation is all too conservative as he considers its real value to the people of Los Angeles $70,000,000. The above does not take into account the distributing system carrying water to the homes in the city. The cost of this has been approximately the same as the cost of the aqueduct, about $25,000,000. This likewise has been paid from the revenues. Approximately another dozen of millions has been raised by sale of bonds, which has been invested in power plants along the line of the aqueduct. These are proving even more profitable to the city than the water supply.

### Trees in Chicken Runs

What trees would be advisable to plant in chicken runs to grow rapidly for shade?—Subscriber, Baldwin Park.

If fruit trees are wanted why not plant walnuts or figs? They are deciduous and give dense shade in summer and sunshine in winter.

### Jerusalem Thorn

Can you tell me the name of shrub of which I enclose leaves and flowers? The trunk is six inches thick and tree is about six feet high. Can I move it successfully.—Subscriber, San Marcos.

Your shrub is Parkinsonia aculeata, native to the American tropics, but called Jerusalem Thorn. We would advise against any attempt to move it except a large ball or block of earth could be moved with it, preferably in a box at least 30 inches in each dimension.

### Squash Bugs

We have a very large bug that gets on the squash vine. They go right at the stem and seem to suck out all the life of the vine. They are about one inch long and one-third inch wide and are a dark grey color. We have used everything we know of to get rid of them, but nothing has helped and now that the squash is all dead they are after the melons.—Subscriber, Chino.

Presumably this is squash bug. There is no satisfactory spray. Instructions as given in the special pest fighting issue of the Cultivator of September 24, 1921, are: "Hand pick early in the season; also pick off eggs and destroy. Eggs are deposited in clusters on the leaves when the vines are very young. Trap bugs by laying boards loosely on the ground under which they crawl for protection. As soon as crop is harvested, gather and burn vines. Do not allow weeds to grow on the ground during winter months.

### Wireworms—Squash Bugs

What will kill wireworms, squash beetles and eelworms?—Subscriber, Bishop.

Wireworms and eelworms, or nematodes, are desperately perplexing pests. There is no satisfactory eradication method. The depredations by wireworms may in part be controlled by burying near the plant to be protected cut pieces of potato. The wireworms gather and proceed to devour the potato which may be carefully lifted and the wireworms destroyed by dropping into oil or making other disposal of them. For eelworms there is but little hope outside of soil sterilization. That may be accomplished by steam heat, formaldehyde, or, as has been suggested more recently, possibly by the application of large amounts of nitrate of soda. Crop rotation is also helpful. As to squash beetles they smell worse and make the farmer madder than most any of the other pests. Still worse, is the method of control, for it means hand picking. See answer to similar question in this department.

### Potato Troubles

What will prevent black rot, brown scab, tuber moth and blight of potatoes?—Subscriber, Bishop.

For the blight and scab the best preventive is to plant seed which has been dipped in formaldehyde, one pint 40 per cent formalhyde to 30 gallons water and plant in disease free soil. However, where blight is once established it is hard to eradicate. To prevent tuber moth infestation leave the potatoes exposed as little as possible after digging. Be sure they are kept well hilled up while growing.

### Gumming of Deciduous Trees

I am enclosing sample of gummy substance which we find on a number of our three year old Kelsey plum trees. This appears on the lower part of the tree. Will you kindly publish cause and remedy?—Subscriber, Fresno.

This is a question which has been discussed in former issues of the Cultivator and recently on pages 261 of issue of September 9; 274, same issue; 311, issue of September 23. This hard crystallized gum will form on peach and other deciduous trees because of injury, diseased condition of sap or physical defect.

## FARM BUREAU DAY AT LOS ANGELES COUNTY FAIR

Friday, October 20, will be Farm Bureau Day at the Los Angeles County Fair at Pomona. A special feature of the day's program will be the awarding of the cups which are given as annual prizes in the Los Angeles County farm bureau dairy cow competition, and the cups and medals won by poultrymen at the Southern California farm bureau egg laying contest which has just closed. This program will take place in front of the grandstand at 1:30 in the afternoon just before the races start. This will be an exceedingly attractive feature of the day's program as there will be more than 30 cups to be awarded as well as some medals.

## THORNLESS BLACKBERRIES

Complaints reach the Cultivator of thornless blackberries proving unprofitable through non-fruiting though plants grow rank. We fear this condition is common only to the Burbank Thornless. We have not heard similar complaints where plants are known to be Cory Thornless. One correspondent suggests that thornless blackberries are merely a fad, but many growers find them more profitable than others as they bear as heavily, sell as well to retailer and canner and are picked faster and the plants picked cleaner than the thorny varieties. Burbank Thornless will fruit well if heavily pruned.

## FARM TRESPASSERS SCORED

Town people sometimes drive through country districts and raid the farmer of his fruit and other products. Everything that grows on a farmer's farm belongs to that farmer. To take even wild fruit without his permission is as much a misdemeanor as to take his corn, potatoes or chickens.


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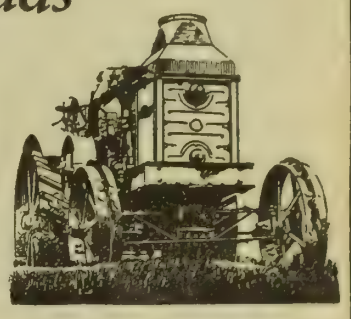

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# Household Department

### A NATION'S HOPE

Who are the men of the morrow?
Seek ye the boys of today!
Follow the plow and the harrow;
Look where they rake the hay.
Walk with the cows from the pasture,
Seek 'mid the tasseled corn;
Try where you hear the thresher
Humming in the early morn.
Who are the men of the morrow?
Look at your sturdy arm!
A nation's hope for the future
Lives in the boy on the farm.

### POPPY O' THE WHEAT

By Frances Greenman in Youth's Companion

PETERSON'S Poppy was racing to towy. Down the level reaches of a Kansas highway, thick with dust, sped the stanch little automobile. Poppy, hatless and happy, with her slender brown hands sure and steady on the wheel and her gray eyes on the road, was humming softly:

"Back of the flour the mill,
Back of the mill the wheat.

"And me," she added, laughing, "and Uncle Swan and Aunt Lena and the boys; we are back of one particular wheat deal. How lovely it is, the wheat! But, oh, the hard work behind a loaf of bread! Dear knows how farmer folk spared time to go to town and back for supplies before autos happened."

The car speed merrily along; spirals of dust followed in its wake and drifted in a fine powder upon the Jimson weeds and the young sunflower shoots that bordered the road.

In pioneer days "bullwhackers" had crawled along over the same route toward trading points in old Mexico, little dreaming that in future years a golden store to help fill the world's bread basket would come from that sun-browned country.

Poppy's eyes swept to the right and to the left—wheat, wheat, wheat, covering every field right up to the dust of the roadway! A golden sea, rippled by prairie winds! "I love it," she murmured, "but I wish harvest were ended."

She slowed the car as she approached a big white house surrounded with wheat. She blew the horn and leaned out from under the hood. "Hello-oo, Mizzoo."

"Coming." A plump girl in khaki hurried down the walk. "It's mighty nice of you-all, Poppy," said Missouri as she climbed into the automobile. "Pa allowed he was too plumb busy rounding up hands to take time to trade. Ma needs all this." She waved a sheet of paper on which a long array of "wants" was listed. "Ain't harvesting the limit? Ma says she wished we had never left old Missouri; give her the little farm back there in the Ozark hills; but pa is wheat-bound—hurrahs for Kansas the year round. He's in town every day, haunting the railroads, endeavoring to entice likely and unlikely gentlemen off the trains into the wheat. I'll wager I may have to drive yet. We couldn't get track of a hired girl; we scoured the country pretty nearly to the Colorado line, and what did we get? An Indian!"

"Territory?"

"No; Haskell. She allows she'll take a place during vacation. Her name is Arabella Two Feathers. Don't suppose she wears a blanket, do you?"

"If she does now, she will not later on," replied Poppy, laughing; "not when the thermometer take a high fly. It's never very cool at harvest time. I'm glad you found Arabella. Long may the feathers wave! I wish we had an Indian to help us, feathered or unfeathered."

Missouri's white, even teeth flashed; no one could call her plain when she smiled. But Poppy was radiant and had dancing eyes and crinkly hair and a complexion that remained fair in spite of prairie winds.

Peterson's Poppy and Missouri Smith had graduated from district school with "nice exercises," and Poppy had headed the class with remarkably high grades. Then the two girls had fared along to county high school and had finished together, thanks to Poppy, for Missouri, according to her own honest story, had been obliged to work like a clock to pass. "If Poppy hadn't been right there to wind me up," Missouri had said, "I should have run down in my freshman year. But Poppy had a walk-over; she shone even in geometry, I never see a square or a triangle but I get cold feet."

But only Poppy and Missouri knew how persistently, patiently and painfully Missouri had worked to pass. The girls' paths would soon diverge, for Mr. Smith was long on wheat and education, whereas Mr. Peterson was long on wheat alone. Only reluctlantly had he consented to Poppy's going to high school, and when agricultural college and a career as home demonstrator were broached he fell silent. You cannot argue with a wordless opponent.

"Too bad," said Aunt Lena and Gene and Swan Junior and Johnny. "We'd like to see you graduate some more, Poppy, but—"

The boys had once been content with the education that they had got at the district school, but now they wished they had gone to the county high school and "on and up." "Pa thinks," said Gene, "that we know enough to raise wheat. Anyhow it's too late for us to broaden out with an education, but we want you to get one, Poppy. Dad's piling up the dollars fast. This year's yield will average forty bushels to the acre, and every grain is No. 2 or better. He could stake you four years at Aggie well as not."

Poppy said little about college, but her disappointment was keen. Now as she drove the car between fields of gold her brain was busy with thoughts of it.

"Nickel for your thoughts," said Missouri; "I've been thinking hard lately, Poppy. I don't want to go to college without you, but pa's so set on education! You may rest easy, though, on this: I don't take any prizes in math. I'm going to select some studies I can do without laying down my life to get a grade. Can't your Aunt Lena talk your Uncle Swan over?"

Poppy shook her head and put her foot on the accelerator; both girls became silent as the car sped along a fine bit of road.

Aunt Lena was American born, but Swanson Peterson had lived in Sweden for the first twenty years of his life; at the age of twenty he had made the great adventure to America and had brought along a small bundle of clothing, a dogged persistence and inherited ideas of thrift and economy. He took up land, built a "soddy," married Anderson's yellow-haired Lena and held on in the prairie country through drouth, grasshoppers and hot winds until wheat "made" western Kansas. Then Mr. Peterson became a king.

"I wonder what sort of a bunch we'll get this year," said Missouri, thinking again of the harvest. "Remember the poet pa captured last year off the Rock Island? He fell down the first day. He raved over the beautiful yellow sea when his eye lit on the wheat, but when he waded in the poetry didn't work. And eat! Locusts and grasshoppers aren't in it compared with harvesters. Ma plans to make bread all day tomorrow. I'm glad we have an oil stove—" Missouri stopped suddenly as she remembered the hot range in the Peterson kitchen.

"We too," said Poppy, turning the car at Kerry Crossing on the last stretch to town. "The boys get wages this harvest, so they have bought Aunt Lena the best oil range Vantyne had in the store. They brought it out last night. Johnny was so proud; Gene says he sat up nearly all night courting the stove."

"Won't you be happy!" said Missouri rather absently, thinking how loyal Poppy was to Swanson Peterson—never complaining or criticizing. "She must come of mighty fine folks," Missouri mentally concluded.

People in the wheat country loved Peterson's Poppy. No one knew her real name. In a country churchyard down the road a "piece" from the ranch Poppy's folks were sleeping the long sleep. Years ago in early springtime a mover had camped one evening in a bend of the Troublesome; the creek was on a "rampage" and was muddy and deep and swift from spring rains. The mover, so Swanson Peterson declared, must have been all kinds of a tenderfoot to try to ford it. Peterson, who was looking for a stray cow, had witnessed the tragedy and at the risk of his own life had urged his mount into the rushing waters. He saved a mite of a two year old girl and the Petersons gladly gave her a refuge. She was about the age of their own daughter, Hilda, who had died the preceding winter. So had happened Peterson's Poppy.

At the edge of town the two girls met a battered old automobile full of "gleanings." Mr. Peterson had evidently been to the railway station. "College boys and full of pep," cried Missouri, "but wait awhile-o; they'll eat you out o' house hand home three times a day. Don't you wish your feet were rubber tired during the harvest rush Poppy?"

"Surelee, if they wouldn't puncture," Poppy replied and laughed.

"Here we are at Hafner's. Now for a load of groceries. Maybe we shall have to leave our feet and come back for them, for I do not see how we are to stow away everything in this car. So long. Let's try each to capture a swift clerk."

That evening Poppy snatched time to watch a picture in the western sky; her eyes were wide with wonder as flaming bars touched the wheat to a gleaming radiance as far as the eye could reach. As the sun slipped lower a little breeze ruffled the golden sea. "It is beautiful, the wheat," murmur-

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**PATTERN DEPARTMENT**
**California Cultivator** **Los Angeles**

ed Poppy, "but I wonder if the folks outside the belt know how much hard work there is behind a slice of bread."

"Poppy!"

"Coming, Aunt Lena," and Poppy went to set the table for a horde of hungry men.

Harvest was in full blast in the Peterson fields. The buzz of reapers, the steady zipping song of the thresher, the pop-pop-pop-pop of tractors and the hullabaloo of unmuffled trucks broke the quiet of the wheatlands.

Harvest was also under way in the Peterson kitchen. "Seems as if," lamented Aunt Lena, "these here men can beat that prestidigitator gentleman we saw over to the county seat all hollow. I lay out an array of pies, enough for a bakery with a steady trade, and when I turn around, so to say, there ain't no pies. And bread and ginger cakes disappear as if a cyclone had swept over. It's awful! Poppy, you'll have to crank up the car and run into town, for every last can o' corn is gone. And meat and butter. Get a pencil, honey; put down a list. You'll need a big piece of paper, too."

So Poppy "ran" to town, cooked washed dishes, baked and waited on table; she worked steadily from sunrise to past dark.

"She's pure gold, our Poppy," said Johnny. "Some girls would fall down on the job. Pa ought to make ma and Poppy a mighty fine present when the rush is over. If I had a hundred dollars or so ahead, I'd stake her to that there Aggie college."

"Dad thinks schools gives 'em notions," said Swan Junior, "but as I understand it Poppy don't crave city life; she wants to come back here to this community and—"

"Oh, well," Gene interrupted him, "our blowing about it won't help any. Wheat's waiting yonder. We'd better get to work."

Harvest time table, talk often rose above wheat. The college boys told wonderfully alluring tales of life at K. U. and at "Aggie;" they fired even Johnny's imagination. Poppy, tripping from stove to table with cups and steaming platters, lost not a word; she was hungrier for education than a harvest hand is for a square meal.

But as usual whenever school was a topic of conversation Swanson Peterson became silent; he was interested only in wheat. When a rise in price seemed probable he beamed and planned to buy another tractor and to build the biggest granary in the county; he was casting covetous glances on the Moran section. He wished to be a great king. Schools! What were schools? Here was his Poppy not satisfied with two diplomas!

Sometimes in the cool of the evenings the college boys sang the popular lilting melodies of the day, and their voices would carry far. Jan Nielson, bossing a "twilight squad," would pause to listen. "Them chaps by Peterson's. I got no canaries this year. They sound goot."

At the end of harvest when the college boys were going away, one of them—Brice Allard, who hurrahed for "Aggie" and had encouraged Poppy's ambitions for more education at every opportunity—looked thoughtfully over the stubble. "Miss Poppy," he asked, "don't the ranchers ever glean?"

"Not in years like this; the yield is too great. It satisfies."

"I have half a mind not to follow the harvest north, but to stay here and emulate Ruth. The picking looks good to me, for lots of wheat was spilled; and such swaths left at the endges! Ever thought about college by way of Ruth route?"

Early the next morning Poppy took a long walk over and round some of the fields. When she returned she was thoughtful, but then Poppy talked less than most girls talk. She did not mention gleaning.

Uncle Swan, jubilant over the big harvest, had offered to take Aunt Lena to Dakota to visit her sister; incidentally he wanted to compare notes with his brother-in-law. Aunt Lena was so happy that she almost wept. She said, "All right," and then bought a duster and a tight little boat of a hat.

Just before they set forth Swanson turned to Poppy. "You ban goot girl, Poppy; you work fine. I make you present, eh, what?"

"The gleanings," said Poppy unexpectedly.

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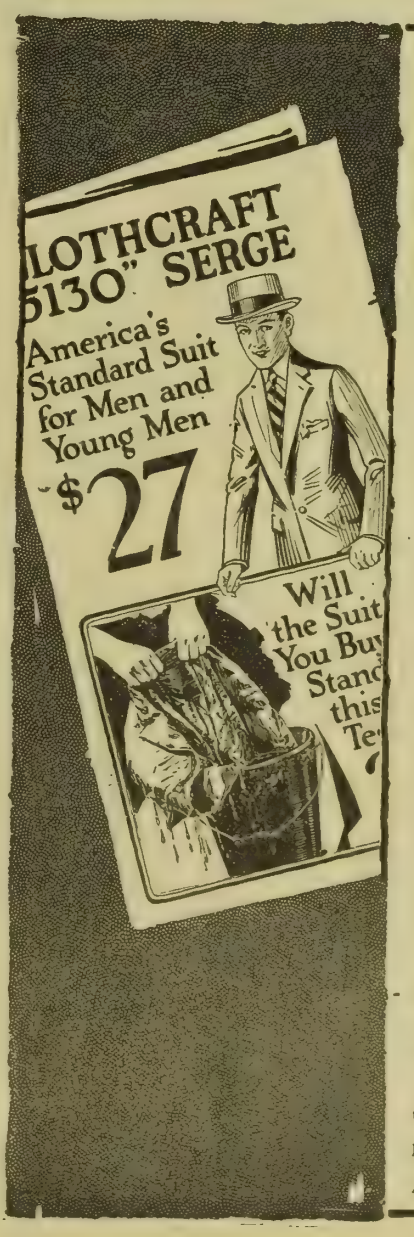


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Mr. Peterson stared at the slender girl. "What! What you say?"

"I ask for the fields, Uncle Swan."

Then he laughed. "That's a goot joke once. You make your fun, Poppy?"

"No, Uncle Swan; that is the present I ask."

The wrinkles about the wheat king's mouth deepened as he put a finger beneath Poppy's round chin. "Child, you got the dare to try?"

"Sure," Poppy's eyes did not falter.

"Then," he said slowly, "for effery bushel of gleanings I find when I get back I treble 'em. Goot-by."

In the farmhouse at supper time talk ran all to gleaning and to prospects of college for Poppy. "It may pay well this year," said Gene. "We boys will knock off now and then and help; but you'll find it a back-breaking job." So Poppy got into a suit of overalls and set to work.

Although the Book of Ruth makes pleasant reading, gleaning is not pleasant in Kansas fields; sunshine of the ardent, persistent, Kansas kind kept Poppy company.

"Gee," said faithful Johnny, wiping his face with a red bandanna, "ain't it fierce? I don't believe we can glean you into Aggie this year, Poppy.

"No-o, but it is a beginning."

"Mebbe," said Johnny hopefully, "you'll strike a run o' luck before September and get there anyhow."

"I agree with the man who declares that luck plays about two per cent in most achievements," said Poppy; "it takes ninety-eight per cent of pluck to win out. Now for the strip yonder. Looks as if some Boaz had given orders here."

At the end of many a work-filled day Poppy tumbled into bed too tired even to glance at the beauty of white moonlight on the vast reaches of prairie or, once she fell asleep, to awaken to the music of mocking birds that sang the night through.

Presently word went round that Peterson's Poppy was in wheat "for all it was worth." Missouri came over and brought Arabella Two Feathers with her. Arabella wore no blanket and talked very good English; she too worked like a clock.

"You-all needn't to try to boss us out of this field, Poppy," declared Missouri. "We have come to help. Maybe you-all don't think I remember how you-all stood by me during high school days. You-all needn't to say one word. Ma sent a piece of ice and a dozen lemons to cheer us along."

"But, Mizzoo, I didn't expect help," cried Poppy, "except what the boys could find time for. I shan't become rich in any case, but, if I can get a start toward college, I'm willing to work—"

"Pooh!" said Missouri. "You might be generous and let willing folks like me have a hand in the pie. Let's glean."

Then Jan Neilson's young folks and then Tom Johnson's Bob "cut in" and the first thing Poppy knew there was a gleaning bee in the Peterson stubble. The result measured above Gene's shrewd calculations.

"Pretty good," said Swan Junior. "What'll dad say?"

"He'll do!" replied Gene. "Dad never goes back on his word. He'll fork over three bushels for every one gleaned."

Then Missouri's father offered his fields. "No, it's not charity," he said. "No one cares to glean this year except you, Poppy. When a man's cleared up forty thousand bushels or so he's not what you'd say interested in gleaning. You're helping me out; so go to it right away, for I'm most ready to list for the fall sowing."

Poppy "went to it" with hired help; she would accept no more bees.

"I'm looking forward to seeing dad's face when he sees Poppy's harvest," said Johnny.

"It'll stake her half a year, maybe more."

"A semester," Johnny corrected him.

"It is a beginning," said Swan Junior.

When Swanson Peterson saw the gleanings his face was a picture, not of selfish regret, but of pride. "My Poppy stick to it so long! I said to mamma up in Dakota, 'I'll bet Poppy peters out the first day yet.' " Then he chuckled and did some figuring on an old envelope.

When he told Poppy how much he owed her she protested. "I thought you meant to triple the gleanings from just your fields, Uncle Swan. The boys helped too; so consider that I didn't glean alone all the time."

"I said gleanings. I keep to my vort, but I ban poor man after I put in a farm lighting system for mamma."

Aunt Lena sat down suddenly on a chair; her blue eyes were wide with amazement.

"I get some eye opener up in Dakota," Peterson went on. "I guess wheat women need some wages yet. I like your pluck, Poppy. You win me over. I guess you ban smart 'nough to go to college and get no notions. Me and gleanings, we see you through. You ban nice wheat lady, my Poppy."

## HOUSEHOLD QUERIES

### Paprika in Tomatoes

Recipe for tomato catsup in the Cultivator of July 22 gave 4 tablespoons of papriika to one gallon tomato pulp. That is too much. I cooked fresh tomatoes three times more than the amount given and, believe me, it is more than peppery enough yet. I understand paprika is the red pepper. That is what I used, exactly the measure, four tablespoons to a gallon of tomatoes.—Subscriber Merced.

Paprika is made from sweet peppers and is not hot at all; it merely adds a spicy pungency and red coloring matter. The Merced subscriber evidently used cayenne or other hot pepper. Note this recipe called for one tablespoon pepper (ordinary ground table white or black) and 2 cut red peppers in addition to the 4 tablespoons of ground paprika.

### Cooking With Electricity—Recipes Requested

Your paper has been of great help to me, and I was especially interested in the article a few weeks ago on the use of electricity in cooking. I would like to hear from any of the subscribers who have tried this. How they cook in the ovens whole meals and how to economize in the use of these stoves. It sounds good for the farm. Would like other women's experience. Would like some practical recipes for sour cream and for using green tomatoes.—Subscriber Santa Cruz.

The Cultivator will be glad to give space in these columns to experiences in use of electricity in cooking. That is something every housekeeper is vitally interested in. With prospects for great development and distribution of electric power at cheap rates, California women know it is not only of vital but of immediate interest.

Recipes for green tomato pickle, Page 179, Cultivator of August 19; green tomato pie and preserves, Page 239, Cultivator of September 2; green tomato mincemeat, Cultivator of September 9. We are assuming that our subscriber has these recent numbers; if not and she will notify us we will mail. Here are some good sour cream recipes:

Note use of sour cream in corn chowder in this department.

Sour Cream Biscuit—For each quart flour use one level teaspoon soda, level teaspoon salt. Sift thoroughly or soda may show in yellow streaks. Mix with sufficient sour cream a little stiffer than baking powder biscuit. (Remember that pasteurized cream is not very sour. Ordinarily use it with baking powder, not soda; if it has stood sometime and tastes more acid, add a "pinch" of soda—enough to take away the sour taste—and the usual quantity of baking powder. A good cook tastes frequently and critically.)

Tomato Soup and Cream Sauce—Sour cream makes soups and creamed dishes utterly delicious. To use in to-


GHIRARDELLI'S

# Chocolate Sauce

Home made

—you use it this way:

As a chocolate sauce for ice cream and iced drinks; as a hot or cold sauce for custard and gelatine puddings—yes, and for blanc mange and cottage pudding. [You can make a delicious impromptu pudding out of several slices of stale cake covered with this chocolate sauce.] In fact, you can use it for anything where a pudding sauce is acceptable.

—you make it this way:

Mix 1 cup sugar with 1 cup Ghirardelli's Ground Chocolate. Add ½ cup boiling water, ⅛ teaspoon salt, and cook 10 minutes or until thick. When cold, add 1 teaspoon vanilla. Store in tightly covered jar. This will make about 1 pint of chocolate sauce and will keep several weeks. Say "*Gear-ar-delly*" to your grocer and send for our recipe booklet.

Since 1852 D. GHIRARDELLI CO. San Francisco

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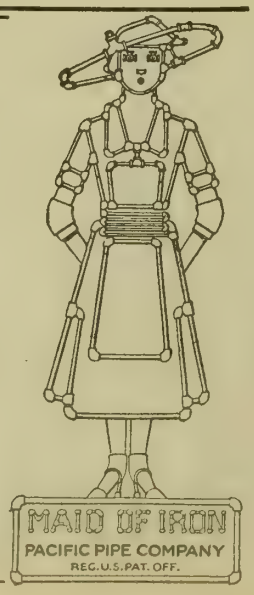


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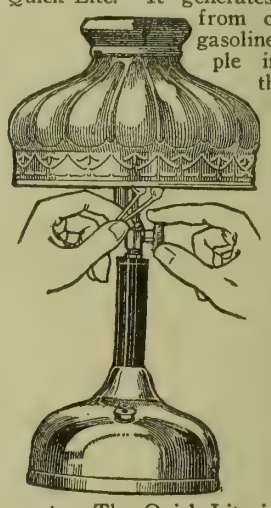
# Wonderful Home Light

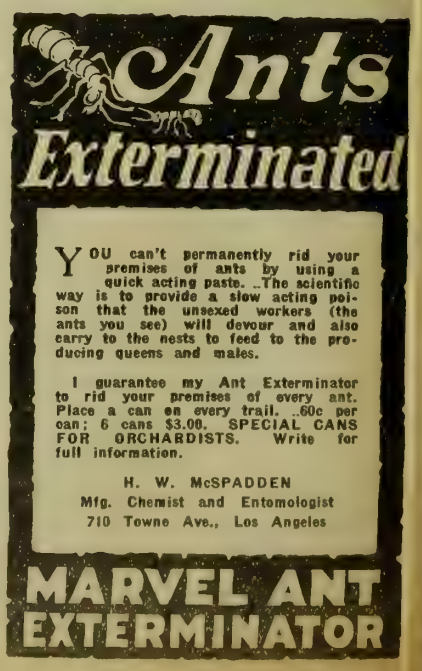
**New Gasoline Lamp Gives 300 Candle Power Brilliance at Low Cost**

A gasoline lamp that gives more light than 20 old style oil lamps at about one-tenth the cost is the leading product of the Coleman Lamp Co., Los Angeles, Cal.

This remarkable lamp is known as the Quick-Lite. It generates its own gas from common motor gasoline and is so simple in construction that even a child can operate it. The Coleman "Quick-Lite" is safe, dependable and economical. Unlike other gasoline lamps, the Quick-Lite lights with ordinary matches. Nearly a million are in use in American homes. Thousands more are used to light stores, halls, churches, etc. The Quick-Lite is gaining wide favor in cities, too. Many claim it is superior to electricity because the light is soft and restful to the eyes.



The above picture shows one of several models. More than 30,000 dealers sell "Quick-Lites." Anyone interested in better light may see this lamp lighted at a nearby hardware or general store. Full information together with an interesting booklet may be had free by addressing the Coleman Lamp Co., CA 73, Los Angeles, Cal.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YOU can't permanently rid your premises of ants by using a quick acting paste. The scientific way is to provide a slow acting poison that the unsexed workers (the ants you see) will devour and also carry to the nests to feed to the producing queens and males.
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710 Towne Ave., Los Angeles
MARVEL ANT EXTERMINATOR

mato soup add very little soda, sufficient to neutralize sour taste. When it stops foaming, add to tomato soup when ready to serve, cooking only enough to heat through. It may be used in cream sauce and for seasoning vegetables without addition of soda, though some cooks always add it.

Sour Cream Frosting—One cup thick sour cream, 1½ cups granlated sugar, pinch soda. Boil about 8 minutes, remove from fire, add one cup finely chopped nut meats, stirring till cool.

Salad Dressing—Thin any prepared salad dressing with sour cream, adding little salt to taste.

Sour Cream Cucumber Dressing—Pare and grate one medium sized cucumber and sprinkle with 1 teaspoon salt. Let stand 1 hour, then drain. Place 1 cup sour cream in bowl. Beat till stiff, add prepared cucumber and 1 teaspoon each mustard and pepper, 2 tablespoons each finely chopped onion and parsley, juice ½ lemon.

Generally, sour cream may be substituted in any recipe calling for sour milk. In this case omit all or part of shortening according to richness of cream.

### Corn Chowder

Please tell me how to make corn chowder. I had a fine recipe but misplaced it when moving. It was in the fall of 1919 that I found it in your Cultivator. I have been a subscriber of your Cultivator for many years and enjoy reading it so much.—Subscriber, San Bernardino.

This recipe was given in the Cultivator of August 30, 1919. We hope it is the one wished: Cut fat fresh or salt pork in dice (about one cup), brown in kettle. Slice on top thin layer onions and thick layer diced potatoes. Brown in fat, then add fresh corn cut from cob, pepper and salt to taste and tablespoon sugar. Cover with hot water, put top on kettle and cook slowly half an hour. Add 1 cup hot cream, sweet or sour, or milk and serve.

## HINTS FROM HOUSEKEEPERS

### Canning Egg Plant

In your issue of September 16 I notice "Subscriber, Ceres" is asking directions for putting up egg plant and submit the following: Pare egg plant, cut into thin slices and boil it 15 or 20 minutes, drain off water, pack egg plant in jars, fill to overflowing with cold water, place rubber and jar top in place, not tight. Process the egg plant in home made or commercial steam cooker 4 hours. One hour when using from 5 to 10 pounds of steam pressure, with the steam pressure canning devices; 40 minutes if using aluminum steam pressure cooking outfit. After processing required time remove jars, tighten covers, invert to test the joints and cool. I wish to thank the Household Department for many helpful hints and hope my canned egg plant recipe may help some other homemaker.—Mrs. N. A. Waters, Anaheim.

I saw an inquiry in recent issue, concerning the canning of egg plant. I can it every summer and find it a splendid addition to my winter menu. I do not use the cold pack method and have very good success canning it in tin cans (new) preferably. I imagine the cold pack might be better but am not used to it. Try this and see if you like it:

Pare and dice one egg plant (medium size) soak in salt water ½ hour. While soaking stew one good sized onion (sliced); add then one large sweet pepper and one or two tomatoes, salting and otherwise seasoning as you add this to the egg plant. Cook until all seems done. A little hot pepper added makes it Spanish. In canning I use the same proportion except that I do not can any onion with it. I add that when I open my cans in the winter.—J. E. M., Orange.

### Quinces—Yellow Tomatoes

Seeing some recipes for preparing quinces I wish to tell mine which I accidentally discovered last fall. It originated from baking quince, leaving core and peeling on and quick baking. They are clearer and form a jelly instead of being dark and strong as they sometimes are. Trim quinces by cutting out any bad spots and slice with the skins and cores on as these help them to jelly. Set on to cook with plenty of water to cover, boil briskly in a covered pan until slightly tender, then add sugar. As I do not measure I cannot give exact rule but I use enough sugar so that when they are done there is a jelly in between the fruit. After adding sugar set in the oven in a covered pan (generally leave the door ajar) and continue to cook until pieces boil up like jelly.

Yellow Tomatoes—Here is a tomato recipe that is nice. To 10 pounds yellow tomatoes add 5 pounds sugar and 1 can grated pineapple. Peel, let stand a while, then dip off surplus juice and cook as other preserves. While I never have tried it I believe by cooking in the oven in a covered pan like the quince preserves, they would be better.—Mrs. Clara Schrack, Valley Springs.

### Bleaching Flour Sacks

In your September 2d number saw article on bleaching flour sacks. Do not know whether or not you have received the following method from some other subscriber, so will send it: To bleach flour sacks wet new sacks with coal oil, especially the lettering, and sprinkle a handful of rain water crystals or hydro-pura on them and roll up for a few hours or over night, then boil and with very little rubbing the sacks will be free of all lettering. —Subscriber, Arroyo Grande.

## DRYING MILK CANS

Because bacteria increase in numbers at such an astounding rate when conditions are favorable it is necessary not only to kill as many of them as possible in order to keep dairy utensils clean and insure a good product; but utensils must be kept dry so that the few organisms that are left after sterilization will not multiply greatly. In addition to the proper temperature it is necessary that moisture be present for these germs to grow, but only a very thin film of water is needed.

It is particularly important that milk cans be thoroughly dried and kept dry until used again. In addition, they must be protected from contamination with dust, other dirt and flies. Experiments carried on by the United States department of agriculture show that in milk cans which were covered before being dried the number of bacteria increased 700 times in 24 hours. An average of seven tests showed that the count increased from 1,111,514 to 775,751,429. Milk put into cans in which the bacteria have been permitted to multiply to such an extent will spoil much sooner than milk put into cans before being covered.

To secure rapid drying the cans must be sterilized with steam or boiling water. If a sterilizer is used the cans may be left in it until time for them to be used again, but there must be some means of ventilation to carry off the moisture. Cans may be set on a rack to dry, but they should be protected from flies and dust, preferably in a well screened milk house.

## FLOUR MILLS MERGER

The newspapers announce the completion of negotiations by which the Sperry Flour Company has come into possession of the Portland Flouring Mills which will now be added to the long string of great mills owned up and down the coast by the Sperry people.

The company will have a combined milling capacity of 27,000 barrels per day and will extend its milling operations throughout the Pacific Coast, securing the advantage of business now controlled by the Portland Flouring Mills Company in the Northwest. The new company will occupy a dominant position in the flouring and milling business of the Pacific Coast.

The Sperry Flour Company was incorporated in 1892 and represents an amalgamation of businesses, some of which were established as early as 1852. The company's plants and properties are located in Stockton, Vallejo, Fresno, Los Angeles, in this state, and at Spokane, Creston and Tacoma, Washington, and Ogden, Utah.

**Why sign notes at the dining table?**

IF your mealtime cup of coffee leads you into midnight wakefulness and mid-afternoon drowsiness (as so often happens) why not stop giving the promise to pay?

It is so easy to keep out of debt by turning to Postum.

Postum is a satisfying, mealtime drink, rich in flavor and aroma—and with no regretful settlements, afterward.

Why not try Postum instead of coffee today, and pave the way to better health and happiness?

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Postum comes in two forms: Instant Postum (in tins) prepared instantly in the cup by the addition of boiling water. Postum Cereal (in packages, for those who prefer to make the drink while the meal is being prepared) made by boiling fully 20 minutes.

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*"There's a Reason"*

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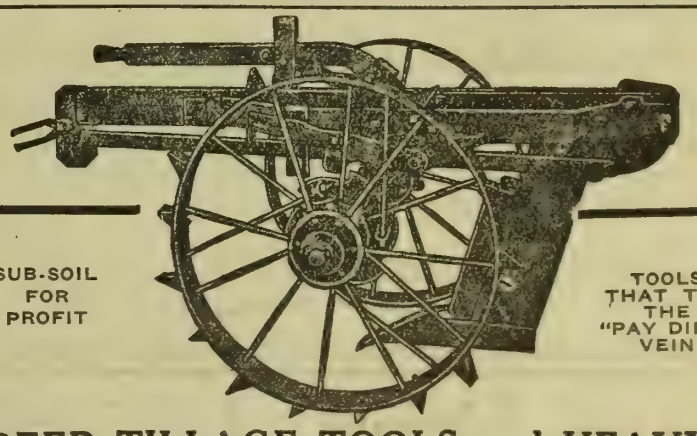

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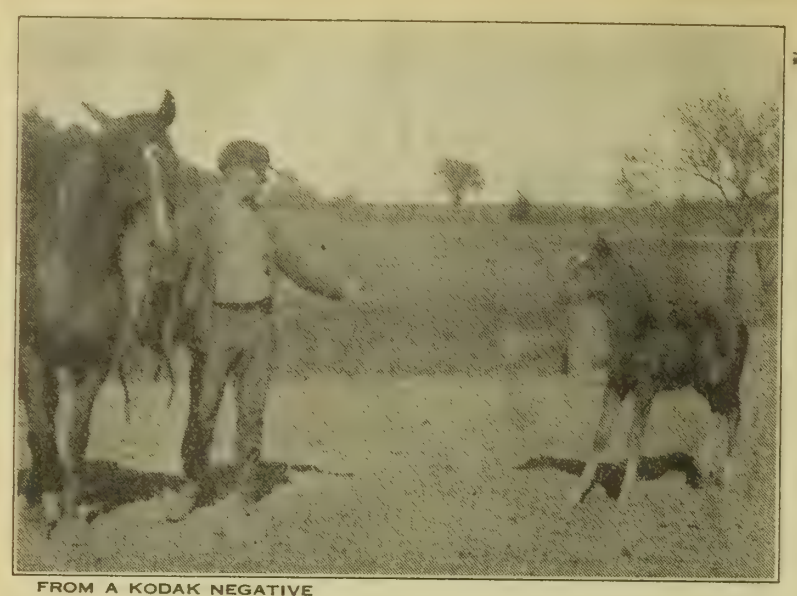

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Backed by Producing and Transmitting Dams. HIS Dam, De Kol of Valley Mead 2nd, and HIS Sire's Dam, Miss Valley Mead De Kol Walker, have made a total of FIVE RECORDS—Averaging 1038 lbs. Butter in 365 days. For HIS SONS from A. R. O. Dams, write or see us:

Los Angeles County Farm, Hondo, California
Three miles from Downey on Downey-Long Beach Boulevard

# Ray Holstein Sale Above the Average

When Carl Ray of Lankershim decided to sell his milking cows everyone predicted that he would have a good sale for practically every cow had a good seven day record and many had large semi-official records or were making them.

These cows were the foundation females that Mr. Ray had chosen for his own use before his picture theaters began to take so much of his time and they were high priced animals out of a bunch of big sales. Many of the rank and file of the Holstein breeders were absent for one reason or another and good animals failed to bring their worth as the buyers did not recognize their greatness. It was a wonderful chance for new men and a number took advantage of the opportunity. Superintendent W. R. Harriman of the Los Angeles County Farm was on the job and none of the good ones escaped without being carried to the highest point that he could afford. He was able to outbid everyone on five very good ones.

On account of missing his train from Modesto, Fred Hartsook was unable to attend but E. J. Sturgis who represents him bought the top animal of the sale. She was Victoria Brunaro Johanna, a fine big 321 pound cow who is making a wonderful start towards a big yearly record. In 92 days she has made 304 pounds butter from 9144 pounds milk. This means she has made over 100 pounds butter from 3000 pounds milk each month. The day before the sale she produced 120 pounds milk and was a bargain at the $1600 which Sturgis had to pay for her. She sold open and will be bred to the great Hartsook herd sire, Sir Aaggie De Kol Mead and should prove a valuable addition to Hartsook's herd of exceptional cows.

Walter Simons of Burbank and Major R. M. Ashbrook who is founding a small herd at Riverside were frequent buyers who showed keen discrimination for the good ones. D. L. Wright of Pasadena bought the second high cow, Rosamaines Bonita Ormsby, a 32 pound three year old, for $1000. She also sold open and will be bred to his fine young bull who is a son of King Segis Pontiac Count. Mr. Wright is also a discriminating buyer and his herd of females will be a good one.

Rhoades and Rhoades, represented by Cols. Ben and Harold and John Davis were the efficient auctioneers and C. L. Hughes of the California Breeders Sales and Pedigree Company mnaged the sale.

A total of $14,900 for the 36 head or an average of $413—which is by the way the exact average of the Maxwell sale a few weeks ago—was very satisfactory.

That there is no greater asset in Southern California than a good herd of registered Holsteins was proven again by this sale as well as by the numerous ones which have preceded it. They are always in demand and sure to bring good prices.

Purchased by Fred Hartsook, Lankershim; Victoria Brunaro Johanna, $1600.

D. L. Wright, Pasadena; Rosamaines Bonita Ormsby, $1000.

Walter Simons, Burbank; Miss Maggrath Hengerveld, $750. Burbank Maggrath Korndyke, $350. Beauty Mercedes Mandane, $400. Jessie Pontiac, $350. Fenton Katrina Hengerveld, $350. Johanna Skylark Ormsby, $475. Abbekerk Pontiac, $635. Mary Ann De Kol 3rd, $525. Rosalind Korndyke Veeman, $160. Evergreen Beauty 2d, $140.

Los Angeles County Farm, Hondo; Segis Johanna De Kol of Edelweiss, $475. Lady Mercedes Ormsby De Kol 2d, $735. Mercedes Canary Belle De Kol, $600. Rosamaines Blanche Segis, $425. Win-o-dee Veeman Hengerveld, $475.

Major Ashbrook, Riverside; Canary Hengerveld Mercedes, $450. Jolie Moneta Korndyke, $460. Win-o-dee Segis Lyons Pontiac, $375. Lydia Burke Juliana Hengerveld, $360. Gertrude Pontiac Hengerveld, $375.

G. Kaiser, Burbank; Jolie Louisetta Johanna,, $350. Burke Skylark Spofford, $210. K. S. P. J. Gerben De Kol, $260. Helena Cornelia Burke 2d, $175. Uana of Linwood, $200. K. S. P. Queen Pearl, $325.

Lutje Brothers, Burbank; Fenton Pauline Koroba Segis, $200. Anokia Pontiac, $265. K. L. B. D. K. Aeroplane Belle, $260.

Earl Nye, Cheyenne, Wy.; Burbank Pontiac Posch Pearl, $150. K. S. P. Queen Veeman, $145. Mercedes Starr Segis, $165.

Santa Anita Rancho, Santa Anita; K. S. P. Prilly Mercedes, $350.

W. M. Borg, Stanislaus Piebe Laura Pontiac, $435.

# Stock Disease Control

Efforts of the department of agriculture to wipe out disease among livestock in California have resulted in decreases of 50 per cent and in some cases eradication of animal ailments, according to an announcement by Dr. J. G. Jackley, assistant chief of the division of animal industry.

Complete control of the Nevada cattle scab situation, which a month ago endangered the herds of the Sacramento and San Joaquin valleys, has been accomplished through the issuance of a proclamation by the governor placing an embargo, May 1, on all infected Nevada cattle. All cattle intended for transportation through California must be dipped before leaving Nevada, and railroads have been instructed to accept no shipments unless dipping certificates are given. There are no signs of the disease in the big cattle districts of this state.

The department has effected a 50 per cent decrease in sheep scab throughout the state during the past five years, and the elimination of this serious disease is being brought about rapidly. Though the disease presents a serious problem in a warm climate such as that of California, it exists at the present time, only in a small portion of the San Joaquin Valley, the Upper Sacramento Valley and a few points in the coast counties. It is safe to say that sheep scab will be eradicated in California within another five years if the department of animal industry continues to make the progress of the last five years.

Texas fever, losses from which run into thousands of dollars in many Western states is reported exterminated in California, though two-thirds of the state was under federal quarentine for this disease in 1910. But for the eradication of Texas fever many of our cattlemen would have been forced out of business in the last few years. In view of recent marketing conditions a federal embargo on shipments due to Texas fever would have worked a great hardship on the cattlemen of this state.

Glanders has also been totally wiped out, according to the announcement. In 1912 more than 1,500 horses, out of 3,700 tested for glanders, were lost. The Mallein test was applied to 1,200 animals in 1920 and only 200 were found infected. Scarcely a case of glanders has presented itself during the present year. In this connection, Dr. Jackley asserts the development of motor transportation has not decreased the number of horses in California and that there are practically as many horses in the state today as there were in 1912.

The report also points out that activity of the department has kept foot and mouth disease, rinderpest and dourine out of California.

## COW TESTING IN LOS ANGELES COUNTY

Supervisor L. J. Birge reports regarding last month's test in the Southern Los Angeles County Cow Testing Association that C. V. Harris owns the highest producer of butter fat in a cow with 90.9 pounds. The highest herd test, 4.92 per cent, was shown by a herd owned by J. P. Wiesel. The highest average butterfat was shown by the herd of A. C. Straathof.

## The Tester Knows

The only sure and accurate way to determine just how close your separator is skimming is by means of the Babcock Test, and the most accurate operators of the Babcock Test are the cow testers employed by the various cow testing associations. The following statements from cow testers are interesting:

—"The closest skimming of milk I have in this association is done with a De Laval. Of the 29 separators in this association 16 are De Lavals."—Tester for the second largest association in Minnesota.

—"De Laval Separators and Milkers are to my mind superior to any other makes. The separator is the most efficient skimmer of milk and its durability is lasting. In this community we have practically all De Laval Separators."—Tester for a Pennsylvania association.

A De Laval soon pays for itself and is sold on such easy terms that you can use it while it is doing so.

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produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

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# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Lameness

Mare had hurt hip a few years ago and since hits herself on the other leg. I put a pad on the leg and think I got it too tight and that leg swelled. Sometimes when I work her a little too hard she goes very lame. She goes very lame on what seems to be the good leg and is all right on the other. It looks to me like a wind gall. Please advise me what to do for it.—Subscriber, Petaluma.

Those swellings on the inside of the ankle have been called wind galls but there is no air in them. It is a bruised joint and hard to cure while she is hitting it occasionally. Put a bandage on loosely at night and wet it with water and vinegar, half and half. If you can get a blacksmith to shoe her so she will not strike the ankle she will be all right. When she is tired she is more apt to hit it. Work her carefully and keep her on level ground as much as possible.

### Fighting Dogs

I have an Airedale and Bull Terrier, both males, that are all the time fighting and have to be separated. They are valuable dogs and needed on the ranch. What can I do to teach them to be friends?—Subscriber, Highland.

They are both of the fighting kind but can be taught to do better. Put a good collar on each one with a ring on it and get two lead chains. At night tie them where they can not reach each other. In the morning turn them loose with the collars on. Also get a good, heavy whip and tie a knot in the end of the lash. When they get to fighting yell at them, which they will probably not heed at first. When they get really at it get the whip and join the fight. Get someone to snap a chain in each ring but do not pull them apart. Whip them until they quit and then whip them some more and tie them up until the next morning. Don't whip one more than the other and don't scold them any other time. When you feed them their supper pet them and let them know you are their friend except when they fight. Do not feed them any meat. After a few fights one yell will will stop the trouble but tie them up until the next morning. If you are good to them at other times you will soon get their confidence but do not pet one more than the other. They detect partiality very quickly and that will start the trouble again. Do not let anybody else feed them. Do that yourself and give them most of their feed at night; very little in the morning and none at any other time.

### Blood in Passages

I have a cow that has been milking about four months until a few days ago when she suddenly failed on her milk and became very sick with what I would call diarrhea. For the past three weeks she has been showing more or less blood in her passages. I gave epsom salts which seemed to stop the diarrhea but the bloody passages continue. Since being fresh this cow has been kept in pen and is being fed dry alfalfa and mill feed. Another cow that is kept in the same pen and fed the same kind of feed is also showing blood in her passages. What is the cause and what is the remedy?—Subscriber, Dyerville.

Something wrong with the feed or water. Change to green alfalfa or pasture if possible. Change mill feed also and examine the water. Watch


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**WOLVERINE!**
**The 1000 Mile Shoe**

*September 8, 1921.*
*The first pair of Wolverine Shoes we sold was on August 21st, 1920. Customer has worn this pair every day since and wishes another pair.*
*This customer is a farmer and has sweaty feet, and has worn shoes in barnyard manures. Shoes have not been soled or repaired in any manner except renailing.*
*Stoffel & Earl, Casey, Iowa.*

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***King of Storms.***
***Horsehide Through and Through***

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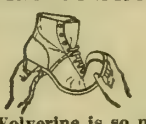
Every man knows what it is to dry out wet shoes. The leather dries out stiff as a board, hard and uncomfortable.

Now this discomfort is ended. For, thanks to our exclusive, secret, double-tanning process the Wolverine shoe dries out after every soaking as soft as new buckskin. *This amazing shoe stays soft.* No other shoe made is like it!

We tan the leather in our own tannery.

**WOLVERINE Comfort Shoe**



This Wolverine is so pliable and soft you can double it up like a moccasin. It wears like iron but you'll hardly know you have a shoe on, it is so soft and easy.
For tender feet, or where you do not encounter wet weather, wear this Comfort Shoe. A blessing to the feet.

We take selected horse hide of the superfine quality formerly used for expensive Cordovan shoes and Cossack saddles—the toughest, longest-wearing leather known. Yet by our secret tanning process we give this wear-resisting leather the softness and pliability of buckskin. It never loses its softness—and it wears and wears and wears. For we even increase its natural durability.

**Unusual Economy**
**Work Shoes for All Purposes**

We operate our own tannery and our shoe factory as one organization. This effects very large economies. So every Wolverine shoe is very low priced when you consider the quality.

There is a Wolverine for every use. For field and shop, for lumbering and hunting, for the mines and the oil fields. The hi-cut model shown assures dry, warm feet in blizzard weather. The ever-soft leather in every model assures perfect comfort always. This new-day shoe is the one all men want.

If your dealer cannot supply you we will see that you are supplied. *Send the coupon for catalog.*

**MICHIGAN SHOEMAKERS**
**Dept. 158 Rockford, Mich.**

Michigan Shoemakers,
Dept. 158, Rockford, Mich.
Please send me name of nearest Wolverine dealer and free catalog.
Name.....
Address.....
P. O. and State.....
My dealer is.....

the surroundings and see that nothing gets into the feed that does not belong there. Give these powders: Two ounces tannic acid and four ounces powdered gentian. Mix and divide into 24 powders. Give one powder in the feed once a day to each cow.

### Kidney Trouble

I have a horse that seems to eat and drink well but his hind parts are weak and he almost falls down when he tries to run. He urinates quite often but not very much at a time and the urine is very yellow. Could it be kidney trouble?—Subscriber.

Yes, the trouble is with the kidneys. Rub in a good liniment over the kidneys and give these powders in the feed: Four ounces nitrate of potash, four ounces bicarbonate of soda, four ounces powdered gentian and one ounce nux vomica. Mix and divide into 16 powders. Give one powder morning and evening for four days then one a day while they last.

### Blood in Milk

I see in the Cultivator a cure for blood in milk. I have a cow that is giving bloody milk and would like to try the remedy suggested, poke root, but the amount is not given. It says a small package at three doses but my druggist has it only in bulk. Will you tell me something more definite as to the amount? Will it dry up the milk and if so will it come again?—Subscriber, Dos Palos.

We are not familiar with the use of poke root as a medicine; that formula was handed in by a friend. Poke root is not given in the list of medicines, but it is not poisonous, so you would be safe in giving half ounce doses. We do not think it will dry up the milk.

### Lumps

Have a milk cow with two hard lumps behind each jaw bone. They are free from the bone itself. Could it be enlarged tonsils or is it probably due to foxtail grass? Would it affect the milk for family use if they are not opened?—Subscriber, Woodlake.

It is hard to tell what causes the lumps. It may be tuberculosis. We would want her tested for tuberculosis before using the milk. We would also advise opening the lumps and cleaning out the contents so it will not absorb and be scattered through the system.

### Extreme Case

Bought a cow in May at a good price, that was giving five gallons of milk, and on the fourth day her udder became inflamed and was covered with large pimples that looked like boils. We used liniment and salve and it got better but again swelled up to three times its normal size. We called a veterinarian who gave her some medicine and told us to rub the udder and bathe it with warm water. The udder has improved but she gives no milk. She has eaten very little and is very thin in flesh. Now she has large lumps just above her hocks that make her very lame. What would you advise doing with her? Would like to fatten her for the butcher as we do not think she will be a good milch cow again.—Subscriber, Merced.

We would not advise trying to do anything with her. We would not like to use the milk or meat from such an animal and it would probably cost as much to fatten her as you would get for her. Better destroy her.

## PLANNING FOR BIG MEETING

Dr. Van Norman has just returned from an extended trip to the dairy countries of Western Europe. He represented the state department at the annual conference of the International Institute of Agriculture, at Rome, Italy, early in May and afterwards visited government officials, scientists, business men and social workers in Italy, Switzerland, France, Belgium, Holland, Denmark, Norway, Sweden, England and Scotland to discuss with them plans for the World's Dairy Congress, which is to be held in one of the leading cities of the United States early in October, 1923. It will be the first international dairy meeting to be held in this country and the most ambitious ever held anywhere. President Harding has invited 150 nations, colonies and commonwealths to send representatives.

## AMERICAN CATTLE FOR EMPTY MEXICAN RANGES

A barometer on Mexican conditions may be the recent strong movements of American cattle across the border at Nuevo Laredo. Approximately 3,200 head destined to the depleted Mexican ranges and empty slaughter houses entered that country in July. Such a large movement of American cattle to Mexico in one month is a record for that point, since the cattle movements in recent years have all been the other way. According to Consul Harry L. Walsh, Nuevo Laredo, the Mexican cattle supply in the country as a whole would seem far below normal, in view of the drain on the ranges for the last five years, with no offsetting breeding or restocking. This understocked condition is further borne out by recent importations of Argentina animals for slaughtering.

## Livestock News Notes

### LIVESTOCK SALE CALENDAR

October 26, C. W. Anderson, Burbank.
November 16, Dispersal, Arthur & Maxfield Holstein Co., Hanford.

The annual meeting of the National Dairy Union will be held at the Hotel Ryan, St. Paul, Minnesota, October 12, 1922, at 11 a. m., for the election of five directors and to transact such other business as may properly come before the meeting. This meeting is to be held in connection with the meeting at the same place and date of the National Creamery Buttermakers' Association, and after the necessary business of the National Dairy Union meeting is transacted, the two organizations will unite in varied and interesting program and join in a banquet in the evening.

The premium list for the second California National Livestock Show at San Francisco is ready and may be obtained from John A. Bunting, secretary, at 402 Merchants National Bank Building, San Francisco. This is a big show for the cattlemen and large prizes are offered.

The Brown Bulb Company of Santa Cruz has sold the Guernsey bull Toreador of Santa Cruz to Gamboni and Van Gordon of Cambria. The calf is out of the same dam as Primrose Third's Lucy who has recently finished a record of approximately 600 pounds fat in class D D.

Jennie Lea Hengerveld, owned by Arthur and Maxfield Holstein Company, Hanford, has completed a record of 33.41 pounds butter from 678 pounds milk in 7 days, after completing a 305 day record of 801.2 pounds butter from 19,118.4 pounds milk at her previous freshening. Her full sister, Matty of Sunnyside, has completed a 365 day record of 931.2 pounds butter from 23,122.8 pounds milk in the same herd. These two splendid producers are full sisters, sired by Arcady Pontiac Wayne Hengerveld, and out of Matty of Riverside, a daughter of Juliana King of Riverside. Both of them are high class as individuals.

Rosamaines Cora Jarie, a senior two year old daughter of Rosamaines Pontiac Netherland, lately completed a record of 22.83 pounds butter from 404.7 pounds milk in 7 days. Her dam, Cora Jarie Pontiac, has records of 976.55 pounds butter from 18,993.8 pounds milk in 365 days as a junior three year old and 33.34 pounds butter in 7 days at 5 years. This good heifer is owned by M. P. Christensen, Norwalk. The great heifer, Eldorado Veeman Segis, also owned by M. P. Christensen, that made 25.48 pounds butter in 7 days as a junior two years old lately made 20.16 pounds butter from 397.7 pounds milk in 7 days eight months after calving, and she is due with her second calf in October.

One hundred and four lads from the various high schools joined in a progressive judging contest held in the San Fernando Valley on Thursday, September 28, as a preparation for the contests to be held at Riverside and Pomona during their respective fairs. G. W. Gordon of the farm bureau and Howard Miller of the chamber of commerce were in charge and were assisted by the agricultural teachers of a number of the schools. The Orcutt, Brant, Craig and Hartsook ranches were visited. Ralph Stokes of Long Beach was first in the contest, Harold Reush of the same school was second and Richard Tatsch of Gardena, third.

Lady Mechthilde Jewel, owned by Pottenger Sanatorium Co., Monrovia, has completed a 365 day record of 979.2 pounds butter from 25,935.7 pounds milk as a senior four year old.

The annual meeting of the California Holstein Friesian Association was held at the state fair grounds, Sacramento, on the evening of September 4. The 15 directors for the coming year were elected as follows: Fred Hartsook, Lankershim; Kenneth W. Abbott, Los Anfieles; R. A. Condee, Chino; Wm. R. Harriman, Hondo; W. J. Higdon, Tulare; Frank M. Helm, Fresno; F. L. Hogue, Modesto; J. M. Campbell, Escalon; Fred W. Kiesel, Sacramento; F. L. Morris, Woodland; DeLancey Lewis, San Jose; E. Swift Train, San Francisco; J. W. Snodgrass, Hueneme; E. N. Brown, Palo Alto, and H. V. Bridgford, Patterson. Officers were elected as follows: W. J. Higdon, president; Fred Hartsook, first vice president; E. N. Brown, second vice president; C L. Hughes, secretary-treasurer. The secretary-treasurer reported the finances of the association in splendid condition, with a balance of $5,567.35 in the treasury. It was voted to duplicate the prizes offered by the California Agricultural Society in the Boys' and Girls' Calf Club classes at California State Fair, beginning with 1923. Every member present pledged himself to secure at least one new member to the association.

The initial shipment of "The California Holstein Breeders' Annual for 1922," a 112-page booklet, and "California Holstein Facts", a 16-page booklet, have arrived and have already been mailed out. The balance of the "Annual" will not be available for about three weeks. Of the "Annual" 4,000 copies were printed and of the "Facts" 5,000 copies, all of which will be mailed free as long as they last.

With an average of $413 per head the Maxwell Farms sale once again demonstrated the strength of the California market for good Holsteins. And even with that substantial sale average there were many great bargains among the tops.


**No More BLACKLEG**

There is no need to suffer losses from this very prevalent disease.

Insist upon your veterinarian employing Fort Dodge Blackleg Aggressin, one dose of which will give immunity for life.

**Fort Dodge Blackleg Aggressin**

It is a scientifically prepared GERM FREE Blackleg Vaccine. It is impossible for our product to set up Blackleg.

It is prepared from tissue juices of calves previously inoculated with the true Blackleg organism.

It has been used for many years by leading veterinarians on many of the foremost herds in the country.

It is produced in our large up-to-date laboratories, under U. S. Bureau of Aminal Industry Inspection. Write for free literature today.

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Fort Dodge, Iowa
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will reduce inflamed, swollen Joints, Sprains, Bruises, Soft Bunches; Heals Boils, Poll Evil, Quittor, Fistula and infected sores quickly as it is a positive antiseptic and germicide. Pleasant to use; does not blister or remove the hair, and you can work the horse. $2.50 per bottle, delivered.
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ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful, Swollen Veins, Wens, Strains, Bruises; stops pain and inflammation. Price $1.25 per bottle at dealers or delivered. Will tell you more if you write. Liberal Trial Bottle for 10c in stamps.
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"*The Laboratory that Knows How*"
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N.B.—Old Style Powder and Pill Vaccines still made for those who prefer them.

**BARREN COWS** are the results of CONTAGIOUS ABORTION

Prevent this by using ABORNO. Easily administered by hypodermic syringe. Kills abortion germs quickly without harming cow. Write for booklet with letters from users and full details of Money-Back Guarantee.

ABORNO LABORATORY
15 Jeff St. Lancaster, Wis.

**New Lamp Burns 94% Air**

**Beats Electric or Gas**

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal-oil).

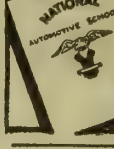
The inventor, W. V. Johnson, 31 N. Fifth St., Portland, Ore., is offering to send a a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help him introduce it. Write him today for full particulars. Also ask him to explain how you can get the agency, and without experience or money make $250 to $500 per month.

**Auto Men Earn Big Pay**

YOU CAN HAVE THAT GRAND AND GLORIOUS feeling when you tear open a fat pay envelope every week and count $40 to $75 in greenbacks. Learn autos. Be a mechanic, electrician, demonstrator, salesman. Good jobs open to trained men now. YOU can learn by National practical shop training. Easy, quick course; use tools, no books. Learn everything under experienced mechanic instructors. Special Advanced Electrical course FREE.

**Big-Pay Jobs Open For You NOW**

Send for wonderful big FREE auto book. Tells of jobs open to National trained men. How to start in business yourself. How you can earn room and board, and a little more, while learning. Tells everything about National, the oldest and biggest school. Send for this wonderful 72-pg. illus. book. Write today.

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Los Angeles, Cal.
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**REGISTERED HOLSTEINS**

"Sons from Worthy Dams" for future herd sires in Holstein herds, for sale at all times. We have developed 17 cows with records from 1000 lb. up to 1448 lb. butter and their offspring are show ring winners. Herd under Federal supervision. Write us your needs.

1058 Stuart Building
Seattle, Wash.

Carnation Stock Farms

One of the most remarkable production records ever made in California was disclosed in the Maxwell sale by the heifer Rosamaines Dora Netherland. She calved at 2 years 1 month and in 365 days made 1,002.8 pounds butter from 21,770.4 pounds milk, making her the second 1,000 pound junior two year old in California. The remarkable thing about her record is the fact that her test period was started 60 days after calving. In other words, this great heifer made over 1,000 pounds butter in the last 12 months of a 14 month lactation at first calving. She is an intensely line bred heifer, being by a son and out of a daughter of King Potiac Netherland Segis 3d, while her second dam is a daughter of King Pontiac Netherland Segis, sire of King Pontiac Netherland Segis 3d. She topped the sale, going to Fred Hartsook at $1,600.

Although King Segis Alcartra Prilly was absent from the show ring at California state fair this year, his name was frequently heard around the ring side, and especially after the grand championship award had been placed upon the great young sire, Prince Aaggie of Berylwood, owned by Berylwood Stock Farm, Hueneme, for the new champion is a 100 per cent brother to the sire of King Mead Colantha Prilly, the splendid youngster Bridgford Holstein Co. now have in service on the daughters of King Segis Alcartra Prilly.

Owing to interrupted freight service which has delayed the complete transfer of the E. C. Schroeder herd from Minnesota to California, the public sale scheduled for C. W. Anderson, Burbank, on October 26, has been indefinitely postponed.

Because it conflicted with Kings County "Pork Day", the dispersal sale of the good Arthur & Maxfield Holstein Company herd of registered Holsteins has been set back one day and will be held on November 15. This herd is one of the choice collections sold this year, including a number of high yearly record cows, a 33 pound show cow and others with excellent records.

M. A. and B. A. Edwards, Escalon, recently completed a record of 832.2 pounds butter from 19,521.6 pounds milk on the nine year old cow, Kabo of Linwood. In the same herd the junior four year old Mechthilde Aralia Walker made 589.87 pounds butter from 14,138.3 pounds milk and the first calf senior two year old Durasia Pontiac Torchlight made 509.70 pounds butter from 9,902.3 pounds milk in 305 days.

Segis Pontiac Charlotte De Kol, a senior two-year-old daughter of Segis Pontiac De Kol Burke, owned by F. F. Pellissier, Whittier, lately made 18.42 pounds butter from 458 pounds milk eight and one-half months after calving. This is the highest milk record in this class and division of which we have record in California.

With a class of 18 aged cows at California state fair this year, five of them with records above 1,000 pounds butter in one year and a number of others with very large records, the public was given a view of combined type and production such as has never before graced a show ring in California, and possibly nowhere else.

Members are reminded that it is time to think about the top animals for the 1923 Guaranty Sale, which will be held at Tulare. The committee always gives preferences to the good ones that are heavy with calf.

# Winners in Southern California Egg Laying Contest

The Southern California farm bureau egg laying contest which has been conducted at Pomona for the year beginning October 1, 1921, has just closed, showing exceedingly keen competition and very good production right through. Birds have not been forced in the slightest, but have been subjected to conditions which might be found on the good commercial poultry ranch. No lights have been used at any time during the year and the ration has not been a forcing one. By this policy it was proposed to give the birds every opportunity to make good production and yet be in good condition at the end of the year so that the owners might take them home and use them with good success for breeding purposes. The results obtained and the condition of the birds at this time show that the directors were justified in their policy as the birds are finishing the year's work with very creditable records and in excellent condition. It must also be remembered in considering these records that at the beginning of the contest extremely unfavorable weather conditions were encountered which threw practically every bird in the contest into a molt and resulted in very low production in the first three months of the contest, in fact, some birds did not lay at all until after January 1. In spite of this setback the birds have been improved in condition and have come through the latter part of the year exceedingly well.

The second year's contest is under way with every indication that far better results will be obtained than on this yast year's work. The winners for this past year are:

Highest Pen (10 birds)—1, Geo. C. England, Inglewood; 2, M. L. Frick, Los Angeles; 3, E. E. Rogers, El Cajon.

Highest Individual—1, E. E. Eisenberg, Riverside, 274 eggs; 2, Geo. C. England, Inglewood, 261 eggs; 3, M. A. Schofield, Gardena, 260 eggs.

In the hen contest, beginning October 1, there have been entered 39 White Leghorns, 1 Ancona, 4 Rhode Island Reds, 2 Light Brahmas, 1 Barred Rock.

The Rhode Island Red pens entered are from the flocks of Ferd Heying, Anaheim, and M. & M. Ranch, Van Nuys, Buechner & Ridley, San Diego; C. W. Norton, Pomona, and Alvin E. Bloch, Costa Mesa, are offering Ancona pens.

The White Leghorn entries are as follows:

L. G. Wiley, Van Nuys; Moses L. Frick, Los Angeles; J. L. Miller, La Verne; Fliniau & Furstenfeld, Van Nuys; W. E. Gainsley, Torrance; F. R. Richardson, San Gabriel; Bonnie Brae Farm, Burbank; Thomas J. H. McKnight, Chula Vista; Will S. Hatch, Tustin; Hoover Brothers, Pomona; J. D. Zimmerman, San Gabriel; R. A. Whitaker, Lakeside; F. M. Molby, Los Angeles; California Leghorn Breeders, Inc., Lemon Grove; Mrs. Mary B. Suits, Riverside; Edward E. Eisenberg, Riverside; R. C. Gibson, Newhall; B. S. Smallwood, Upland; James R. Scott, Chula Vista; M. L. Stahl, Claremont; Fontana Farms Company, Fontana; A. L. Swinton, Van Nuys; Longacres, Baldwin Park; Bellows Egg Ranch, Lakeside; George B. Wilken, La Mesa; Charles Hudson & Son, Escondido; E. E. Rogers, El Cajon; Mrs. Pearl Wilcox, Ramona; George C. England, Inglewood; Blackford & Mumford, Los Angeles; Charles G. Weaver, Los Angeles; A. M. Harrison, Van Nuys; Mrs. V. Crow, San Diego; Mrs. Mary Eads, San Gabriel; J. J. Forbrick, Arcadia; D. A. Didricksen, Arcadia; Baake Brothers, Highland; S. H. Park, Pomona; L. G. Hack, Pasadena; H. M. Stone, Gardena; W. H. Young, Downey; W. A. Evans, Sierra Madre, and M. A. Schofield, Gardena.

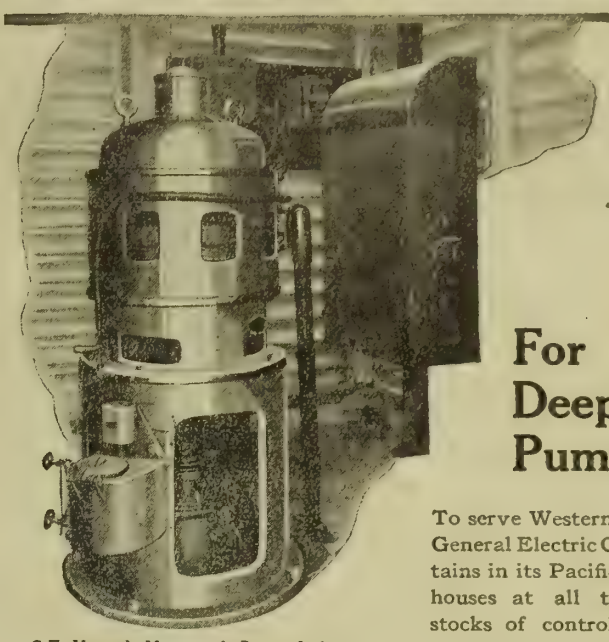
### MAKE IT TWO

Did you eat your half an egg this morning? According to the United States department of agriculture the per capita consumption of eggs in the United States is one-half an egg a day.

The department suggests that everyone not only get his full share of eggs but eat the whole egg. Eggs are comparatively cheap just now. More eggs have been laid this year than ever before. The total runs up to something like 22 billions, an increase of ten per cent since the armistice.

The Cultivator suggests: "Make it two."


G-E VERTICAL MOTORS



G-E Vertical Motor and Byron Jackson Turbine Pump recently installed at Stockton, California.

A few of the many California organizations and farmers using G-E Vertical Motors are listed.

Kirkman Nursuries, Inc., Madera
Block Fruit Co., Santa Clara
The University Farm, Davis
Martin Reuscher, Lodi
Peter M. Bondeson, Salinas
Anaheim Union Water Co., Anaheim
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For Deep-Well Pumping

To serve Western Farmers the General Electric Company maintains in its Pacific Coast Warehouses at all times complete stocks of control and vertical motors, in sizes ranging from 7½ to 100 h.p. G-E Motors, control, conduit, etc., are of the most improved design and are successfully meeting severe service on the numerous farms where they have been installed.

Names of additional users in your immediate locality sent on request.

General Electric Company
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Rocky Mountain Offices: Denver, Colorado; Salt Lake City, Utah

Quality's trademark

—on every bag! It took 51 years to build the confidence that this trade-mark represents.

Germain's Golden West Hairy Peruvian Alfalfa

Ranks FIRST in purity and germination. Official tests by State Department of Agriculture show practically 100% purity, and better than 90% germination. The fact that we introduced Hairy Peruvian Alfalfa commercially to the Southwest is proof that we KNOW alfalfa.

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*Dividend checks from the American Telephone and Telegraph Company are received quarterly by more than 200,000 telephone users.*

# Owned by those it serves

Less than fifty years ago an application was made for a patent which created the possibility of speech between distant points. It was the culmination of years of study, research and experiment. It suggested a new aid in commerce and domestic life; a new tie to bind the people together. But it was only a suggestion—a dream.

To make that dream come true required the creation of an organization unlike any other. It demanded a kind of scientific knowledge that was yet to be formulated, as well as a type of equipment still to be devised. And it necessitated the financial and moral support of many communities.

Out of this situation grew the Bell System, bringing not only a new public service, but a new democracy of public service ownership—a democracy that now has more than 200,000 stockholders—a partnership of the rank and file who use telephone service and the rank and file employed in that service. The American Telephone and Telegraph Company exists to serve the people and is owned directly by the people—controlled not by one, but controlled by all.

Evolution is going on. Each year the ownership is more widespread. Each year the various processes of the service are performed more efficiently and economically. Each year new lines and extensions are constructed. The responsibility of the management is to provide the best possible telephone service at the lowest possible cost and to provide new facilities with the growth of demand. To do these things requires equipment, men and money.

The rates must furnish a net return sufficient to induce you to become a stockholder, or to retain your stock if you already are one; after paying wages sufficient to attract and retain capable men and women in the service. They must adequately support and extend the structure of communication.

These are considerations for the interest of all—public, stockholders, employees.

"BELL SYSTEM"
AMERICAN TELEPHONE AND TELEGRAPH COMPANY
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*One Policy, One System, Universal Service, and all directed toward Better Service*



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Continuous HIGH PRESSURE spells Success. The OSPRAYMO Sprayers guarantee thorough agitation of mixtures, and have Automatic BRUSHES for keeping suction pipes clean. No expensive delays with the OSPRAYMO.

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*The Yellow Jacket Sprayer at work*

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HIGH PRESSURE GUARANTEED
Insist on this Trade-Mark

FIELD FORCE PUMP CO. The Leader "OSPRAYMO" LINE OF SPRAYERS ELMIRA, N.Y.

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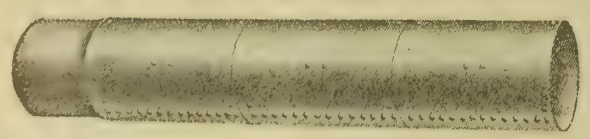
# Tanks, Well Casing, Water Pipe



American Steel Pipe Tank Co. P.E. Bldg., Los Angeles


THIS MONTH

(Continued from Page 357)

and Black Spanish in rows 18 inches apart in rich soil.

**Onions**

An early sowing of California Red, White Bermuda and Pearl may be made this month on richly prepared soil in rows two feet apart. This plot must be well manured and soot or wood ashes dug in are very beneficial.

**Berries**

The strawberry plot should be given attention and manure applied to establish plants. New plots may be planted in rows two or three feet apart. Brandywine, Banner, Marshall and Everbearing are the best to grow.

## Southern California

By D. F. Reichard

THERE is much to do about the garden during this month. All your growing stuff and recently planted seeds must be watched closely to see that they do not want for moisture. This time of the year is the most trying to keep sufficient moisture in the soil on account of evaporation. Cultivate as soon as possible after irrigating to keep the ground from baking and the moisture from evaporating.

Clean up what is left of the past summer's growth. Burn all infected plants, the others put into the compost pile or turn into the soil. The more of this litter that can be put into the soil the better your land will be. We cannot expect to keep taking stuff from the land without putting something back. Besides the roughage accummulated about the garden there should be added during the fall months fresh barnyard manure. This should be strewn over the ground to be leached in by the early winter rains and later be turned under.

On growing plants where these manures can not be worked in at this time of the year an application of high grade fertilizer is very desirable and will give your plants the desired growth. In planting one's garden the space should be so arranged as to give it roughage once in two years.

Plantings during this month will consist of the more hardy vegetables. Sow seeds of beets, carrots, cabbage and cauliflower, Swiss chard, endive, chicory, New York, or Los Angeles Market lettuce, leeks, parsnip, radish, turnip, winter spinach, peas, Laxtonian for a quick crop and Stratagem or Senators for a little later. In protected foothill sections put in Canadian Wonder beans. It is too late now for pole beans, melons, squash or cucumbers. October is one of the best months to put out garlic and onion sets. Put out plants of cabbage, cauliflower, lettuce and kale.

Store your mature winter squash and pie pumpkins as an early frost may do them some harm. Sweet potatoes should be dug and stored. Take them up carefully so as not to scratch or bruise them. Pack the perfect potatoes in dry sand or wrap in newspapers and store in a cool, dry place.

## Southern Arizona

By M. E. Bemis

OCTOBER is a more favorable month for planting vegetables than either of the two preceding months, for germination of the smaller seeds is more easily accomplished and there is also less danger from insects. Grasshoppers always take their toll of young plants at this season of the year. One gardener reports that he has sustained considerable damage from crickets this season. The early plants from seed planted in September will have a start that will place them far ahead of those planted in October, but the October gardener has the satisfaction of being more confident of securing a perfect stand of plants

A list of plantable things for October is very similar to that of September except that beans are off the list until next spring Beets, carrots, lettuce, parsley, peas, radishes and turnips may be planted now Most of these can be planted also at any time through the winter Thorough preparation of the seed bed will pay good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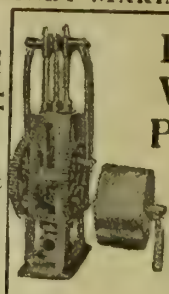

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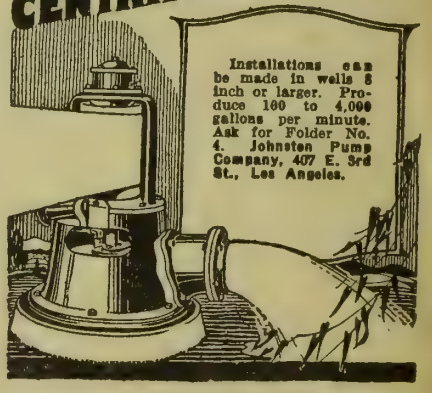

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Now is the time to put out cabbage plants and cauliflower Possibly for the home gardener it might still be safe to plant cauliflower and cabbage in the garden where they are to remain, thus avoiding the setback of transplanting. However, it is much better this late in the season to purchase the plants.

Cauliflower should be set in rows 24 inches apart and 14 inches apart in the row. The Henderson Early Snowball and Large Pearl have done well in this section. At least one American grower reports some very excellent results from growing cauliflower.

Cabbage should be set out at this time. The small headed varieties or the Early Winningstadt and the Jersey Wakefield, Copenhagen Market and Danish Ballhead are all good round headed varieties. Cabbage should be planted in rows three feet apart and 18 inches apart in row. Cabbage is a plant which should be thoroughly cultivated. Some growers claim that the secret of good cabbage is continuous cultivation.

There is plenty of time to plant lettuce for home garden or for late marketing. In fact lettuce can be planted any time until spring. Most of the market crop for shipping is planted early.

Spinach also may be planted in October. This is one of those crops which does exceedingly well in the Salt River Valley and is worthy of more attention than is commonly given to it.

Both onion seed and onion sets are in order for October plantings. The late variety of garden peas may also be planted. Peas planted now should have a chance to develop a good system which will carry them over nicely through the winter and enable them to make a good vigorous start when the warmer days in February and March enhance th growth of plants.

Earnest effort has been made throughout the Salt River Valley to make September a cleanup month. Those who have cleaned out chicken houses and yards, have cut the weeds and done away with the rubbish, will find if they utilize the fertilizer from the chicken yards on the odd corners where weeds have grown and prepared this for gardening purposes, they at least have a beginning for a most excellent winter garden.

Winter gardening in southern Arizona has all the pleasures of gardening in any part of the country and less of the disadvantages attendant to most places because there is a smaller growth of weeds and less trouble from insects than in the warmer parts of the year. The satisfaction of having fresh vegetables, to say nothing of the economic side of the matter, should be the inducement for a greatly increased acreage of winter gardens.

## WHAT IS THE BEST PEAR STOCK?

(Continued from Page 357)

that Mr. Coates makes no statement that he is not absolutely sure of and would conform with the best knowledge we have today on pear stocks.

Some very strong statements have been made recently regarding the immunity of some particular pear stock to gummosis or pear blight, particularly in regard to the so-called usuriensis. In Mr. Coates' article he has very clearly shown the weakness of this usuriensis and the variation of the different types of seedlings, and we shall all wait with interest his experiments in Lake County. In this connection I might point out here that there would be no such variation in the Angier quince stock, as these root stocks are grown from cuttings and I believe that pears, grown on the quince stock, are less susceptible to blight than any other stock has proven to be up to the present.

Mr. Coates has certainly not exaggerated the productive qualities of the pear on quince; as we have approximately 120 varieties of pear in bearing on quince root. In size and quality of fruit, as well as quantity production, in proportion to the size of the trees, I do not believe that they can be equalled.

In statements made to the public I think we should all be very careful that we do not lead them to believe that any particular stock has as yet proven its immunity to blight, as it would take years of experimenting to prove any stock immune.

Mr. Coates' article is so clear that I do not believe it necessary to add anything to it.

* * *

By J. E. Bergtholdt

Mr. Coates has covered the ground very ably. Supplementally, however, I would state that Mr. Coates' observation of the performance of the Japanese pear, or calleryana, was mainly under coast valley conditions where much of the soil is very heavy and waterlogged.

While it is true that the French pear will endure more moisture than the Japanese, and that for the heavy black lands of the coast valleys the French is to be preferred to the Jap as a root stock, yet in our interior valleys and foothills we find little difficulty with the Japanese root with wet feet. On the average it will endure any location adapted to Myrobolan plum root, though sometimes in the interior there are some locations of such slow drainage that the French is to be preferred.

The Japanese root stock is practically blight resistant, is less inclined to sucker, than the French, in orchard, and as such should be given some preference where a resistant stock is desired.

The blight resistance of the usuriensis, (from which seeds are commercially available) as a root stock has been very much overrated, though it is true that some individual trees of usuriensis have been discovered that were blight resistant.

As Mr. Coates, however, has pointed out, it will be impossible to make any dependable seeds from these individual specimens commercially available, in any event not for a great many years.

These individual specimens, however, could be multiplied by propagation, and the product of this propagation could be used as a blight resistant medium between the root stock and the fruiting variety double-worked upon it.

Theoretically that looks fine, practically, however, it is of small benefit. For the double working to be of greatest efficiency it would have to be done into the third branches, or approximately the fourth year, which would occasion a loss of at least two years in bringing your orchard into bearing.

About one in ten average tree planters would do this top-working successfully.

Under a severe blight attack even your top-worked tree would be subject to a loss of its top and would require a period of at least four years to restore a new top from the resistant branches.

In practical orcharding the double-worked tree will never solve the blight problem. The best safeguard against blight is intelligent, diligent, persevering cutting.

## BEANS ARE NITROGEN GATHERERS

Reading an article in a recent issue of the Cultivator regarding the ability of beans to store nitrogen in the soil and headed by "The facts are these," it seems to me the writer has jumped at conclusions. This is a matter to be threshed out in an unprejudiced way. Most of us are always ready to learn something and sometimes a friendly argument helps to clear matters up. I think there are too many farmers who fail to appreciate the good work the agriculture department has done for us whether they be high brows or whatever you are minded to call them. It is common knowledge among Lima bean growers that where land has been in hay for a number of years that beans won't yield nearly as much the first year as the year following. This does not prove, however, that beans would do well on any kind of soil farmed continuously for an indefinite period, although I have seen ground which has grown Limas for over 20 years with no fall off in the yield. With the small bean in this locality (Arroyo Grande) they claim the soil is losing its fertility and most farmers plant hay one year and beans the next. Small beans for some reason seem to be harder on the soil than the Lima. The fact that beans have given a lower yield the past few years does not prove conclusively the land is wearing out. It must be remembered the rainfall for the last five years has been short with the exception of the present year and a full yield could not be expected under dry farming conditions. Climatic conditions are a great factor in the yield of beans and I have heard lots of complaint from the Lima district of beans taking second growth when this occurs. There is no question that beans are heavy users of nitrogen, but this does not disprove the fact that they add nitrogen to the soil. This is pretty well demonstrated by following beans with hay. As I see it our scientists would have nothing to gain by misleading us and would have to be shown your statements to be truths before giving them to the public. If the remedy is simple and inexpensive we farmers are waiting to hear it.—F. P. Thoms, Arroyo Grande.

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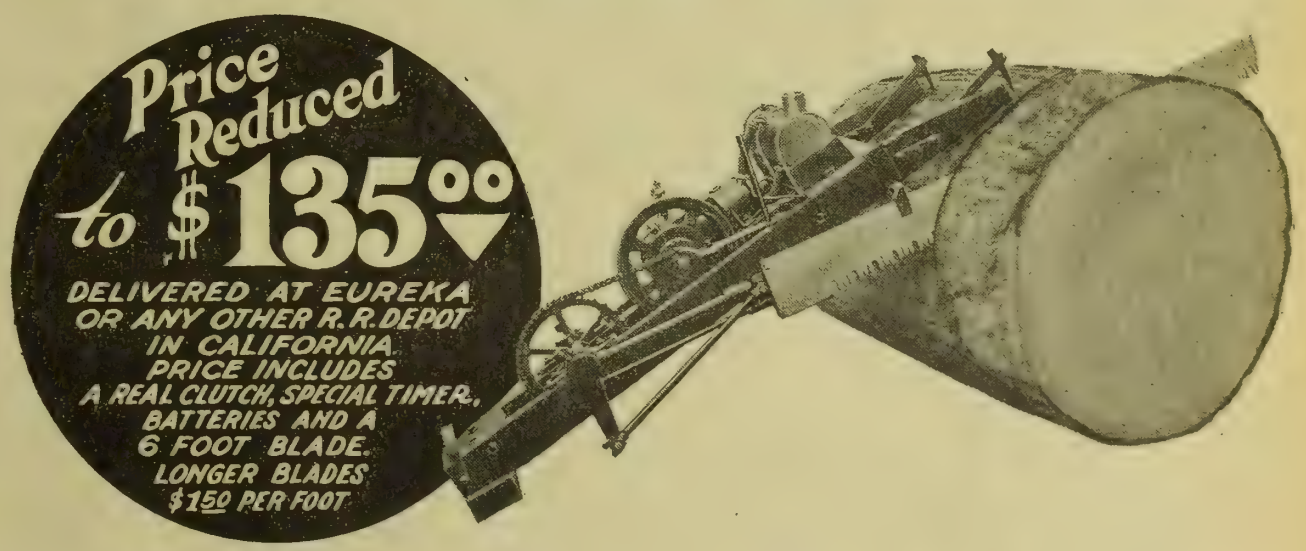
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**For Sale**—Guinea Pigs. Females, 75c, males 50c. Mrs. Albert Stone, Route 1, Box 195, Escalon, Cal.

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## SUBSOILING AND DEEP IRRIGATION

(Continued from Page 355.)

in a place without danger to the rooting system, depending somewhat on the nature of the soil, and I suppose, previous mode of cultivation.

Let me say that I have been following that line of procedure with gratifying results. For instance, previous to my irrigation the early part of August, I subsoiled at an average depth of about 18 inches twice in a place crosswise (trees 22 by 24 feet) and only furrowed lengthwise.

I found after irrigation that the subsoiled places were practically all wet thoroughly in the tree row, from furrow to furrow, even where they looked on the surface to be dry.

Prior to the early September irrigation I cross-furrowed, then subsoiled twice in a space lengthwise, and furrowed lengthwise four furrows, letting the two outside furrows run in the subsoiled places, making these very deep.

It was remarkable how the water went down in those subsoiled furrows, and, as Mr. Lehr stated, the water went down and left the surface mulch more or less dry. This makes the cultivation much more satisfactory, and my trees in spite of the late extremely hot weather are looking bright and fine and the soil seems to be retaining the moisture very satisfactorily. I cultivate about eight inches deep.

* * *

### J. M. Cook, Anaheim

I have read the article in your paper on subsoiling and deep irrigation, which has been discussed by several. I would suggest that the Visalia man try only subsoiling in center of his rows of trees, not often, but about twice a year, as he will cut more or less feeder roots at each time to get his water down below surface. Run a lister 10 or 12 inches deep, according to the root system, not cutting anything larger than lead pencil size, once, twice or three times in row, one way, according to width of trees, filling each lister furrow with bean straw, alfalfa straw or anything that will bring decayed vegetation, running water directly through bean straw, then covering with turning plow. This method will form a sponge of decayed vegetation to absorb mixture and hold it. This will also coax new feeder roots. The humus will break up hardpan. I know of several farmers using this method. Some use manure. I would not suggest manure buried in this way as it would burn feeders if enough was used to make proper bed of humus. On the Henry Wagner place in Anaheim he is using flake against flake of bean straw, three rows of which he puts in each row, from two to three bales to a tree—about 10 year old trees.

## PRESERVATION OF GRAPE JUICE

(Continued from Page 358.)

and sound grapes a temperature of 60 degrees Fahrenheit will be necessary to use one and one-half pounds of potassium metabisulphite per one hundred gallons of juice. Under very favorable conditions one pound would be sufficient. The corresponding amounts of 6 per cent sulphurous acid solution are one and one-half gallons and one-gallon respectively.

If the grapes are mouldy and if the containers are not sterile, it may be necessary to use two pounds of metabisulphite per one hundred gallons or two gallons of the 6 per cent sulphurous acid solution.

Any of the chemical supply houses in San Francisco or Los Angeles can furnish the above chemicals.

When it is desired to use this juice for beverage purposes it will be necessary to expel the sulphurous acid from it. This can be most conveniently done by heating the juice in an open wooden vat with an aluminum or tin steam coil to 165 degrees Fahrenheit and at the same time passing through the juice a vigorous stream of air until the juice loses the sulphur taste and regains its red color. It should then be heated to 180 degrees Fahrenheit and sealed in sterilized barrels, as directed above for barreling of juice. Such juices should not be placed in tin cans, because it will attack them. It can be bottled and pasteurized as directed above for bottling.

### Pasteurization by Storage

Juice prepared as directed for canning can be held in breweries or in other suitably equipped plants indefinitely at a temperature of 150 degree Fahrenheit. The juice should not be treated with sulphurous acid. It should however, be cooled as soon after pressing as possible by means of milk coolers, or the cooling machines installed in all big breweries, to a temperature of about 32 degrees Fahrenheit. The juice should then be run into storage

(Continued on Page 383.)

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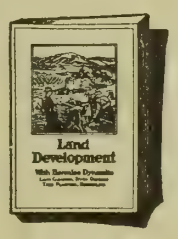


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It is absolutely necessary for one to see this place to even in a small way appreciate it.

Drive east on Main street of Escondido and follow the arrows to the YORK RANCH, or apply at the Kinema Sweet Shop, Escondido, for directions. Any further information you may desire can be obtained from the Auctioneers.

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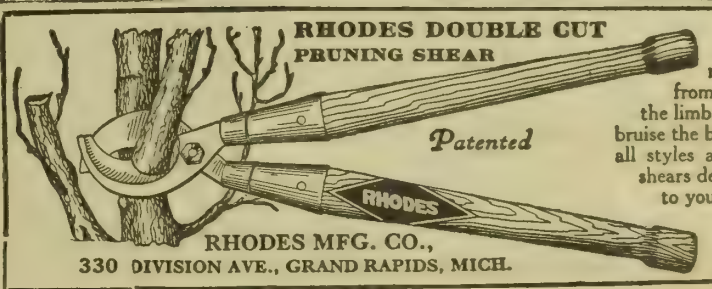


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# Breed and Broodiness

By Jean A. Koethen

IF broodiness could once for all be bred out of every hen of every breed it would mean an immense increase in egg production, for broodiness is the one worst enemy of production. A hen that goes broody every month or so, taking two weeks or more to get back on the job, can never be an efficient or profitable layer. The Mediterranean breeds are classified as non-sitters, and yet in many White Leghorn flocks broodiness is a problem, and few Leghorn commercial flocks are without their jails or broody coops.

Control of broodiness in White Leghorn flocks is a comparatively simple matter because the tendency of this breed is away from motherhood, and the broody is or ought to be an exception. The keeper of Leghorns has only to band every broody one and keep them out of the breeding pen, for like produces like, and it is breeding from broodies that keeps broodiness in a flock.

It is with the heavier breeds that broodiness becomes a real problem. Some broodiness must be allowed. The question is, how may it be reduced to its lowest terms, how kept within such bounds that it is a virtue rather than a fault.

### Don't Change Breed

Only recently a letter came to this office asking about the merits of a comparatively new breed and complaining of the extreme broodiness of a certain popular breed. That letter represents an idea that has prevailed more or less since poultry breeding began, i. e., that broodiness is a fault to which certain breeds are more addicted than others and that the only way to get rid of it is to change to another breed.

The truth is, broodiness is a characteristic of strain rather than of breed. Some strains of Leghorns are quite inclined to broodiness, and some strains of Plymouth Rocks and R. I. Reds quite free from it. Generally speaking, birds of Asiatic blood and breeds into which Asiatic blood has been mixed are more inclined to broodiness than others. The Cochin, for example, is a great sitter, and the Orpington, particularly the Buff Orpington, which has a good deal of Cochin blood, follows its example. The Light Brahma, which is also Asiatic, is, as far as my own experience goes, less broody than the Orpington, but it is never safe to generalize because broodiness is so very largely a matter of breeding. Some strains of R. I. Reds are now advertised as practically non-sitters because careful breeding has so nearly eliminated broodiness.

The ideal hen is a bird that lays an egg every day or oftener, hatches and rears a family once a year and makes a good potpie when her laying days are over. If hens of the heavy breeds could be brought to the point where they would go broody only when mothers are desired and would lay steadily the rest of the time they would give the little White Leghorn, splendid hen that she is, a run for her money. The public likes a hen that is good for every purpose, and the man who develops such a breed will find his fortune made. Meantime let us all do what we can to get rid of broodiness in the hens we have and not go hunting for something better.

### Breeding Out Broodiness

All breeding is a matter of selection. When we breed from the very best we have we shall find some of the offspring better than the parents and some not so good. The majority will be no better, but there may be here and there one that is better. It is these better birds that must be successively used as breeders, to the exclusion of everything of inferior quality, till the ideal is reached.

Step by step lifts bad to good,
Without halting, without rest,
Lifting better up to best.

Obviously the first step in breeding out broodiness is to know which hens go broody once in a season, which more than once, and which never go broody at all. To this end every hen that goes broody should be banded. If she goes broody a second time, band her again. This is some trouble in a large flock of the broody varieties, but the end justifies the trouble.

At culling time, if there are not too many of them, the hens that have gone broody more than two or three times may be sent to market. I say "may," because there can be no fixed rule in such matters. It depends on how large the flock and how great the number of broodies. Still, I think a man who in September found that the majority of his hens had gone broody three times since January would probably do better to let them all go or to eat them. At any rate, whether he decides to try them for another year or to get rid of them, the one thing he must not do is to use them as breeders. If there is a single hen that has not gone broody she must be used for breeding cockerels. Other hens that are only moderately broody may be used for general breeding but the mothers of breeding cockerels must be non-sitters if any are to be had.

Using the best hens as mothers will never breed out broodiness unless the sires are from non-sitting mothers. This is the crux of the whole matter. Mate your non-sitting hen to the son of a real broody hen and the offspring will be more broody than the mother. Both fecundity and broodiness, which is its antipode, are passed from mother to son and from him to the grand daughters, rather than from mother to daughter, hence the extreme importance of breeding cockerels from the non-sitting hen.

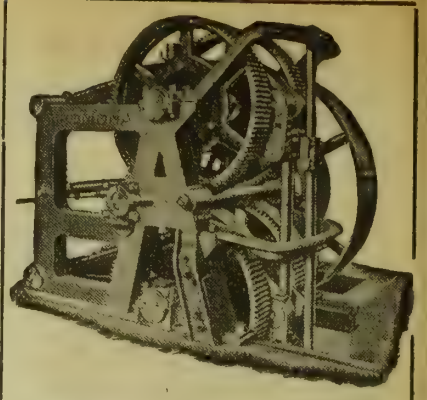
It may not be possible to save a whole setting of eggs from a single hen, but it will be worth while to set only a half dozen on the chance of getting the right sort of breeding cockerel. To avoid wasting the sitting hen's time and also prevent getting the chicks mixed eggs of some other breed may be put with those from the special hen. The chicks of this mating should be banded as soon as they are allowed to run with the flock so that they may always be known. With cockerels of known pedigree mated to hens that have been marked as nearly non-sitters, the breeder has reason to expect considerably diminished broodiness in the offspring.

## NEW YORK MANAGER WILL VISIT PRODUCERS

E. W. Benjamin, manager of the New York plant of the Pacific Egg Producers, will soon visit the Pacific Coast to familiarize himself with methods of egg production, packing and handling. He will visit Washington and Oregon as well as California and meetings have been arranged so that members may have opportunity of meeting him. The Poultry Producers of Central California expect to arrange meetings in the following districts, dates to be announced later: Petaluma, Penngrove and Cotati, Santa Rosa, Bellevue and Sonoma, Sebastopol and Hessel, Novato, Hayward, Santa Cruz, Modesto, Napa, Rio Linda.

## SHIFTING FROM YARD TO YARD

It will not be found necessary to move the poultry from one yard to the other at frequent intervals. Probably once in two or three months will be about right. In the meantime one or two cuttings of green feed can be made from the yard being renovated. It is not claimed that all of the parasites can be destroyed by this method, but apparently a great portion of them are thus disposed of, possibly 90 per cent. This will at least enable the hen to keep in a thrifty condition and will relieve the strain on her vitality. It usually pays to use tobacco dust or some other vermifuge just before switching the hens from the old yard to the new one. Strange to say, the hens will fall off in egg production for a few days, but very shortly will have regained the loss and are all the better off for the change.



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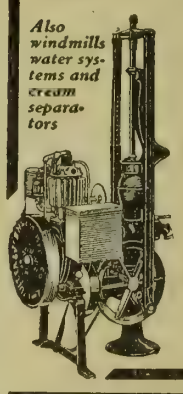

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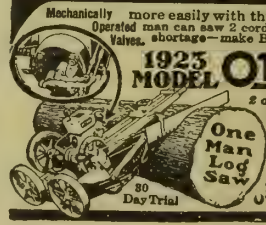

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# Poultry Queries

(Conducted by Jean A. Koethen)

### Roup in Turkeys

"I read in the last issue of the Cultivator of one wishing to know how to cure turkeys of roup," writes J. E. Annand of Willows. "I have tried many things but the best and quickest is to open the swollen place under the eye and insert a small piece of bluestone about the size of a pea. If this is done before the disease has gone too far one treatment will cure."

### Eats Own Feet

We have a turkey hen that persists in literally eating her own feet. It is not for lack of meat or greens. She has been closely confined for a year but we are now in the country. She does not exercise much nor act as a healthy turkey should.—Subscriber, Dinuba.

Idleness, which includes lack of exercise, would seem to be at the bottom of this hen's queer behavior. Turkeys, even more than chickens, need to be kept occupied. This is one reason why range for at least a part of the day is so essential. You mention but one turkey. If she is alone that also would account for her unhealthy condition. Turkeys are more like children than any bird or animal with which I am acquainted. They must have company, and company of their own kind. A young turkey left alone will always droop and die.

### SOIL SANITATION

Many have had the pleasure of listening to Professor Phillips who spoke at Pomona and Professor Rice who spoke at Los Angeles later. Both of them pointed out very definitely that the poultrymen of California must give special heed to the danger which comes from a lack of sanitation, or as we sometimes say, soil contamination. It seems to us that as a further step toward perfecting a system of renovation for our poultry runs, the double yard system gives the most promise. There are poultry ranches in California where it appeared that poultry farming must be abandoned owing to the losses due to parasites and the general decline in health of the flock. After putting in effect an improved method of sanitation including the double yard system, the profits on several of these poultry ranches proved greater than at first. These instances encourage us to believe that with care the soil may be renovated with success covering a period of years. So far as detail is concerned many different plans will suggest themselves to the reader of this article, the fundamental idea being that the yards should be broken up and exposed to the air and sun by cultivation and that some kind of crop be planted which will tend to exhaust the organic matter found in the yards. If we use a plant which is a strong feeder, such as Sudan grass, for example, during our summer months, so much the better. Probably barley sown to be cut green later on will be the best plant to use in renovating our yards during the winter months.

So important a position does soil sanitation occupy in modern poultry culture that when any epidemic or threatened attack of disease is noted it is a safe proposition first of all to make a special effort to clean up; sweep and scrape the yards, especially near the buildings; disinfect the drinking fountains. If the litter in the house is at all foul replace with new. —Cooperative Poultryman.

### COMING EVENTS

(Corrections and Additions Requested.)

**Short Courses,** Davis, October 2-February 15: General Agriculture, October 2-November 10. Poultry Husbandry, October 2-November 10. Deciduous Fruits, December 4-9. Dairy Manufacturers' Short Courses: Buttermakers and Creamery Managers, February 5-15. Cheesemakers, February 5-15. Milk Plant Operators, February 5-15. Ice Cream Making, February 5-15.

Berkeley, November 13-February 8: Conference Pear Growers, Prune Growers and Apricot Growers, November 13-15. Fruit Products Conference, November 16. Canners, January 2-6, 1923. Land Settlement, February 4-8, 1923.

**Pork Day,** Turlock, October 11.

**Los Angeles County Fair,** Pomona, October, 17-21.

**Southern California Fair,** Riverside, October 10-16.

**San Francisco Livestock Show,** October 18-22.

**California Horsebreeders Association,** Los Angeles, October 18-22.

**International Festival of Dates,** Indio, October 18-22.

**Pork Day,** Fresno, October 20.

**California Industries Exposition,** San Francisco, October 27-28.

**Yucaipa Apple Festival,** Yucaipa, November 9-12.

**Pacific Slope Dairy Products Show,** Fresno, November 13-18.

**Pork Day,** Hanford, November 16.

**Fruit Show,** University of California, Berkeley, November 16-18.

**Valley Citrus Fair,** Visalia, November 26-December 2.

**Orange and Olive Festival,** Oroville, November 28-December 2.

**First National Walnut Exposition,** Santa Ana, December 4-9.

COAST AND GENERAL

**Arizona State Fair,** Phoenix, October 30-November 4.

**Pacific International Livestock Show,** Portland, November 5-12.

**Northwest Fruit Growers Exposition,** Seattle, November 11-19.

### TEHAMA FARM BUREAU MEETINGS

Regular meetings of the centers of the Tehama County farm bureau will be held at Dairyville, October 9, Antelope, 11; Oak Park, 13; El Camino, 16; Red Bank, 18; Bend, 20; Richfield, 23; Stanford, 25; Flournoy, 27; Bowman, 28. Directors meeting October 21 at 9 a. m. in Red Bluff.

The county agent will be absent from the county October 19 to 21, accompanying the winners in boys and girls clubs to the annual club convention at Davis; also, October 23 and 24, in attendance at a regional conference of farm advisers at Davis.

Farm home department meetings: Antelope, 10; Corning, 11; Oak Park, 12; Henleyville, 13; Vina, 17; Richfield, 18; Dairyville, 19; Capay, 20; Bowman, 24; Squaw Hill, 25; Flournoy, 26; Reeds Creek, 27.

DEEP WELL TURBINES

Built in all Sizes and Capacities Arranged for Belt drive or Direct connection Smallest size Will go in a Six inch well And has a Capacity as High as 150 Gallons per minute—next size will go in 8 inch well capacity up to 400 gallons. We also arrange these small turbines for automatic operation in connection with pressure tanks, etc.

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Los Angeles Agents
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That's quality in gasoline.

Use "Red Crown" and *nothing else,* and your car will develop the maximum power that its makers designed it to give.

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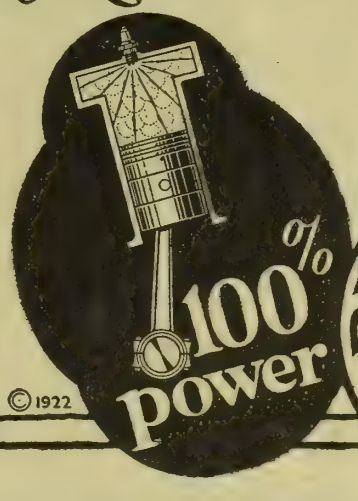
*The Gasoline of Quality*

STANDARD OIL COMPANY
(California)

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A cheap uncertain incubator means death to chickens and profits. Remember it is not how many you hatch that counts, but how many you raise.

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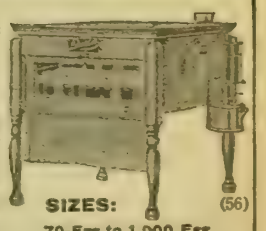
Hatch Strong, Healthy Chicks That Live and Grow

One of our Minnesota dealers writes: "We have sold Queen Incubators and Brooders for the last six years and they have given our customers entire satisfaction. The farmers all consider the Queen Incubator as standard and at auction sales, where it is almost impossible to get a bid of any kind on the average second hand incubator, the Queen always brings a good price, regardless of its outside appearance."

A Queen costs but little more than the cheap machine and the extra chicks that live and grow soon pay the difference. Write for Free Book.



SIZES: (56) 70-Egg to 1,000 Egg

QUEEN INCUBATOR CO., LINCOLN NEBRASKA

Queen Incubators are Distributed by:
The C. E. Hill Co., 418 Eleventh Street, Oakland, Cal.
The Germain Seed and Plant Co., Los Angeles, Cal.

# Los Angeles Markets

Los Angeles, October 4, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 55 cents.

Prices Creamery Extras past week:

| Sept. | 28 | 29 | 30 | Oct. 2 | 3 |
|---|---|---|---|---|---|
| '22 | 54 | 55 | 55 | 55 | 55 |

### CHEESE

Brokers' prices:
California flats, 24@26.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 53, case count, 50; pullets, 37.

Prices Fresh Extras past week:

| Sept. | 28 | 29 | 30 | Oct. 2 | 3 |
|---|---|---|---|---|---|
| '22 | 48 | 51 | 51 | 52 | 53 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 19; colored, 30; broilers, 36, roasters, 26; old roosters, 14; fryers, 26; ducks, old, 15; ducklings Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 45@50; capens, 43.

Belgian hares, 11@15; old, 8.

### LIVESTOCK

(Quotations furnished by Federal-State Livestock Market News Service, 1014 Pacific Finance Building, based on prices off cars at Los Angeles.)

Cattle: Supplies short, demand broad for fat and feeder stock. Shipments this week from Montana and Denver, buyers now in West Texas. Fat weighty grass steers selling 6.75 to 7.00, f. o. b. ranches, California medium under 1,000 pounds 6.00@6.50. Los Angeles packer bought string fat steers, carrying an end of fat Holsteins, 6.25, f. o. b. ranch, San Joaquin Valley. String alfalfa fed steers sold to local packer, f. o. b. Phoenix, at 6.50. F. o. b. Los Angeles, best fat steers, 7.75@8.00; fat cows, 5.75@6.00. Country sales fat cows, 5.00@5.25; medium and half fat, 4.25@4.50.

Feeding steers supply short, sales, 6.00@6.25 have been made. Arizonas, 5.00@5.25; good northern Arizonas offered at 5.50. Southern California buyers in Utah, Nexada and Montana for thin stock.

Calves 8.00 on best native 150 to 200 pound vealers del. Los Angeles; West Texas, 7.50, heavy vealers, 5.50@7.00.

Hogs: Many swine from Texas, Oklahoma and Nebraska. Advances Eastern markets strengthen values. Grain fed Cal. hogs, 150 to 200 pounds, 11.00@11.25, local plants. Heavier and "soft" getting usual discounts, heavy sows mostly 7.00@8.00.

Sheep and Lambs: Fat lambs active. Several strings California, Arizona, Utah and New Mexico, 10.75@11.25, f. o. b. ranch, 13.00@13.50 (good and choice) lambs, delivered off cars. Active call for feeders, 10.50@11.00; choice Arizona, 11.25. Good demand for breeding ewes, 9.00 a head, f. o. b. Kern County. Practically no aged sheep are being slaughtered at present.—Nelson R. Crow, Livestock Market Reporter.

### WALNUTS

Prices named by the California Walnut Growers Association on last Tuesday are: No. 1, 22½; No. 2, 17½, and fancy budded, 26. Last year's closing price for No. 1 was 27. The market opened at 24½, but only stood at that point for a day, strengthening immediately and moving up to 27.

### BEANS

California Lima Bean Growers Association, September 29:

Weather ideal for threshing, all machines running long hours. Warehouses have shut down cleaners and devote all attention to receiving beans. Scarcity of cars has been adding to difficulties of getting out orders. Steamship space is scarce and practically all booked until the end of October and considerable business has already been passed because first half October steamer space to certain ports is not available. This may easily have some effect in the way of strengthening the market. Rush of harvesting prevents further check on total production. Reports indicate shortening of previous estimate on Baby Limas and shrinkage in anticipated yield on late maturing fields of Limas. Prices on Blackeyes have advanced nearly 50 cents per cwt. during the past week, and will undoubtedly go higher. Market on Baby Limas, Pinks and Kidneys has also stiffened and advanced somewhat, and market on regular Limas is firmer at $6.25 to $6.45 per cwt. for prompt or first half October shipment, and we have today confirmed sales of choice recleaned Limas last week October shipment at $6.25 coast; also Seaside Limas and Baby Limas at $6.65 aboard steamer.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

Prices quoted f. o. b. L. A. to producers:

| | |
|---|---|
| Tame Oat | 20.00@22.00 |
| Barley Hay | 16.00@18.00 |
| Rabbit Alfalfa | 24.00@26.00 |
| No. 1 Dairy | 22.00@24.00 |
| Standard Alfalfa | 16.00@18.00 |
| Wheat Straw | 8.00@10.00 |
| Barley Straw | 7.00@ 9.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around $22 as a fair average. No. 1 dairy is varying from $15 to $17 with $16 as a mean or average price. Standard alfalfa is not much in evidence. Few offer it; fewer want to buy. If sold it brings from $10 up.

### GRAIN

L. A. Grain Exchange prices:

Barley: October delivery, 100 ton lots, 1.37¼.

Milo: October delivery, 100 ton lots, 1.90.

# San Francisco Markets

San Francisco, October 3, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras (Oct. 4) | 55½ |
| Prime Firsts | 45½ |
| Cal. Firsts | 44½ |

Prices Extras past week:

| Sept. | 27 | 28 | 29 | 30 | Oct. 2 | 3 |
|---|---|---|---|---|---|---|
| '22 | 54 | 54 | 54 | .... | 55 | 55½ |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats, fancy | 27 |
| Oregon Trips | 25 |
| Oregon Young America | 26½ |
| Cal. Y. A. fy | 28½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras (Oct. 4) | 59 |
| Extra Pullets (Oct. 4) | 45½ |
| Undersized Pullets No. 1 (Oct. 4) | 25 |

Prices California Extras past week:

| Sept. | 27 | 28 | 29 | 30 | Oct. 2 | 3 |
|---|---|---|---|---|---|---|
| '22 | 54 | 54 | 54 | .... | 57½ | 59 |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of October 3 by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers, 1 to 1¼ lbs. 36@40 per lb.; 1½ to 1¾ lbs., 30 to 33c lb. Colored, 28 to 30c per lb. 2 to 2¼ lbs., 28 to 30c per lb. Colored 28 to 30c per lb. Fryers: 2½ to 3¼ lbs., 30 to 32c per lb. Colored, 29 to 31c per lb. Young Roosters: Colored, 3¼ lbs. and up, 30 to 33c per lb. Staggy, showing spurs, 23 to 28c per lb. Colored Old Roosters: 17 to 18c per lb. Leghorn Old Roosters: 14 to 15c per lb. Leghorn Hens: 2½ to 3 lbs., 18 to 22c per lb. 3 lbs. and over, 23 to 25c per lb. Large Colored Hens: 28 to 32c per lb. Off stock, 26 to 27c per lb.

Ducks: Young, 18 to 20c per lb. Off stock, 10 to 15c per lb.

Geese: Young, 20 to 22c per lb. according to quality.

Live Turkeys: Old, 32 to 35c per lb. Spring 36@38 per lb. Dressed turkeys nominal.

Belgian Hare: Live, 15 to 18c per lb. Dressed 18 to 23c per lb.

Jack Rabbits: $2 to $2.50 per doz.

Squabs: Live, fancy, 50 to 52c per lb. Common, ⅜ to $3.50 per doz. Old pigeons, $2.50 to $3.50 per doz.

Guinea Fowls: Young, $8 to $10 per doz.

### LIVESTOCK

Quotations furnished by the Federal-State Livestock Market News Service:

Cattle prices per cwt. (delivered off cars from San Francisco)—Beef steers, good grade, $7.75@8; medium grade, $7@7.50; common grade, $6@6.75; beef cows, good grade, $5.75@6; medium grade, $5.25@5.50; common grade, $4@5; canners and cutters, $2@3.50; bologna bulls, $2.50@4.

Calves—150 to 200 pounds, good and choice, $8.50@9; 200 to 250 pounds, good and choice, $7.50@8.50; 250 to 300 pounds, good and choice, $6.50@7.50; over 300 pounds, $5.50@6.50.

Hogs—Good and choice, grain fed Californias, 150 to 200 pounds, $11@11.50; 200 to 250 pounds, 10.50@11; 250 to 300 pounds, $9.50@10.50; 300 pounds up, $8.50@9.50; smooth sows, 250 to 300 pounds, $7@7.50; rough sows, 250 to 300 pounds, $6@6.50; rough sows, over 300 pounds, $5@6.

Sheep and Lambs—Lambs, good and choice grades, 12.00@12.50; medium grades, 11.50@12.00; ewes, medium and good, 5@6; wethers medium and good, 7@8.50.

### FAT HOG AUCTIONS

California Farm Bureau Marketing Association reports:

| No. Hogs | Av Wt | Dock | Price |
|---|---|---|---|
| **Tulare, September 26** | | | |
| 12 | 72 | .... | 11.00 |
| 15 | 127 | .... | 10.15 |
| 95 | 165 | .... | 10.10 |
| 65 | 170 | .... | 10.10 |
| 85 | 176 | .... | 10.05 |
| 98 | 157 | .... | 9.90 |
| 22 | 224 | .... | 9.60 |
| 7 | 172 | .... | 9.60 |
| 12 | 294 | .... | 8.00 |
| 1 | 460 | .... | 2.00 |
| 5 | 344 | 90 | 6.00 |
| 417 hogs | | | |
| 5 cars, 42 consignors, $7,144.94. | | | |
| **Visalia, September 27** | | | |
| 95 | 168 | .... | 10.10 |
| 21 | 132 | .... | 10.05 |
| 80 | 156 | .... | 9.95 |
| 99 | 176 | .... | 9.85 |
| 78 | 209 | 110 | 9.65 |
| 3 | 250 | .... | 8.95 |
| 12 | 241 | 120 | 6.95 |
| 6 | 126 | .... | 5.05 |
| 394 hogs | | | |
| 4½ cars, 25 consignors, $6,724.69. | | | |
| **Hanford, September 28** | | | |
| 40 | 132 | .... | 10.25 |
| 91 | 178 | .... | 10.25 |
| 87 | 183 | .... | 10.20 |
| 88 | 182 | .... | 10.15 |
| 85 | 176 | .... | 10.10 |
| 80 | 219 | .... | 10.00 |
| 96 | 165 | .... | 9.95 |
| 23 | 233 | .... | 9.85 |
| 10 | 327 | 170 | 7.85 |
| 1 | 80 | .... | 6.75 |
| 1 | 400 | .... | 3.10 |
| 522 hogs | | | |
| 6 cars, 32 consignors, $11,099.15. | | | |
| **McFarland, September 29** | | | |
| 21 | 116 | .... | 10.65 |
| 1 | 160 | .... | 10.35 |
| 43 | 134 | .... | 10.10 |
| 97 | 168 | .... | 10.05 |
| 84 | 184 | .... | 10.05 |
| 89 | 182 | .... | 10.00 |
| 81 | 152 | .... | 9.65 |
| 9 | 222 | .... | 9.55 |
| 5 | 156 | .... | 9.15 |
| 7 | 294 | 90 | 6.65 |
| 437 hogs | | | |

Totals: 1770 hogs, 20½ cars, 122 consignors, $32,213.92.

### DRIED FRUITS

**Figs, 1922, Packers' prices f. o. b. Cal.:**

| | | |
|---|---|---|
| White Adriatic | | |
| Standard | (in 25s) | 7¼@7½ |
| Choice | (in 25s) | 9¼@9½ |
| Fancy | (in 25s) | 12¾@13 |
| Extra fancy | (in 25s) | 13¾@14¾ |
| Bricks, 12 No. 10s | | 1.10@1.20 |
| Bricks 24 No. 8s | | 1.70@1.90 |
| Bricks 50 No. 6s | | 2.75@2.95 |
| Bricks 70 No. 4s | | 2.90@3.10 |
| Layers, 10-lb., 4 row | | 1.60@1.75 |
| Layers, 10-lb. 5 row | | 1.40@1.50 |
| Calimyrna | | |
| Standard | (in 25s) | 14 |
| Choice | (in 25s) | 16 |
| Extra choice | (in 25s) | 19 |
| Fancy | (in 25s) | 22 |
| Black Mission | | |
| Standard | (in 25s) | @13 |
| Choice | (in 25s) | @14 |
| Extra choice | (in 25s) | ..... |
| Fancy | (in 25s) | ..... |

**Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:**

California Peach and Fig Growers' has withdrawn prices on all figs.

### BEANS

California Bean Growers Association selling prices, 100 pounds, for choice recleaned California beans (1922 crop) in carloads, f. o. b. California common shipping points on October 2, 1922:

| | |
|---|---|
| Large Whites | 5.25 |
| Small Whites | 5.25 |
| Pinks | 4.75 |
| Mexican Reds | 4.50 |
| Red Kidney | 6.25 |
| Bayos | 5.00 |
| Henderson Bush Limas | 6.35 |
| Cranberry | 5.75 |
| Blackeye | 6.40 |

### HAY AND FEEDSTUFF

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions.)

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 15.00@18.00 |
| Wheat Hay, Fair Grade | 13.00@15.00 |
| Tame Oat Hay | 16.00@18.00 |
| Wild Oat and Barley | 12.00@14.00 |
| Alfalfa Hay | 16.00@17.00 |
| Stock Hay | 11.00@13.00 |
| Straw | 9.00@11.00 |
| Barley, Ground | 30.00@31.00 |
| Rolled | 28.00@30.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 30.00@33.00 |
| Millrun | 31.00@34.00 |
| Middlings | 42.00@44.00 |
| Linseed Meal | 58.00@60.00 |
| Coconut | 33.00@36.00 |
| Alfalfa Meal | 25.00@27.00 |
| Cottonseed Meal | 50.00@56.00 |
| Molasses Beet Pulp | 34.00@36.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 35.00@37.00 |
| Scratch Feed | 42.00@44.00 |

### GRAIN

Prices S. F. Grain Exchange, October 2, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 1.85@1.90; feed, 1.80@1.90.

Barley Feed, 1.20@1.27½; shipping, 1.32½@1.40.

Oats: 1.60@1.85.

Corn: Colored Milo, 1.80@1.95; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.56@1.58.

# Citrus Markets

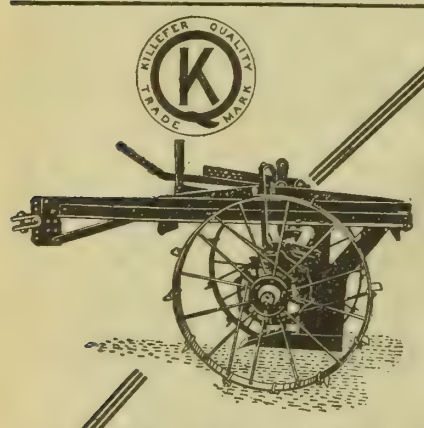
Los Angeles, Oct. 4, 1922.

It is expected that Valencias, the 1800 cars remaining for shipment, will go forward within next six weeks. Early Navels will then soon be ready to go from northern and central districts. Good prices on all good Valencias; inferior stock lower. F. o. b. Cal. quotations 8.00 to 9.00. Florida crop now estimated at 8,400,000 boxes oranges, 6,600,000 grapefruit. Survey of California groves indicates light to fairly good crop showing unusual size and ripening earlier than usual.

Lemon market is strong; little fruit in storage.

### Shipments

Shipment of citrus fruits to date since November 1, 1921. Southern California: Oranges, 22,730 cars; lemons, 9,520; total, 32,250. To same date last season: Oranges, 38,895; lemons, 11,040; total, 49,935. From Central California to date this season: Oranges, 5,099; lemons, 106; total, 5,205. To same date last season: Oranges, 6,603 cars; lemons, 185; total 6,788. From Northern California to date: Oranges, 22,429 cars; lemons, 9,431; total, 380. To same date last season: Oranges, 305; lemons, 5; total, 310.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Broadway 4781

114 Claudina Street
Anaheim, Calif.
Phone 831

## Snappy Notes on Livestock

Another car of average grass steers sold at $7.50 Los Angeles. A car of bulls sold at 4 cents. Carcass prices show strength but some beef offers are made on the 6 cent basis Los Angeles. I find no large lot numbers receiving over 7.50 and average Los Angeles beef price may be said to be 7 cents.

Lambs are slightly weaker in their price advance. No ewe lambs are being marketed in quantity as bulk are being held to build up depleted herds. Few feeder lambs are uncontracted and they are from 11 cents to 9.50.

F. B. Herndon head of the State National Bank of Albuquerque states he will have a shipment to new yards when it opens.

New Mexico drouth in south of state persists and cattlemen are asking drouth rates to California and other points.

Governor Campbell of Arizona has been criticized by some for his lack of effort toward assisting New Mexico cattlemen enter Arizona by changing Arizona quarantine regulations.

A strong demand exists for large heavy feeder steers at 5.50. Cows are offered by the thousands from 3 to 4 cents by weight or 20 to 35 by the head.—A. L. S.

### DEHYDRATORS SAVE BIG CROP

(Continued from Page 354)

blessed as is generally the case with favorable harvesting weather. Rains would have been disastrous. Temperatures have averaged high, prolonging the straw hat season as it were, all to the best interest of the California fruit grower. It was 175 degrees in one of the buildings the writer visited in Redlands this week but this is not intended as a reflection upon the good name of the Redlands district. The building mentioned was an evaporator going at full blast and turning windfall apples into a fine grade of evaporator product.

The late Mr. Dante who wrote something about the "Inferno" probably never visited California. Had he done so he might have turned his valuable interpretation of the hot place to something worth while in the form of an evaporator. The interior of one of these human construced drying machines is a near thing to the infernal region. Also there is a sulphur house that not only feels like hades but smells that way.

All this is necessary because from seven tons of apples there is removed approximately six tons of water, the drying ratio being between 8 and 7 to 1.

It is inspiring after visiting orchards and orchards with tons and tons of fruit—seemingly an unending yield—to pull up at an evaporator plant where dozens of California folks are busy saving and turning into money what would otherwise be a shameful loss. The apples come for drying in trucks, trailers, automobiles and great wagon loads. They are immediately sorted by size and quality, the vinegar and cider stock being removed. The evaporator stock on the Strait Company's evaporator is passed to 12 peeling machines operated by women. A movable belt carries the skins and cores into an evaporator and bin from which they are dropped into a truck and taken to other by-product factories. The peeled apples pass a set of trimmers who pick out the untrimmed spots and wormy apples. Then they are placed on cutter which shapes them into whatever size desired. From this they go to a salt bath and are further selected. Now they are placed on trays, 42 to a truck, or over a ton of the green fruit peeled, cut and selected and moved to the sulphur house. Here a treatment of from 45 to 60 minutes is given and the apples placed in the evaporator which has a capacity of seven trucks or about eight tons.

The up-to-date evaporator is a marvel of engineering ingenuity. With the aid of electricity, thermometers, gas or oil pipes, fans, etc. the moisture is removed from the green fruit with a certainty and a speed that would make it possible to convert California's entire crop into a product that could be kept indefinitely in from eight to ten hours if there were enough of them in operation.

How long will it be before the fruit growers of California or all over the United States will have passed the point of worrying about production and get to the point of providing ample facilities for taking care of the crop as it is produced? With enough warehouses, cold storage, canneries, evaporators, vinegar and cider works and similar agencies to assist in a transportation system all of California's wonderful crops could be saved.

California's produce marketing system leads the world. It is only under the most extreme unyielding conditions that it has not weathered every financial storm.

These great truck loads of wet apples entered the evaporator at a point where the temperature was between 115 and 128 degrees, with a humidity of 45 to 60 per cent. At the exit or drying end the temperature varies from 155 to 175 degrees with a humidity of from 22 to 30. Eight great fans operated by a 20 horsepower motor shot a current of air across the trays of apples that beat any drying work done by the sun on the Mojave desert or hot wind on the plains of Kansas. The gas could be regulated, the air could be regulated, the humidity could be regulated, and the splendid feature of the equipment lies in the fact that the air currents can be reversed so that the fruit on one end of the tray is no dryer than on the other. Samples of the fruit removed were absolutely dry, of a splendid color and apparently of the highest class of dried fruit. The temperatures of course are regulated according to the condition of the apples and kinds of fruit evaporated. Two sets were being operated, 12 each. Eight tons of apples being handled every 12 hours or 16 tons a day. In capacity 15 to 20 tons can be dried in from 8 to 10 hours. The equipment is complete. The plant is conveniently arranged and its initial success would indicate that it would be not only a valuable unit of the equipment in the Redlands district but a life saver to the producer who finds more windfall or dropped fruit than he anticipated.

At the drying end of the evaporator one car is pulled at a time, allowed to cool, scraped into bins and taken by elevators to a sweating room. After the sweating is finished the fruit is boxed in 10, 25 or 50 pounds ready for shipment. All apples dried must conform to federal laws to the effect that no dried product should contain more than 24 per cent moisture content. Properly housed apples put through such an evaporator will keep for many months. Usually they are put into a cool place.

Recently a test was made on evaporating oranges. Splendid selections of the evaporated fruit were sampled and found to contain all the food and sugar value of the fresh orange less the moisture. This is an experiment. So far it bids fair to be a splendid success. In this connection J. H. Strait recently said:

"Whether or not we will find a ready and profitable market for dried sliced oranges is uncertain. The product which we are able to turn out is satisfactory in every respect and the outlook is quite attractive. As president of the Mutual Orange Distributors, I have been very closely in touch with all phases of the industry for several years, and for many seasons as a grower and packer. The truth has been brought home strongly to me, that we must develop a market for our culls and surplus fruit during years of low prices and unfavorable markets. The dried orange can be shipped to foreign markets as a basis for marmalades more cheaply than American manufactured marmalades. It can be held for food markets and will also give the grower an alternative in selling his fruit. We have sent samples to foreign markets, especially the British Empire, and expect favorable returns."

Inquiry has been received from England on prices of carload of dehydrated oranges.

Much credit is due to the pioneers in the fruit industry who made the effort to find means of saving and reducing in weight, the shipment of surplus oranges. The J. H. Strait plant takes all the evaporated and other fruits not boxed for shipment from the deciduous fruit distributors, the members coming from packing houses including The Chino Valley Apple Growers, R. B. Peters, Devore; Isaac Ford, Oak Glenn; Independent Fruit Growers, Yucaipa; Growers Service Co., Yucaipa and J. H. Strait Co. The plant ran 140 tons of apricots that are of wonderful quality. The work is being done on a cooperative basis. The buying and selling is on a cost plus basis. During the operating season these plants in various sections of the state may be seen in operation and it would seem foresightedness upon the part of growers to visit the plants in operation and make plans for installation in other sections in other years.

### PRESERVATION OF GRAPE JUICE

(Continued from Page 379)

tanks, preferably glass lined tanks, in a cool room not above 18 degrees Fahrenheit. The writer has seen loganberry juice and apple juice stored in breweries in the Pacific Northwest for ore than **twelve months without any** sign of deterioration. There are many ideal breweries in the state which, with small expense, could be fitted with crushing and pressing equipment. The writer would strongly urge that grape growers and brewers use this method for holding the surplus grape juice during the present season, should such action become necessary.

The university has issued publication on fruit juices known as "Unfermented Fruit Juices," Circular No. 220. This will be sent free of charge upon application to the College of Agriculture at Berkeley.

### FAMOUS WHITE LEGHORN CHICKENS

We have been hearing much of late of a White Leghorn chicken ranch near Lankershim, Los Angeles County, for it seems to be a mecca for chicken experts from other states and countries. The following are a few of the recent visitors to this ranch, which is known as The California White Leghorn Breeding Farms: F. H. Ching, livestock man of the Dominion of Canada; W. H. Fairley, district representative, Vancouver, B. C.; Alfred H. Lee, Washington, D. C., chief instructor in the federal poultry investigation department; A. G. Phillips of Purdue University, Indiana; W. H. Allen, New Jersey experiment station, New Brunswick, N. J., and Roy E. Jones, extension poultryman, agricultural college, Storrs, Connecticut.

#### Many Prize Winners

More than 18,000 chickens, laying hens, breeders, prize winning stock and pullets live on this farm. There are many houses, each one of which is equipped for the care of 1500 baby chicks. The brooders are heated by distillate. Young chickens may be seen, all hatched in January, that are now laying up to 60 per cent of their number.

At one yard are the great prize winning males that were pronounced the very best of the Mediterranean breeds exhibited at the Los Angeles show. One of the finest sights in California is a view of the snow white chickens in the long houses. These houses are 176 feet long. No expense is spared in getting eggs. Chickens are hatched from eggs that cost more than $2 each. Everything is watched with methodical care; chicks are branded on the feet; individual chickens are studied from every point of view from the time they are hatched up to maturity. There are 3,000 hens to breed from.

Next year a new hatchery will be built having a capacity of 100,000. There are now 4,500 pullets running wild among the trees. The company is constantly buying males from the very best breeders of egg chickens. Twenty-four fine males are there from Hill View, Illinois; 24 from Tom Barron of England, and there are many others just as famous. At this farm two of the finest flocks in the world have been brought together. They are the Emerson flock from Burbank and the Martin-McConnell flock from the Rancho Del Martino at Downey. Mr. McConnell, Mr. Emerson and Judge J. C. Williams of Fullerton will assist in mating these remarkable birds during the next two years.

The California White Leghorn Breeding Farms will enter all shows and all egg laying contests, far and near, that it is possible to get into. This company belongs to the Poultry Producers Association of Southern California, and it believes that all other producers should also belong.

One of the owners said: "Our aim is to furnish anything from hatching eggs to breeding stock. Visitors are welcome any day of the year, Sundays and holidays included."


the Proven Cover Crop.

A&M MELILOTUS INDICA

Bulletin on Melilotus Indica issued by the California State Agriculture Department says: "It has increased the yield of the crops to a greater extent than any of the other legumes tested." The same report shows Melilotus Indica gave an average increase of 64.8 per cent with its nearest rival but 43 per cent.

A. & M. Melilotus Indica seed grown in California is free from weed seeds—99½ per cent pure.

Keep Your Orchard Clean
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FREE California Agriculture Department Bulletin on Melilotus Indica; also sample of A. & M. Melilotus Indica Seed.

Make your own comparison of A. & M. Melilotus Indica with any other samples—note its high purity.

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LOS ANGELES

A&M reliable SEEDS

NITRATE OF LIME

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13% nitrogen, equal to 15.8% ammonia

USE NITRATE OF LIME—
THE BEST RESULTS OBTAINED.

THE REASONS:

It contains NITROGEN in a form directly and immediately available to the plants.
It supplies the soil with highly soluble LIME, which improves and corrects the physical condition of the soil.
Write for booklet—free—giving complete information.

C. HENRY SMITH, INC.
311 California Street San Francisco
(Sole Agents for the Pacific Coast and the Hawaiian Islands)

# Two Nationally Known Flocks of Prize-Winning White Leghorns Change Hands

**E. E. Emerson, Dean of American White Leghorn Breeders, also J. V. McConnell and Mrs. E. B. Martin, breeders of the famous Rancho Del Martino Leghorns, have sold their entire flocks, without reservation to**

## The California White Leghorn Breeding Farms

**Lankershim, California**

Most recognized poultry judges of America have pronounced the Emerson and the Rancho Del Martino the best flocks of White Leghorns in the Pacific West. For the past eight years birds from these flocks have WON ALL FIRST PRIZES IN ALL THE BIG POULTRY EVENTS ON THE PACIFIC COAST—INCLUDING PANAMA-PACIFIC EXPOSITION. THEY HAVE ALSO TAKEN ALL FIRSTS AT EVERY OTHER IMPORTANT POULTRY EXHIBITION OF THE INTERMOUNTAIN STATES AND MISSISSIPPI VALLEY.

Dozens of the females in these flocks have trap nest records running from 275 to better than 300 eggs per year. They have been bred strictly to the American Standard of Perfection and will continue to be so bred.

With these two grand, outstanding flocks as a foundation on which to build—and with the close, constant cooperation of both Messrs. Emerson and McConnell in mating their respective strains for the 1923-1924 seasons because of their individual knowledge of these blood lines—we are in position now to supply S. C. White Leghorn breeding stock which for high, proven quality cannot be duplicated in the West nor in any other part of the country.

*In addition to the Emerson and Rancho Del Martino Leghorns, we have in our pens selected birds of blood lines known throughout the world—birds from the flocks of Hanson and Druce, of Corvallis, Oregon; Tancred and Beal of Washington; Ferris, of Michigan; Pennsylvania Poultry Farms, of Pennsylvania; Hillview Farms, of Illinois; and Tom Barron, of England.*

*We have brought together the best high egg producing blood lines of the world because, as large egg shippers ourselves, we know that the commercial poultryman, with high priced feed and low egg prices MUST OFFSET THESE TWO HANDICAPS WITH HENS THAT WILL LAY MORE EGGS THAN THE MAJORITY OF HENS ON THE AVERAGE COMMERCIAL POULTRY FARM.*

**We offer you opportunity to get the best foundation stock, baby chicks and hatching eggs that money, modern equipment and the most careful breeding will produce**

Frankly, we don't believe you can find elsewhere in America the strong blood lines, bred separately, that we have assembled: the offspring and products of which are offered to the commercial poultryman and owner of a farm flock at live and let live prices.

If you want some of these hatching eggs or baby chicks we suggest that you order them now, for our hatching capacity is only 20,000 for 1923.

With those hatcheries whose chief argument for business is CHEAPNESS, we do not try to compete. QUALITY, with us is the first consideration and all the chicks we send out are big, strong, vigorous fellows, properly hatched. The eggs from which we hatch chicks are the same as we sell for hatching, carefully selected for large size, smooth shells, regular shape and good color.

## We Guarantee 100% Fertility in All Hatching Eggs

**By Replacement of All Infertile Eggs**

**The Following Prices Are for Our Heavy Commercial Matings:**

### HATCHING EGGS

From Nov. 15 to March 15—15 for $2.00
In 100 lots, 12c each—In 500 lots, 11c each
In 1000 lots, 10c each

### BABY CHICKS

January, February, March
In lots of 100, 25c each—In lots of 500, 24c each
In lots of 1000 or over, 23c each for delivery

**We Always Have Three, Four, Five and Six Months Old Pullets from Pedigreed Trapnested Stock**

**You are cordially invited to come and see the stock from which your hatching eggs or baby chicks will be produced—also the fine pullets we are now offering. Or you may order from this ad. by mailing remittance for 10% of your purchase. Our catalog will be ready for mailing soon—don't fail to register your name NOW so you will be sure to receive your copy.**

**Exhibition Stock Always a Matter of Correspondence**

## The California White Leghorn Breeding Farms

Located three miles north of Lankershim on the Lankershim Boulevard—then two blocks west on Tulare Street. (Tulare Street is the first street north of the Southern Pacific tracks.)

**R.R.1---Box 277** **LANKERSHIM, Los Angeles County, Calif.**

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — October 14, 1922 — No. 16


# What the Electrical Industry Has Done for California

By F. E. Boyd

IN California there has been developed by the power companies the greatest interconnected system of power transmission lines in the world, extending from Eugene, Oregon, on the north to the Mexican border on the south, and also eastward to Tonopah, Nevada, and Yuma, Arizona. These interconnections not only produce large economies through the building up of system load factors and the substitution of water for steam in the generation of power, the benefits of which accrue to the public, but throughout the vast territory covered they make possible better service and the meeeting of a shortage of power on any one system out of a surplus that may exist in some other system.

The largest concentrated block of electric power ever available for public use is made possible by this interconnection, which ties together over a million horsepower of hydro-electric generating plants with a total annual output of energy delivered of close to four billion kilowatt hours.

As a matter of fact we have here in California in actual operation the super-power system which the Atlantic Seaboard is today just planning as one of its major projects for the next decade.

In California, under private ownership, there has been developed a universal use of electricity which stands without parallel. In 1920, 83 per cent of the dwelling houses of this state were wired, as against 35 per cent for the United States. The whole state has been girdled with transmission and distribution lines so that the inhabitants of the rural and sparsely settled districts have at their command electric service on an equal basis with those of the large cities.

Not only is the service rendered generally at uniform rates as between city and country, but these rates are among the lowest in the world. The average rate per kilowatt hour for power generated, received by the California companies for the year of 1921, was only 1.42 cents compared with 2.17 cents for the United States.

As a result of these conditions the

(Continued on Page 395)

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

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## Saturday, Oct. 14, 1922

OUR ADVERTISING RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest, bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## EDITORIALETTES

California is the richest of all the states in the Union in hydro-electric possibilities. While there is no great massing of power as there is at Niagara there are great numbers of smaller opportunities which may be brought together and an aggregate of almost boundless resources be developed. Niagara boasts a total potential power equivalent to ten or possibly a dozen millions of horses. But all the world owns Niagara and 100 per cent usage of the waters of the Great Lakes for the production of power will never be permitted.

* * *

One of the best features of development in California is that the use of water for the development of power in no way impairs it for irrigation. In fact it may mean storage and greater conservation. The photograph on the cover of this issue shows one of the plants of the Pacific Gas and Electric Company which is known as the Halsey power house. Alongside the illustration is an outline of some of the other installations of that company. This company's installations are largely in the upper waters of the Sacramento. Farther south are installations by the Great Western, San Joaquin Light and Power and the Southern California Edison people. The description of a very few of these installations will be given in the next issue of the Cultivator.

* * *

Pomona College has secured for the coming year the services of Dr. A. B. Stout. Dr. Stout was for many years connected with the New York Botanical Garden. He will bring to California the latest and best of horticultural work from the East. His initial work will consist of four lectures on successive Thursday nights, commencing October 19. These will be under the general title of Modern Problems in Crop Production and Plant Breeding.

* * *

The state department of agriculture has issued Special Publication No. 127, "A Milk Goat for Every Back Yard." It is the work of Dr. J. G. Jackley. Dr. Jackley is assistant chief of the division of animal industry and has gathered together a fund of valuable information in regard to the milk goat. He not only gives practical suggestions as to general handling and care of the animal but the report has a condensed summary of proposed rules governing the sale of goat milk. The milk goat is proving more and more its fitness for California conditions and is materially aiding in increasing California's wealth.

* * *

The Los Angeles County Fair at Pomona is scheduled for opening next Tuesday. It plans for closing some time before midnight of Saturday. The management is proud of the fact that as the representative of the greatest producing county of the United States it is able to offer attractions worthy the greatness of the county. The "Biggest and Best" on many of its exhibits calls for bigness in its housing arrangements. It being the first fair new barns and sheds have been erected in the livestock section. Available tents were all too small, and one worthy of the occasion has been manufactured. It is said it will be the largest tent ever erected in the state of California. The arrangement of grounds and exhibits will permit examination of the various features with least travel. It is the first real agricultural fair to be staged in Pomona and the management assures us it will not be the last.

* * *

Folks of this U. S. A. surely do eat a lot of manufactured "butter." Manufacturers and dealers special license taxes during the past year brought in a total revenue of $1,159,940. In addition there is a one-fourth cent tax on uncolored oleomargarine and ten cent tax on colored oleomargarine which also brings in another half million dollars.

## HALF A CROP

Corn growers of the United States who start out every spring to grow 100 bushels throw over into the wagon box at harvest time only 64 bushels. This statement is made because of figures compiled by the United States department of agriculture over a 13 year period. The difference between the potential crop and the quantity harvested is due to weather conditions, defective seed, plant diseases, and devastations by insect and animal pests. For every bushel of corn harvested somewhat over one-half a bushel fails to reach harvest.

Were it not for the elements that tend to reduce the size of the crop the average crop for the 13 year period would have been about 4,374,000,000 bushels instead of the 2,805,000,000 bushels harvested, provided the same acreage were planted. The department points out, however, that if these elements did not exist and the corn grower was certain of realizing 100 per cent results, the corn acreage probably would be greatly reduced, so that the final outturn might not be a larger crop than that actually harvested. It would mean simply that the farmer could get from about two acres the crop that he now harvests from about three acres.

## UNCONSTITUTIONAL

The California fruit and vegetable standardization act of 1921 has been declared unconstitutional by the state supreme court. The ground of the decision is that the act grants to the state department of agriculture legislative powers. The court claims the "legislative power" was used by the department of agriculture in the ruling in which it defined oranges unfit for shipment as those showing drying in 20 per cent or more of exposed pulp as shown on a transverse section through the center of the fruit and having crystals and crystaline deposits on two or more segments of the orange.

The matter was taken up to the supreme court under an act begun by an orange grower or shipper after he had been arrested for shipping three boxes of frozen oranges not inspected and passed by inspectors of the state department of agriculture. The court granted him the writ of habeas corpus and discharged him from custody.

In any case the accomplishments of the law in saving citrus markets the few weeks following the 19th day of last January are well worth all it has cost. The legislature convenes in January for the 1923 session and for the sake of the citrus industry it is to be hoped the legislative committee will secure the enactment of a law which will hold water and be effective.

## GRAIN GAMBLING

The Capper-Tincher bill, depriving grain speculators of the use of mails and otherwise controlling gambling in grain futures, has been signed by the president and is now a law. The law gives the government the same weapon to clean out the grain gamblers which was used to put the Louisiana lottery out of business. The Louisian lottery was hardly a start in gambling compared with the operations of the grain and produce exchange. Or again, as one editor expressed it:

"Monte Carlo is a mumble peg gambling resort and the Louisiana lottery a penny ante game, compared to future trading on grain exchanges. Only chumps, with more money than brains, ever went against Monte Carlo and the Louisiana lottery, while the country is strewn with innocent, helpless and unwilling victims of the grain gamblers."

"The new law takes the place of the regulatory provisions of the Futures Trading Act of August 24, 1921, which was declared unconstitutional by the supreme court of the United States last May. In substance the new law is the same as the old, but the new law is based on the power of congress to regulate interstate commerce, the former, on the taxing power of congress. The new law does not become operative until November 1. As all the exchanges were fully acquainted with the requirements of the former law there should be no difficulty or delay in complying with the new one. The exchanges affected are those at Chicago, Minneapolis, Duluth, Kansas City, St. Louis, Toledo, Milwaukee, San Francisco, Los Angeles, and Baltimore.

This law does not interfere with hedging transactions on the boards of trade. Neither does it interfere with ordinary speculation in the buying or selling of contracts for future delivery. If, however, there should be evidence of undue manipulation or attempts to corner the market or of the dissemination of false or misleading information about crop or market conditions by members of the exchanges, such conduct would be inquired into and promptly dealt with as required by the law. In addition it prohibits the exchanges from discriminating against cooperative associations of grain producers who may desire membership in order to obtain the use of the facilities of the grain exchanges. The secretary of agriculture also is given the requisite authority to examine the books and records of the members of the exchanges and to require such reports as may be necessary to carry out its provisions.

## THE BUDGET

The expenditures of the federal government are now being made on the basis of "The Budget." The business of conducting this government is said to be one of the very largest business ventures on the face of the earth. Some have remarked that it has been not only the biggest but the worst managed of any on earth. Some of the mistakes of the past are made more outstanding by the successful work of the budget as now handled. In reviewing, regarding the working of the new system the Girard Letter says:

"But something far more important than is obvious to casual readers of Washington news has taken place, which completely changes nearly every business procedure of the federal government.

"The new budget system lay bare so many leaks and has already stopped up so many holes that a study of its operation will be found highly interesting.

"The budget bureau is nonpartisan and nonpolitical. While it has been set in motion since President Harding was inaugurated, the budget came as a sequel to a demand from both political parties that something be done to dam up at least some of the subterranean drains that led out of the national treasury.

" 'There is no reason why,' exclaimed General Charles G. Dawes, who was the first director of the budget, 'because the government of the United States does the largest business in the world it should be the worst conducted.' "

Here is an example of the old way and the new way of doing Uncle Sam's business:

The coast and geodetic survey, which is a part of the department of commerce, needed two ships to carry on its work. The United States navy department at that moment had 49 mine sweepers which it didn't need and which were going out of commission.

Under the old regime the geodetic survey would have bought two new ships for a cost of not less than $1,000,000 because the navy could not or would not transfer to the survey's use two perfectly superfluous mine sweepers.

What did the budget director do? He told the navy chief that the geodetic survey and the navy are both parts of the United States and that the property of the one belonged to the other if it could be used by the one and was not needed by the other.

The mine sweepers were transferred and Uncle Sam saved $1,000,000.

Then there was a case of brooms. The navy needed 18,000 brooms at a time when the army with its war surplus supplies on hand, was trying to sell 350,000 brooms.

In one year $112,000,000 worth of supplies was shifted from departments where they were not used to others that required them.

In this one item alone the government was saved $32,000,000.

# California Cultivator

Vol. LIX, No. 16 Los Angeles, October 14, 1922 One Dollar Yearly

# Fruit By-Products

## From Address by W. V. Cruess, Before Placer County Fruit Growers at Auburn

THE principal fruits I have been asked to consider are peaches, pears, plums and strawberries. I have been unable to obtain an accurate estimate of the amounts of each of these fruits that would be available for by-product purposes; but an estimate of a total of 6000 tons of cull fruit was given me by one of your growers. At a value of $20 per ton for by-product purposes, this fruit would have a total value of $120,000. It should be possible to obtain at least this price per ton for the grower. The problem is of enough importance to warrant the fruit growers of this district spending some time and money investigating possible outlets for this fruit.

I regret that I can not come to you with definite plans and specifications for the building of a plant and with working directions for processes of manufacture of products and by-products which I could guarantee would return to the growers a good price for their cull fruit. It is possible, however, to suggest methods of utilizing part of this fruit and we can indicate a possibly profitable line of investigation which may be followed in developing methods for the utilization of the remainder.

### Dehydration

I imagine that no one is particularly interested in sun dried clingstone peaches, plums and inferior dried pears. No one cares to buy sun dried fruit unless it is prepared from the best fruit of the orchard and from varieties suitable to the purpose. Sun dried pears made from culls are usually a drug on the market. All of these fruits can, by suitable means, be made into attractive dried products by dehydration. I do not wish to be misunderstood and have you think that any quality of fruit can be made into a salable product by dehydration. Such is not the case; it is possible, however, to use small fruit successfully for dehydration, provided it is sound and otherwise of good quality. No one would expect to use sun burned, wormy and soured fruit, or that which is otherwise so badly damaged as to be unfit for food.

### Principles of Dehydration

I realize that this is a convention at which only thoroughly practical ideas should be presented and that nothing should be given that is not directly applicable to practice. Knowing this desire on the part of your program committee, I shall discuss the fundamentals of dehydration only as they can be applied in practice and shall not trouble you with a detailed account of the mathematics of dehydration.

The principal purpose of dehydration is to remove sufficient moisture from the product to be dried so that it will not undergo decomposition. This object must be accomplished with a minimum expenditure of fuel (or energy), labor and time. In order to build and operate a dehydrator with the maximum efficiency, it is necessary that certain fundamental, yet extremely simple, facts be thoroughly understood and applied.

### Necessity of Heat

The first requisite is heat. Without heat evaporation of moisture from fruit can not take place; even in sun drying the same amount of heat is required to evaporate a pound of water as is required in dehydration; the only difference being in the source of the heat used. There is no mysterious means of removing moisture from fruit without the application of heat from some source or another. In round numbers, it requires about 1000 British Thermal Units to evaporate a pound of water. A British Thermal Unit (or B. T. U.) is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit. A gallon of crude oil will yield about 135,000 B. T. U., or theoretically should furnish heat sufficient to evaporate 135 pounds of water.

(Continued on Page 394)

# Stockyards Activities

## By A. L. Spellmeyer

THE growing meat demand and the shortage in beef, hogs and lambs in the West, has disturbed the economic balance that existed in the Middle West markets on lambs, already, and it will bring Los Angeles into competition this winter on both beef and swine in markets that formerly supplied Omaha, Kansas City, Ft. Worth and Portland.

The position in meat circles is one of uncertainty, as to the exact course of events, and men are preparing to play whatever game may come forth from the new conditions, and that applies to the veterans in killing and buying circles as well as many cattle owners and speculators. Only a few large cattlemen are resting in the assurance that the Los Angeles union stockyards will not succeed, and for each one that so believes a hundred are preparing to meet a new method of marketing livestock for this Southwest.

Six hundred men are working out at the new stockyards in the Vernon-Maywood district. A bus line will start shortly from Twenty-sixth and Santa Fe in Vernon to the yards. Some ten acres of corrals are finished with cement floors and runways, and the unloading chutes reaching a long train length are already covered. Stock could be handled today if it were a necessity. This is written September 27 and by the time it reaches print the building yards will be close to a finish as far as corrals are concerned.

These are the only yards that I know of where stock can be loaded and handled under cover from winter rains or summer heat. Complete dipping vats, branding chutes and facilities are being erected. The Exchange building is a large structure of cement and brick situated about 200 yards from the highway line. A 100 foot boulevard curves from the main highway. At one side is a great reservoir. The exchange building has two great wings. On one side at the front will be the bank and on the other above the hotel. The commission offices will be on both first and second floors. It looks at first glance impossible to complete the yards for operation by November 1, but closer inspection shows the heavy work is already accomplished. Money and experience can accomplish great things.

There has been a great gathering of commission men and speculators to this vicinity, and there is little doubt the stockyards management has used every precaution towards protecting producers from crook manipulators. A veteran of the Chicago, Kansas City and other yards states that the list of commission men who had applied for space in the yards is the best he has ever seen operating at any yards in the United States and that the list has been carefully weeded to insure the very best service.

Before the yards swing into business I might make a pertinent suggestion that the commission men of the new yards can well disarm criticism by reverting at the start to prewar commission rates. The American National Livestock Association is now suing for this adjustment in the Middle West markets. However that is for the new exchange to consider when it is formed.

New men entering this market to buy cattle, own cattle or feed cattle, have in some instances the benefit of a considerable credit from Chicago, or Denver or Kansas City, but they are handicapped by a lack of knowledge of the country and its conditions. Some few of them figure the packers and commission men and money backing can force a new condition rather than persuade it. This to us here is a new attitude, and personally I believe the few who hold it are due for education. Middle marketers of meat are today in a position the saloon men formerly held as regards liquor trade as the saloon men made this nation dry through abuse. If the commission men and packers in this new market effort apply a producer protection it will be well; if they don't the inevitable will happen and California producers will force cooperative marketing that will make one complete operation from producer to consumer. I do not believe the present objectors to union stockyards can seriously embarrass or prevent a successful livestock movement here. They are opposing the development necessary to one of the great cities of the world and the very trade force will make objections irrelevant and futile, as the stockyards effort is the first attempt in the Southwest to encourage and stimulate small man production in livestock. So far no operation could be more frank and open that McNaughton's management and statements as to these union stockyards, but equally if the operation later is not satisfactory to livestock producers, a drastic producer to consumer plan will be born in California meat as it has been in California fruit.

One man's guess is as good as another's, for no one knows the exact result from the chemical mixture of the new plan and the Southwestern conditions. Bixby thinks results will be bad, others that results will be good for producers and for small men.

The inconstancy of the farmer class must be figured in all stockyards possibilities. There are today 50 new men buying and handling cattle. The applied power of the man who handles 10,000 cattle is as great a market force as that of the man who raises 10,000 cattle. Considerable number of the objectors to stockyards are no more producers than the packer feeder is a producer, for they are buyers of steers and grass feeders. What they do does not add a single breeding cow or another calf to the cattle supply, except indirectly. It's the more or less calves in this nation that make cattle plenty or cattle shortage.

Already we can see great forces re moving economically towards a change, as the new million coming to California and others following are demanding to be fed.

Los Angeles, using 2000 to 3000 lambs daily, is absorbing extra hundreds of thousands of lambs until Kansas City is short of accustomed supply. Actually in the near future Los Angeles is closer to New York than Kansas City as with proper ships and equipment meat can be delivered from Los Angeles to New York for less than meat can be delivered from California to Kansas City, by railroad. It is my prediction that with the completion of the Colorado project the coming 20 years will see Los Angeles supply through its great adjacent feed districts the meat for the Atlantic as well as the Pacific Coast.

Everybody condemns the speculator but he is the man who is now forcing better producer prices. Today speculators are combing the country for large 1000 pound feeder steers and beef steers of good quality, and raising slowly but surely the low western cattle prices. Sheep are high, when lambs bring $7 to $9 each. Hogs are scarce here and beef is coming into its own soon.

# Agricultural News Notes of the Pacific Coast

## Northern California

Heavy shipments of grapes are being made from Livermore.

California Industries Exposition opened at San Francisco, October 7.

A $10,000 egg packing plant is being built at Hayward, Alameda County.

The Tehama County farm bureau plans a membership campaign in November.

Fires in reserve west of Orland, Glenn County, burned over nearly 50,000 acres.

Pope Valley's (Napa County) third annual fair, just closed, was voted a huge success.

A carload of raisins was shipped last week from Marysville, Sutter County, to Bergen, Norway.

The new tariff imposes a duty of 4¾ cents on unshelled almonds, 14 on shelled, 14 on almond paste.

Hop baling is practically completed in Sonoma County. Much of the crop has been purchased by English firms.

The Orland, Glenn County, chamber of commerce attended opening of the Pit River plant of the Pacific Gas and Electric Co.

The Yuba County farm bureau has asked the state railroad commission to order extension of water system in the Erle district.

The home department, Glenn County farm bureau, will meet during October at Willows, 14; Westside, 19; Grapevine, 20; Lake, 25.

Lake County fair registered attendance of 5,000 on Saturday, September 30. The management reports complete financial success.

The Glenn County farm bureau will hold October meetings as follows: Willows, 14; Capay, 18; Plaza, 20; Grapevine, 25; Glenn, 27.

Forest fire fighters in Sonoma County have been repeatedly attacked by yellow jacket wasps and some were severely poisoned.

Northern California Counties have called on orphanages and similar institutions to aid in the great fruit harvest, the labor shortage being acute.

Colusa County raisin dryers did some quick work getting their drying trays under cover during last week's rainfall. Practically no damage reported.

The California Almond Growers Exchange now places its estimate of the state's output of almonds at 7500 tons against earlier estimates of 9,000 tons. The exchange is already practically sold out on all varieties.

The egg laying contest at the Glenn County fair attracted much attention. O. Rosenblatt, H. R. Wynn and J. P. Hitz tied with 15 each from their pens. Mr. Hitz' pen was of White Wyandottes; the others were Leghorns.

The California Cherry Growers Association has had a successful marketing year. Price for canning peaches, 9 1/5 cents, established early in season was maintained. 3500 tons of canning cherries was the state's output this year.

The railroad commission has established graduated schedule of flat rates for Baldwin water system in Los Angeles County. The company was ordered to reimburse consumers in monthly credits of 10 per cent a charge of $9 for service connections.

## Central California

Watsonville held a harvest festival, October 5.

Many ventilated box cars are being used for grape shipments.

The Turlock irrigation district has admitted the Delhi land settlement.

The war conditions at Smyrna have resulted in boosting prices on California figs.

Modesto is pulling for next year's meeting of the Pacific Slope Dairy Exhibition.

A cockerel auction will be held at Tulare, November 22 under auspices of the farm bureau.

Hilmar, Fresno County, has just shipped the last 4,000 bags of Blackeye beans of the 1921 crop.

A series of demonstrations of smut control in grains is being arranged by County Agent Jungerman of Stanislaus.

The Porterville district will ship about 40 cars of pomegrantes. Most of the crop is of the Wonderful variety.

It is estimated that the Chevalier barley crop of the Salinas Valley, Monterey County, will total 180,000 sacks.

Oakdale, Stanislaus County, has a cannery that will handle nothing but green beans, from September 20 to December.

The three fig canneries operated by the California Peach and Fig Growers have handled 1000 tons of Calimyrnas and 150 tons of Kadotas.

The California Olive Growers hopes during the winter to secure 75 per cent of the olive acreage in the state so that it may begin operations next year.

The allotments of the fourth unit of the Delhi Colony will be on sale November 1-30. Eighty-seven farms and nine two acre farm laborer allotments will be sold.

The city attorney of Fresno has been instructed to draft an ordinance requiring property owners to clear their lands of the puncture weed, Tribulus terrestis.

The Libby cannery at Selma has put up over 4,000,000 cans of spinach. 100 tons of table grapes will be canned. Large packs of apricots and peaches have also been made.

Oakdale irrigation district of Stanislaus County has 19,002 acres under irrigation. 42,000 acres not irrigated are under cultivation. The grape acreage was doubled this year.

Larger return for citrus crop of 1921-22 than for crop of preceding year was reported by Secretary Sprott of the Tulare County Fruit Exchange at the annual meeting at Porterville.

In the Terra Bella district of Tulare County are several small vineyards of Thompson Seedless, planted in 1920, that this year yielded one ton of dried raisins to the acre, a monetary return of $130 "per."

Application has been filed for the formation of the Kings River water storage district, a $30,000,000 project to irrigate more than 1,000,000 acres. A dam will be built at Pine Flat to store 600,000 acre feet of water and a power plant of 90,000 kilowatts capacity. Fifteen irrigation districts are included.

## Southern California

Los Angeles County fair at Pomona, October 17-22.

Dried beans secure in the new tariff a rate of 1¾ cents per pound.

Yucaipa has decided not to hold the apple show this fall as planned.

The big new walnut house at Saticoy, Ventura County, has opened for the season.

Santa Ana, Fullerton, Anaheim and Orange are joining in an outfall sewer to the ocean.

Honey has been given a tariff of 3 cents a pound; walnuts, unshelled, 4 cents; shelled, 12.

Prices named by the California Walnut Growers Association are 10 per cent less than last year's.

Apricot institute, Ventura Union High School, October 27. Control of brown rot, black scale and frost will be discussed.

Imperial Valley has formed a "Boys Purebred Calf Club," and an El Centro bank has offered to advance the money to buy calves.

Members of the Orange County farm bureau held their third annual excursion to the citrus experiment station at Riverside last week.

Calipatria growers, Imperial County, have signed up for planting five and ten acre plots of Carolina strawberries to a total of 250 acres.

San Jacinto's new milk skimming plant is now handling 225 cans of milk daily and sending 30 cans of cream to the Burr Creamery at Los Angeles.

A two story reinforced concrete warehouse is being built at Los Angeles by the Poultry Producers of Southern California. It is on the corner of Mill and Industrial.

Olives in brine, green or ripe, are given protective tariff of 20 cents per gallon; pitted or stuffed, 30 cents; dried ripe, 4 cents pound; olive oil in less than 40 pound containers, 7½ cents.

Ventura County is shipping beans by water to the Atlantic Coast. The motor vessel "Vaquero" left Hueneme, September 18, with 5600 bags of beans. They were transferred at Port Los Angeles to a larger vessel.

The Carolina strawberry in the Imperial Valley is said to have yielded 7,000 baskets of berries to the acre the first season, only 14 weeks after being planted. Japanese are known to have netted $1,500 an acre.

Revision of the state motor vehicle act will be considered at the October 18 meeting of the Southern California Supervisors Association at Los Angeles. Supervisors now have power to limit loads but not speed of trucks.

Estimates of next season's lettuce planting in Imperial range from 14,000 to 32,000 acres according to the Brawley News. Considerable effort is being made to improve on the "hit or miss" marketing methods of last year.

The board appointed by the governor to locate site and prepare plans for a school or college of agriculture in Southern California consists of H. A. Jastro, Senator S. C. Evans, Mark Grimes, G. H. Hecke and Dean T. F. Hunt.

## The Coast and General

Canada is seeking an outlet for her potato crop in Cuba, Mexico and West Indies.

Fruit growers of White Salmon Valley, Washington, are handling and shipping their own fruit.

The lettuce crop of the United States is estimated to be 25 per cent more than that of last year.

Secretary of Agriculture Wallace has asked an appropriation of $500,000 to extend market service in the western states.

Shipments of fruit by truck and by small boats from southwestern Michigan are becoming increasingly important each year.

The new tariff bill after nearly two years of amending has finally become a law. Over 3,000 changes were made in the original bill.

Federal statistics show that potato shipments to date exceed those of 1920 by 17,000 and 1921 by 10,000 cars, resulting in lower prices.

The beet sugar output of Europe this year will be 225,000 tons greater than last year, exclusive of Russia. This will be little more than enough for home consumption.

The Arizona Pima Cotton Growers is continuing membership drive in the Yuma Valley. Secretary Helworth reports more than 75 per cent of the Pima acreage already enrolled.

The Hood River, Oregon, apple harvest began September 20. Lack of frosts has not colored Jonathans sufficiently, but the hot weather hastened ripening of Winter Bananas.

War time sugar ration cards are to be reintroduced to the Hungarians. Insufficient sugar crops have compelled the government to maintain control over the prices, import, distribution and consumption.

The Kansas state railway commission has filed complaint with the interstate commerce commission against railroad rates on grain. Nebraska and a number of other states will join in the complaint.

Next to the biggest export industry of war born Latvia is the egg business. Over 70,000,000 eggs having been sent chiefly to England last year, with an estimated shipment of between 120,000,000 and 130,000,000 this year.

Australia within the last few weeks has sold over 16,000,000 pounds of frozen beef and 400,000 pounds of frozen mutton to Germany. France is inquiring in Australia for frozen lamb. Australia is also giving increasing attention to the Japanese markets.

The Russian cooperative society "Khleboproduct" has purchaed in Argentina 5,000,000 pounds of meat, for which purpose it has been allotted 500,000 gold rubles by the government. The balance of the cost of the meat will be covered by exports of lumber and wine to Argentina.

The cooperative movement has reached stages in Italy equaled in no other country of Europe, over 8,000 societies having been formed for the purpose of reducing the cost of producing and the cost of living. With a membership of 2,000,000 these societies have an annual turnover of 1,500,000,000 lire. Many maintain their own savings banks, with deposits running up into the millions.

# Freight Rates on Farm Products

IN an address before a mass meeting of farmers and business men at the fair grounds, Davenport, Iowa, Wednesday, October 4, Secretary of Agriculture Wallace discussed the agricultural situation and the agricultural legislation enacted by congress. He referred particularly to freight rates on agricultural products, and said in part:

"One of the heavy burdens which the farmer has been forced to carry at a time when he was least able to carry it has been the large increase in freight rates. In 1920 freight rates on many of the more important farm crops were almost double what they were before the war. These increased rates not only imposed a grievous financial burden but in many cases narrowed the market for crops which were not worth enough to carry the freight rate to distant markets. At the same time the increased rates on the things the farmer had to buy added to his cost of living and the cost of production by just that much. Had prices of farm crops remained at the 1919 and early 1920 levels the higher freight rates could have been paid without inconvenience. A freight rate of 25 cents a bushel when corn is selling for $1.75 a bushel is not a serious matter, but a 25 cent rate on 50 cent corn is ruination. During 1921 the influence of the administration was exerted in every proper way to bring about a reduction in freight rates on farm crops, and a number of important reductions were secured. Rates are still altogether too high, however, with relation to the selling value of crops, and further substantial reductions must come in the near future.

"This railroad question is exceedingly complex and difficult. When the federal government took over the roads it was on the agreement that in addition to proper maintenance they should be assured of earnings equal to the average of the three years, June 30, 1914, to June 30, 1917. Costs of operation were increasing steadily and the government advanced both passenger and freight rates. But materials, and especially wages, continued to advance, the latter with government assent and even encouragement. Inquitous working agreements and shop rules which greatly reduced labor output were accepted. The result was that railroad costs of operation increased far more than railroad receipts. During this period practically everything shipped was selling at a price high enough to have carried a correspondingly high freight rate. Good business administration would have provided for railroad income during those prosperous times large enough to meet the government contract and would thus have saved the hundreds of millions which the government afterward had to pay. Also it should have made it possible for a prompt reduction in rates when the prices of farm crops made it necessary.

"The urgent demand by farmers for large reductions in freight rates has led some people to think that if the farmers could have their way they would put rates so low that the roads could not possibly operate. Nothing could be further from the truth. The farmer is almost wholly dependent on the railroad for the movement of his surplus crops and livestock. Much agricultural freight is perishable and must have expedited movement. The farmer, therefore, has a direct interest in efficient railroad operation and knows that the roads must be permitted to charge enough to cover all proper costs of operation and enough in addition to give a fair return upon the money invested and thus keep capital in the business. Neither does the farmer want government operation of the railroads. He had enough of that in his three years' experience to satisfy him for all time. He will never forget the losses, both direct and indirect, which he suffered because he could not ship when his stuff was ready for market, and because of bad service.

"Nevertheless, freight rates on farm crops and livestock must come down. With present prices for his crops and with probable prices for the next year or so the farmer simply cannot afford to pay the present rates. They are out of all proportion to the pay he gets for what he grows.

"The distortion between the freight revenue received by the railroads and the prices for the principal farm crops in the year 1921 can be illustrated in this way: In 1913 the average amount the railroads received for hauling a ton of freight one mile would buy 1.4 bushels of corn in Iowa; in 1921 the revenue received by the railroads for hauling a ton of freight one mile would buy 3.1 bushels of corn in Iowa. In 1913 this revenue per ton mile would buy 1 bushel of wheat in North Dakota; in 1921 1.1 bushel. In 1913 6.1 pounds of cotton in Texas; in 1921 10.5 pounds. In 1913 10 pounds of hogs in Nebraska; in 1921 18 pounds. In 1913 1 bushel of potatoes in New York; in 1921 1.5 bushels. In 1913 14 pounds of sheep in Wyoming; in 1921 22 pounds. In 1913 2.1 bushels of oats in Illinois; in 1921 3.9 bushels. In 1913 3.1 pounds of butter in Missouri; in 1921 4 pounds.

"It would not be fair to assume from what I have just said that the increased purchasing power of the freight revenue represented profit to the railroad. On the contrary, railroad cost of operation increased even more rapidly than railroad receipts. Apparently the largest item in the increased cost of railroad operation was composed of the advanced wages given railroad employes. It is interesting to compare the purchasing power of the average yearly earnings of railroad employes in the year 1921, expressed in terms of farm products. Taking the average yearly earnings of railroad employes, we find that in 1913 the yearly wage would buy 1492 bushels of corn in Iowa, and in 1921 4112 bushels. It would buy 1028 bushels of wheat in North Dakota in 1913; in 1921, 1466 bushels. In 1913 it would buy 6449 pounds of cotton in Texas; and in 1921, 13,934 pounds. It would buy in 1913, 102 hundredweight of hogs in Nebraska; and in 1921, 237 hundredweight. It would buy 148 hundredweight of sheep in Wyoming in 1913; and in 1921, 296 hundredweight. In 1913 it would buy 1087 bushels of potatoes in New York; in 1921, 1916 bushels. In 1913, 2174 bushels of oats in Illinois; in 1921, 5109 bushels. In 1913 3309 pounds of butter in Missouri; in 1921 5285 pounds.

"A hopeful sign which points toward the possibility of reductions in railroad rates is the gradual reduction in the part wages contribute to the total operating cost. Apparently the railroads are making steady progress in the reduction of these costs, and should therefore be able soon to make substantial reductions in freight rates on farm products.

"In considering the matter of freight rates of agricultural products there are two things which should always be kept in mind. First, that the cost of transportation is essentially a part of the cost of production, so far as agriculture is concerned, and any increase in transportation costs must come out of the price the farmer receives. In this the farmer is at a disadvantage with the manufacturer, the jobber or the retailer, all of whom as a rule are able to add increased transportation costs to the price they get from the buyer and who are therefore interested not so much in the freight charge proper, but in being assured that the freight charge, what-

(Continued on Page 393)

# Date Growing in Salt River Valley

By M. E. Bemis

Date Palm Tree On the Farm of H. G. Mosse

This tree has yielded dates which have sold for $100 or more annually for the past several years. The platform shown was erected to facilitate picking.

Those fortunate owners of bearing date palms in southern Arizona have realized splendid profits from their trees. Apparently there is a great future for the growing of dates provided sufficient numbers of offshoots are obtainable for planting in commercial quantities. Perhaps more important even than this is that those planted should live.

Several years ago the state experiment station checked up on offshoots which had been distributed through the station and found, as I recall, that only about seven per cent had survived. More careful attention on the part of studious growers has resulted in a higher percentage of offshoots surviving but, even at the best, there is still much to be desired in the way of successful propagation.

In order to determine the best methods of planting offshoots, there is being tried out at the state experiment farm at Mesa a number of experiments which will, it is believed, show quite definitely the methods that should be followed.

Several hundred offshoots have been planted in the test gardens. Some of these have been planted in trenches underdrained, with a good supply of crushed rock; others have been planted in river sand; some in a rich soil; and still others have been planted in pots also under varying types of soil and drainage conditions. Some pots are set in the ground, others on top. These have been planted in the open.

The same conditions as to soil and drainage, pot planting, etc., have been duplicated in a lath house around which are growing vines to prevent the effect of drying winds. By the end of the season this experiment will be far enough along so that it is believed that growers fortunate enough to have, or to be able to obtain, offshoots may plant them with a better assurance of success than formerly.

Superintendent C. J. Woods has one row which he is trying out under a system of his own. These are set directly in the ground and protected with burlap. At the present time these show up rather more favorably than the average although it is by no means definitely certain that this will be the better method of the several being tried out.

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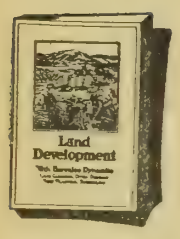


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# Walnuts Around the Globe

IN California walnut growing is a highly organized business. Elsewhere in the world it is merely an incident. This is the conclusion of Carlyle Thorpe, general manager of the California Walnut Growers Association, who returned recently from a four months' investigation tour of the principal walnut producing countries to determine the relationship of the walnut business in China, Italy and France to that of California. He found walnuts growing in the temperate belt almost all the way round the world.

In China he visited walnut growing districts lying as much as 1500 miles apart. In one region, adjacent to the great Gobi desert he pressed into country which, it is said, was never before explored by a white man. This trip was made on camel back, with many accompanying hardships and dangers.

"Walnut growing in China and other countries of Asia and Europe is incidental to other agricultural activities," said Mr. Thorpe yesterday. "It is not pursued as a business. One finds the walnut trees growing haphazard, with crops of citrus, flax, grapes, grain, vegetables and other predominating crops.

"There are walnut trees scattered at random over all the farms in the foreign walnut growing countries, but the trees get no such care as they are given in California. The foreign walnut trees get only such care as the coolie or peasant gives to the crops which occupy the surface area of the land upon which the nut tree happens to be growing.

"And yet the production of foreign walnuts is tremendous. The average number of trees to the farm is perhaps not more than half a dozen, and yet the industry is so widespread that the total tonnage is gigantic. It makes sharp competition for the California walnut, and we are fortunate indeed to have recently secured an adequate import duty on the foreign product."

Mr. Thorpe says that the foreign walnut grower is able to produce nuts at a ridiculously low cost, partly because they are a side issue, and partly because his help works from 11 to 16 hours a day at a wage not exceeding 35 to 50 cents a day. The Italian walnut crop will be fully 60 per cent above normal this year, but of only medium quality because of a protracted hot wave during the summer. The crop in France will be 20 per cent above normal and the quality good. The crop in China will be normal because the trees are so hardy that no visitation of extreme weather has any noticeable effect upon them. They plod right along from year to year with about the same average tonnage and uniform quality.

In France Mr. Thorpe found the farming class decidedly prosperous.

"If conditions there are not quite what one might expect, it is probably because of a faulty system of taxation," declares Mr. Thorpe. "The populace in general is well fixed. The old shell holes made by the war, and the barbed wire entanglements have all been smoothed out and bumper crops have again taken their place.

"All of the war torn countries are being rapidly rebuilt, but along lines followed centuries ago. There appears to be no advanced or even modern thought in reconstruction. New buildings are designed as they were hundreds of years ago.

"There is no good system of sanitation, and modern conveniences are sadly lacking. The homes and public buildings have no running water. Water for all purposes is carried from the town wells, sometimes a block or so away. The farming people and the laboring classes in America enjoy comforts of all kinds that have never even been dreamed of by the well to do classes in Europe and Asia."

# Ventura County Fair

By Ernest Braunton

NO account of this splendid fair would be started right, from a horticultural view, if it did not commence with table grapes. These were the finest the writer has ever seen—that is, the largest, both in berry and bunch. In the lot was a new one from Italy, a black grape called "Bonarda," one bunch weighing a little more than 12 pounds.

Aside from smaller individual exhibits, also those in community booths, two growers had each a large table with plates, baskets and boxes of the leading varieties that grape experts from other parts said would do credit to any fair in the land. M. L. Montgomery of Simi exhibited 16 varieties and L. Snow and Son of Sespe 14 varieties. The judges awarded first prize to the latter as a display because the individual grapes were uniformly larger but in firsts among varieties the honors were about even.

### Other Displays

In individual booths of large si e there were but three, but of a high order. First prize was awarded to a school boy, James Thurmond, of Saticoy, the material all grown on "dad's" ranch. The young man is a member of the calf club and said first money would pay for a purebred calf he had just bought; hence the unusual work evidenced in the booth. The second prize went to Thomas Middleton, Santa Rosa Valley, for produce of equal merit but of many less varieties.

One of the most appetizing exhibits was that of a Ventura County "infant industry," the candied or glaced citrus fruit display of the California Fruit Confection Company of Camarillo. They had large boxes and small packages of candied peel of oranges, lemons, pomelos, etc., in halves, quarters, slices, cubes and finely ground, all extremely inviting, but under fast glass covers so that even the judges passed them by with only a sigh.

### Improved Walnuts

The Saticoy Walnut Growers' Association had the largest and most tasteful display of nuts, in four varieties—Placentia Perfection, Santa Barbara Soft Shell and two improved selections from the latter, the Wason and Pride of Ventura.

The latter was selected and perpetuated through grafts by O. E. Tucker of Saticoy. It is as large and of as fine appearance as any of the type shown but the nuts are not so tightly sealed as those of the Wason. This variety was first planted in orchard quantity by the man whose name it bears, but the variety was selected by Gwyn Thurmond of Saticoy who furnished grafts for a 30 acre orchard to Charles Wason, a neighbor. It is most highly recommended for Ventura County planting.

The state department of agriculture had extensive exhibit of rodents and other small animal pests, also of the state's worst weeds, in charge of W. S. Killingsworth. Horticultural Commissioner Call showed the largest and most varied collection of beneficial insects the writer has seen at a county fair. These were in cheescloth cages, together with their unfortunate hosts and branches of the trees they infest, an exhibition of great educational value to students of horticulture.

### QUARANTINE OFFICERS VIGILANT

L. A. Strong of the plant quarantine service reports conviction of shipper of household goods from Utah, for using alfalfa hay as packing material. Though coming from alfalfa weevil infested district, the shipper had sworn to false affidavit. He was fined $50, his goods unpacked at the railway station and hay burned.

### WHEAT STRAW DETRIMENTAL

Soil and crop experts at the experiment station at Geneva, New York, report rather surprising results obtained from the use of wheat straw with horse manure in a series of tests recently brought to a close. Whenever straw was added to the manure, together with some preservative such as peat or acid phosphate, a marked loss of the organic matter of the manure was noted. Also, when fresh straw was added to manure applied to growing crops a decidedly detrimental effect was noted as compared with the results secured from the use of fresh manure alone. No satisfactory explanation of these results has yet been found and the question is receiving further attention from the station experts.

With the addition of peat to a manure straw mixture the loss amounted to 53 per cent during an interval of four months as compared with a loss of 32 per cent where peat was used in the manure alone. In a mixture of manure, straw, and acid phosphate the loss amounted to 35 per cent in four months, while with acid phosphate and manure alone this loss was only 25 per cent.

It is pointed out by the station specialists that the beneficial effects of manure in improving the mechanical condition of the soil are due largely to the organic matter which it contains, so that it is highly desirable to avoid any practice which hastens the loss of this material. So far as the station experiments have gone, it seems that the best results will be secured where acid phosphate is mixed with the manure as soon as it is voided and the mixture stored in a covered shed or pit until such time as it can be conveniently spread on the field. Scattering two handfuls of the acid phosphate in each stall each day and allowing the animals to trample it into the manure is said to be quite satisfactory and much easier than trying to mix the materials in any other way.

### AUSTRALIAN ORANGE GROWERS COOPERATE

Citrus producers of Victoria, New South Wales and South Australia are planning to ship cooperatively to London. Only Navel oranges are to be shipped at first, and special attention will be given to standardization of quality and pack. California orange boxes are to be used and the individual fruit wrapped in paper carrying kangaroo design. The kangaroo will also appear on the box. The state departments of agriculture have been active in working for the success of this cooperative plan. The Sydney Telegraph says:

"This cooperative movement of the orange growers has resulted from the bitter experience witnessed in the past by growers who undertook to ship their commodity privately. The insufficiency of private shipping enterprises, the reports advise, has prompted the producers to form an organization for the handling of their oranges for export."

### SAVE THE OASES OF TUNIS

The gradual encroachment of sand onto the oases of the Djerid of Tunis is bidding fair to swallow them up according to a report to the department of commerce from the American consulate at Tunis. The French government, however, has seen the danger and now there is being constructed an earthwork surrounding the oases at about 300 yards from them. This is surmounted by a palisade of palm leaves against which the wind heaps the invading sand, forming a dune. Tropical trees and shrubs are afterwards planted in this dune, making a permanent barrier protecting the oases which produce a food shipped to every corner of the world.

"Feet in water and head in fire" is the Arab description of the date palm upon whose fruit the 22,000 inhabitants of the oases mainly depend for a living, says T. E. Jeneid of the American consulate at Tunis in a report to the department of commerce. Although there are over a hundred different varieties of dates, the Arabs simply divide them into three main groups—those that will stand keeping, those eaten before maturity, and those eaten after maturity, and it is the date palm of the Djerid which serves the Arabs in as many different ways as the bamboo serves the inhabitants of the Far East. In the first place it is the staple food of the natives, the domestic animals disposing of any waste. The palm leaves are used for the making of hats, baskets, matting and a host of household articles; the long palm itself is used in construction work. Palm trees, when tapped, yield a certain liquid not unlike coconut milk and above five quarts a day for a month is obtained.

### NEW BEVERAGES FROM SURPLUS FRUIT

The Fruit Products Laboratory of the University of California has recently perfected methods of producing carbonated drinks from berries, grapes and other fruits which promise to provide an extensive outlet for much of the state's surplus fruit. The new drinks contain no artificial color, flavor or preservative. They are pure fruit products and have met with favor because of their purity and high quality. They are prepared in the Fruit Products Experimental Factory in Hilgard Hall at the University of California, by methods developed by W. V. Cruess, associate professor of fruit products, and J. H. Irish, chemist in fruit products.

### OILED WRAPPERS FOR APPLE SCALD

Results during 1921 in preventing apple scald in stored apples by the use of oiled paper wrappers have confirmed previous reports that the trouble may be controlled in this way, if the oiled wrappers carry a sufficiently high percentage of oil. The United States department of agriculture has recommended that the wrappers carry 15 to 20 per cent of oil, if they are to be effective in preventing the development of scald.

### DWINDLING FORESTS

If the supply of food consumed by each man, woman and child were reduced by one-third, the pinch of hunger would soon be felt and the cry of famine would undoubtedly be raised.

Yet substitute the word "wood" for "food" and you have exactly what has happened in the use of lumber; for the per capita consumption has dropped from 500 board feet in 1906 to 316 board feet in 1920, says the forest service, United States department of agriculture.

This decreasing use of a fundamental commodity, according to forest experts, is not a result of decreasing needs but a result of forest exhaustion. It is not being accomplished without economic hardships or without curtailment of industrial expansion. It is not a temporary condition that will automatically adjust itself, for even at this reduced rate of consumption we are still cutting our forests more than four times as fast as they grow. The situation proclaims, according to the forest service, that if we are to remain a nation of timber users, we must become a nation of timber growers.

In 1906, when American lumber production reached its highest point, the average per capita consumption of lumber in the United States was approximately 500 board feet. Since that time the per capita consumption has rapidly and consistently decreased until in 1920 the average citizen used approximately 316 board feet. This is a reduction of 37 per cent in 13 years, or nearly 3 per cent a year. Should this decrease continue at its present rate, by 1940 the downward sweep of consumption would approach zero. This, of course, will not happen. The average consumption will ultimately reach a fairly stable level, which will depend mainly upon the extent to which our devastated forests are made again productive. The greatest per capita consumption occurs where wood is plentiful and the population is relatively small. In Washington and Oregon the consumption appears to be between 900 and 1,000 board feet annually per person.

Next come California, Montana, Idaho, and Wyoming, where the rate of consumption is from 500 to 800 feet per person annually. In these states timber is relatively plentiful as compared with the density of the population, and a very considerable expansion has been taking place in the development of farms and other natural resources.

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More farm implements, machinery and farm wagons were sold in the Chihuahua district of Mexico during 1921 than in any other year since 1912, says Consul Stewart. This was due to peaceful conditions.

---

Spring flowering shrubs should be pruned as soon as they are through flowering. The purpose is to shape up the plant and encourage the natural growth.

---

Corn cut about three-quarters of an inch long is about right for the silo.

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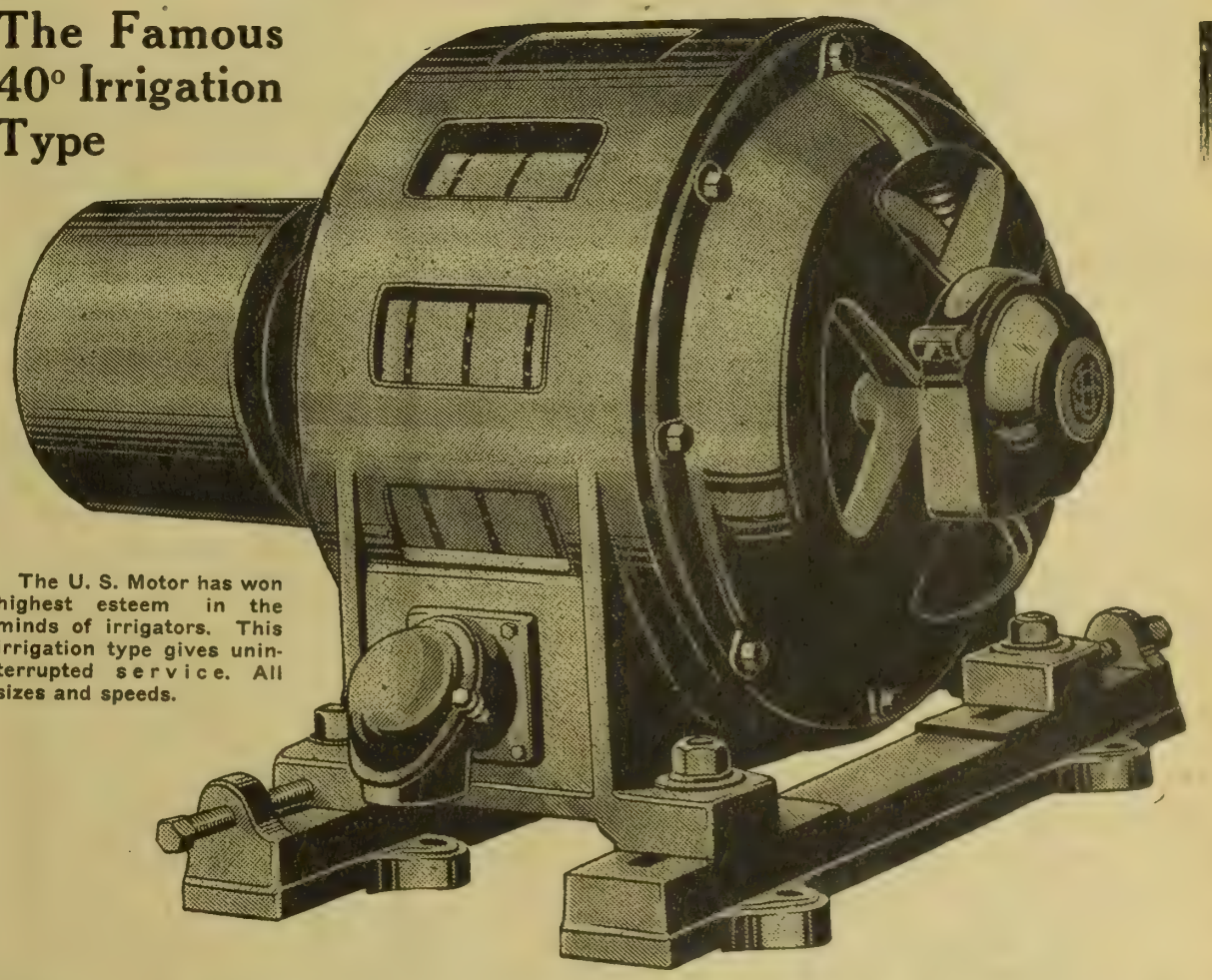

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*Packed in 100 lb. Burlap Bags*

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Ground to extreme fineness, ready for immediate application to the soil. This product is so finely ground that it is in every respect equal to special brands for which high prices are commonly charged.
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An exclusive Texas Gulf product. Specially ground flour sulphur inoculated with sure-acting oxidizing bacteria which make the sulphur quickly available for plant food. As commercial sulphur is apt to be inert in the soil and its full effects are usually not noted until the second season, we advise the use of Texas Gulf Inoculated Sulphur where quick action is needed, and especially for late applications. In any event, test it on an acre or two this season and compare results.
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# Underirrigation

According to a statement just issued by Farm Adviser Hodgson of Los Angeles County the recent series of field meetings on irrigation nad control of soil moisture held in the citrus districts of that county has indicated a rather surprising condition. Instead of what many investigators have surmised to the effect that overirrigation is the rule, the hundreds of borings made in the course of these field meetings showed rather conclusively that the average citrus orchard in Los Angeles County at this season of the year has been underirrigated. Ninety per cent of the borings made in orchards showed the soil moisture below the optimum. Growers were astonished in many cases at the results found through the use of the soil auger. In one case where water had been applied two weeks previous borings were made in the irrigation furrows and between them. In the irrigation furrows which were spaced at intervals of three feet soil was found to be nearly bone dry to a depth of six feet. In many cases the upper foot or 15 inches of soil showed fairly good moisture conditions, but below that depth the soil was entirely too dry for proper developing of feeding roots.

As a result of this field study it is apparent that the average citrus grower has either not been applying sufficient water to take care of the needs of his trees or has been applying it at too great intervals to meet the demands of the feeding roots. Actual measurements of the amount of water applied tends to verify the conclusions reached through the borings, it having been found that many growers are not using more than 15 acre inches of water during the year. The water requirement of citrus trees is generally regarded to be between 35 and 50 acre inches per year. Subtracting that part of the winter rainfall which penetrates the soil and does not run off in almost all sections leaves a requirement of from 25 to 30 inches to be applied during the irrigating season.

As a result of the meetings, which were largely attended and productive of great interest, it has been decided to locate demonstration orchards during the coming year which will be irrigated following the recommendations of the extension service, these recommendations being determined by the use of the soil auger at frequent periods.

# Preserving Fruit for Exhibition

The following directions taken from Extension Service Farm News of the Texas college of agriculture are of interest to those who are preparing fresh fruits for exhibition at the fall fairs or chamber of commerce exhibits:

In preserving fruits for exhibition results depend as much on the state of ripeness of the fruit and the care with which it is handled as on preserving material used. Fruit for exhibition purposes should be picked when hard ripe, not overripe. Extreme care should be exercised that the fruit is not bruised and it is useless to attempt to preserve for exhibition any fruit that shows a trace of decay. Such fruits should be handled so that none of the bloom is removed.

It is best to keep all fruits for processing in a cool, dark place for 24 hours before they are placed in the preserving fluid. The jars should be filled to the neck with carefully selected specimens and then filled with the fluid to within half an inch of the top of the container. The containers must be made air tight and placed in a cool, dark place. They should be examined every day or two, and if the liquid is cloudy or the fruit does not appear to be keeping properly, all of the liquid should be poured off at once and replaced with fresh solution.

Where glycerine or glucose is used and the fruit cracks, this shows that too much has been used, and the liquid should be immediately poured off and a smaller amount of glucose or glycerine used. Should the fruit shrivel, it shows that not enough glycerine or glucose was used and more should be added.

Below are given a few successful formulas:

Dark colored fruit: (1) To every gallon water add 1½ ounces formaldehyde and 1 quart glucose.

(2). To every gallon of water add ¼ ounce salicylic acid and 3 fluid ounces glycerine.

(3). Two ounces of boric acid to 1 gallon water.

(4). Formalin 1 pound, water 4 pounds, alcohol 5 pints. Allow the mixture to stand and should there be any sediment pour off the clear liquid and filter the remainder through filtering paper.

(5). Formalin 1 pint, salt solution 2 pints, water 17 pints.

(6). For a short time strawberries and other dark colored fruits may be preserved fairly well in a saturated solution of common salt.

Light Colored Fruit: (1). To 1 gallon of water add 2 ounces of fresh sulphurous acid, stir well, then add 1½ ounces glycerine.

(2). To 1 gallon of water add 1 pint sulphurous acid, 1 pint alcohol.

(3). Dissolve 1 pound zinc chloride in 2 gallons of water. Stir until thoroughly dissolved, then add 3 pints alcohol, let stand until clear and filter.

(4) To 1 gallon of water add 1 pint glycerin, 5 ounces powdered borax. Then after 15 days add 2 ounces sulphurous acid to each gallon of mixture.

Fruit preserved by the above formulae is for exhibition only and is unfit for consumption.

### VINE PRUNING SYSTEMS

Frederic T. Bioletti is author of Circular 245 of the College of Agriculture, U. C. It is only a four page circular but has many suggestions on pruning. Prof. Bioletti's conclusions are:

In nearly all cases where the head pruning system is known to give perfectly satisfactory results, it should be chosen. It is the most economical and best understood by most grape growers. It usually gives good results with the following varieties of grapes:

Medium trunk: Muscat, Verdal, Palomino, Zinfandel, Alicante Bouschet, Duriff (Petite Sirah), Beclan, Grand Noir.

High trunk: Tokay, Rose of Peru, Black Prince, Mission, Malaga.

Cane pruning should be adopted only when neither of the other systems gives as good results. It is used almost always for Sultanina, Sultana, Black Corinth, Pierce, Concord, Isabella, Catawba and most Labrusca varieties.

Cordon pruning can be recommended for Emperor, Ohanez, Cornichon, Molinera, Black Monukka, Zabalkanski, and most vigorous large fruited table grapes, especially when growing is very fertile soil.

### BIG POTATO CROP

"With a prospective potato crop of 440,000,000 bushels this year and a corresponding decline in prices, grading becomes increasingly important if producers are to receive a fair return for their labor," says F. G. Robb, marketing specialist for the United States department of agriculture. "The department's records show that in a season of abundant supplies and low prices only products of high quality command the attention of buyers. Under such conditions it is almost impossible to market ungraded or mixed potatoes except at a loss."

### CROPS AND HARVEST

Agricultural conditions in the twelfth district are reported by Chairman Perrin of the federal reserve board under date of September 27:

Weather conditions up to September 15 remained favorable for crops of the district, and the harvest is expected to yield in most cases normal or larger than normal quantities. Fore-

casts of the 1922 yield of wheat remain unchanged at 98,000,000 bushels, 24,000,000 bushels less than were produced in 1921, but slightly in excess of the five year average production. Movement of this season's crop to market up to September 15 has been unusually slow. Flour mills are now grinding new crop wheat and in August, 1922, operated at 47.2 per cent of capacity compared with 28.7 per cent in July, 1922, and 43 per cent in August, 1921. The carlot movement of fruit from California to September 1, 1922, was larger than last year to the same date but prices received have averaged lower than in 1921. Shortage of refrigerator cars is hindering shipment of the large grape crop.

### COLD STORAGE AIDS IN MARKETING PLUMS

Cold storage can be used as an aid in the marketing of California plums, is the finding of Professor E. L. Overholser of the pomolcgy division, University of California, as a result of investigations in this problem. The plum has not been regarded heretofore as a cold storage fruit, being stored at most only a few days to avoid a temporary glut of the market.

The investigations reported in Bulletin No. 344, indicate that certain varieties of California plums can be held in storage for optimum periods of about six to twelve weeks. After removal from storage these plums will hold up in good dessert condition for an ample period to admit of handling on the market.

A copy of Bulletin No. 344 may be secured by addressing Director of Agricultural Experiment Station, Berkeley.

### TIME TO USE PARADICHLOROBENZENE

In Ohio they have figured out dates for using paradichlorobenzene for killing peach borer. Their dates may have little interest for California excepting they may help us to fix on our own best dates which presumably are later than in temperate climate sections. The experiment station of that state suggests:

Gas attacks on the peach borer should be delayed in the southern part of the state until the middle of September and should be concluded by mid-October. In northern Ohio the paradichlorobenzene treatment could have been applied two weeks earlier and should be completed two weeks earlier.

It is not that the chemical will not work at any time when there is sunshine; only that the fall brood of peach borers will not hatch in the lakeshore counties until around the first week of September nor in the southern counties until the middle of the month. Treatments applied before this hatch take place miss a good part of the brood.

T. H. Parks, extension entomologist, tells how to use the paradichlorobenzene. It comes in powder form and is laid down in circles around the trunks of peach trees, where it releases a gas that seeps into the ground and gets the borers. He says:

"Clear the ground and level it for a circle of 6 inches from the trunk. Remove gum from the bark and then lay down the girdle, using not more than an ounce of the chemical on mature trees and less than an ounce on trees between four and six years old. Make the girdle about six inches from the trunk and about an inch wide. Cover with fine soil, compacted to a cone, and let it stay for about three weeks."

### TOP-WORKING OVERWORKED

There seems to be a fad at present, more common in city and town than in rural districts, for top-working all sorts of trees that have not proven satisfactory. Such changes in orchards where the majority of trees are good producers is advisable. But if one has an orchard fruitless by reason of lack of care, top-working will not prove of aid. An owner of a hillside apricot orchard on stony, clayey soil, where trees had never received sufficient water, asked what he could top-work them to that would produce fruit. The only course of procedure in this case would be to root trees out, blow holes with dynamite and start anew. The soil is clayey and mixed with stone, but of good depth. But this note is written to warn tree owners that if trees are in poor condition top-working is not justified. Top-work only vigorous trees, no matter of what kind or class.

### REDUCTION OF RATES ON GREEN FRUITS FROM UTAH

In the very near future Utah will undoubtedly be shipping green fruits including apples and peaches, to markets east of the Missouri River on a reduced rate schedule.

This reduction comes as a direct result of the conference between the Utah State farm bureau and the Union Pacific, later taken up with the interstate commerce commission, on the rate applying on potato shipments.

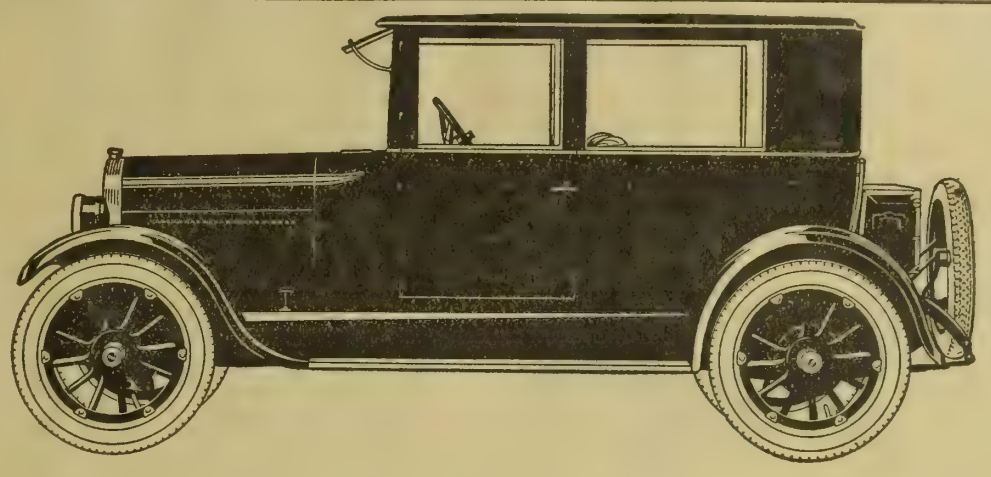
### FREIGHT RATES ON FARM PRODUCTS

(Continued from Page 389)

ever it may be, places them at no disadvantage in meeting competitors. Second, our business and industrial life has been built up on a system of relatively low railroad rates for agricultural crops, designed to encourage their movement over long distances to industrial and business centers. A sudden reversal of this theory of rate making results in great economic injustice, from which the farmers are suffering now, and if persisted in will keep us in a state of confusion and agricultural and business uncertainty for a prolonged period. The increase in freight rates by the horizontal method, having little regard to the character of the product and to the economic effect upon the business of the nation, is wrong in principle and cannot be continued without baneful results to agriculture.

"Freight rates on farm products must be brought down without impairing in any way the efficiency of the transportation service."

"Better late than never" was written as an agricultural axiom by Thomas Tusser, an English farmer, in his "Five Hundred Points of Good Husbandry," one of the first published works on agriculture in English.

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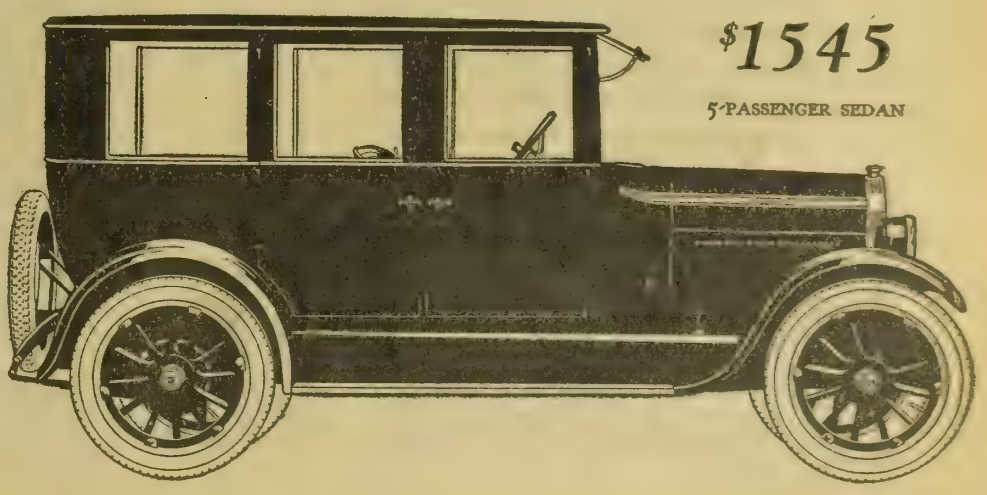

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## FRUIT BY-PRODUCTS

(Continued from Page 387)

### Fuel Efficiency

To put another way: If one gallon of crude oil is burned and evaporates 135 pounds of water, the fuel efficiency is 100 per cent. If it evaporate less than this amount of water the efficiency is less than 100 per cent. This fact affords a simple means of comparing the efficiency of different dehydraters. The weight of fresh fruit minus the weight of the dried fruit will give the weight of water evaporated in a given case. This figure multiplied by 1000 and divided by the gallons of oil used times 135,000 will give the relative efficiency of the plant in question. Or it may be expressed thus:

(Pounds of green fruit—pounds of dry fruit)x1000 divided by gallons of oil x135,000 equals fuel efficiency.

For a good dehydrater the result should exceed 40 per cent. Very few dehydraters will show an efficiency in excess of 50 per cent; a number are below 40 per cent and a few are as low as 25 per cent. The fuel cost is one of the most important items in the cost of dehydration, therefore, before buying a dehydrater investigate by actual trial or obtain the record of an official test of the type of dehydrater in question. It is also necessary that the dehydrater frunish enough heat to cause rapid drying.

### Necessity of Air

The rate of drying is markedly influenced by the velocity of the air used in drying. The difference between an oven and a dehydrater is one of air flow. Some so-called dehydraters are more properly termed ovens.

Air has two functions in the drying of fruits. It carries heat to the fruit, causing the fruit to give up its moisture and, secondly, it carries the moisture so liberated from the dehydrater. The former function is much the more important of the two and is the one that should be considered in calculating the size of fan that will be required for a dehydrater of given size. From four to eight times as much air is required for the purpose of carrying heat to the fruit as is required for transporting the moisture from the dehydrater. Some manufacturers of dehydraters in the past have used the moisture carrying property of the air as a basis of calculation for the amount of air required, with the result that their dehydraters dried the fruit very slowly and were extremely inefficient. I am glad to report, however, that most dehydraters being built this year are adequately supplied with air.

### Volume of Air Required

If the capacity of the dehydrater is known, that is, if the tons of green fruit per charge is known, and the drying time for that variety of fruit in a well designed dehydrater is also know, the volume of air per minute required to dry the fruit in the desired time can be estimated and the size of fan required can be determined. Thus, if the dehydrater is to hold ten tons of prunes and is to dry them in 24 hours with a drying ratio of 2½ to 1 it will be necessary to remove 12,000 pounds of water per 24 hours or 8.3 pounds of water per minute. It has been found that there should be a minimum supply of 1750 cubic feet of air per minute to remove one pound of water per minute; or in the above case 8.3x1750, or a minimum of 14,525 cubic feet per minute would be required. If various heat losses and leakage are taken into account it will be found that the dehydrater should be supplied with at least 20,000 cubic feet of air per minute.

Static pressure of air friction in the dehydrater will reduce the amount of air delivered by the fan in proportion to the amount of friction or static pressure exerted. Thus a long tunnel or small air passage will increase the static and reduce the air flow. Consequently this condition must also be taken into account in determining the size of the fan and the horsepower of the motor to operate the fan. A tunnel of the usual type and holding the above amount of fruit will show a static pressure of 1.5 to 2 inches. Fan tables are obtainable showing the size of fan and horsepower for motor to deliver various volumes of air at these static pressures.

Make all due allowances for static pressure and for volume of air required and add a safety factor of at least 25 per cent to care for unexpected contingencies. Very few dehydrater builders have made the mistake of installing fans that were too small for the purpose.

A safe way of estimating the amount of air needed is to allow 250 cubic feet of air per minute for each one hundred square feet of tray surface.

### Recirculation

Recirculation of the air is extremely important for two reasons: First, for the conservation of fuel; and, secondly, for the purpose of controlling humidity of the air. From three-fourths to two-thirds of the air can be used repeatedly and the remainder allowed to escape from the dehydrater. The extremely low fuel efficiency of some dehydraters has been due to the fact that no provision was made for the recirculation of the air used in drying. The old stack and Oregon tunnel forms of dehydraters are objectionable for this reason. In the old forms of dehydraters, or, we may say evaporaters, all of the air is allowed to escape from the ventilator and none of it is used a second time. The Oregon experiment station is attempting to persuade the growers in Oregon to install fans and recirculation flues in these driers to increase their efficiency and to improve drying conditions. The return flue or duct should be large in order that the flow of the air is not impeded; a great deal of difficulty has been experienced in some plants because of the inadequate size of the return flue.

### Selecting the Dehydrater

What style of dehydrater is most desirable is the eternal question that is asked Professor Christie and others of us at the university; and we are even asked which particular make of commercial dehydrater is best. We can answer question number one; but number two can only be answered by yourselves. We are not selling anyone's dehydrater and are not advocating anyone's dehydrater. It is up to you to make the necessary investigation yourselves; but we can tell you how to make the necessary comparisons. We have found that all things considered, that form of dehydrater known as an "air blast tunnel dehydrater" is most satisfactory. There are a number of different companies building this type of dehydrater and most of their machines are reliable.

Shall you build your own or shall you buy your plant from an established company? Take your choice. The former method requires that you make a careful study of dehydrater building and that you spend a great deal of your time buying materials and in supervising the building of the plant. You may save some money by so doing, just as is the case when you build your own house; but you may also make several very costly errors and have to spend much time and money rebuilding the plant without having a satisfactory dehydrater. If you hire an established concern to build the plant you are relieved of this responsibility, but, of course, must pay for the service. The University does not have the necessary draftsmen and facilities for preparing the elaborate plans and specifications required for the building of dehydraters, although sketches are available in the monthly bulletin of the state department of agriculture for February, 1921. However, I would say for your information that the sketches there given are somewhat out of date, because of the rapid progress made in the past two years in dehydration. Professor Christie is now giving all of his time to dehydration problems and is glad to advise with you whenever you should feel that you are in a position to seriously consider dehydration as a means of caring for your surplus fruit.

### Summary of Principles

By way of summary of the principles of dehydration, I would state that a dehydrater should embody the following points:

1. It should be an air blast tunnel type, preferably horizontal blast.
2. It should have an adequate supply of heat.
3. It should have ample air flow; at least 250 cubic feet, per minute per 100 square feet of tray surface.
4. Air flow over the trays should be uniform.
5. Fuel efficiency should exceed 40 per cent.

Last, but not least, the dehydrater should not be so costly as to be unprofitable. Experience has shown that a good dehydrater can be built for less than $500 per green ton capacity per 24 hours. Thus, if the dehydrater is designed to dry 10 tons of prunes per day, it should cost not more than $5,000.

### Dehydration of Cling Peaches

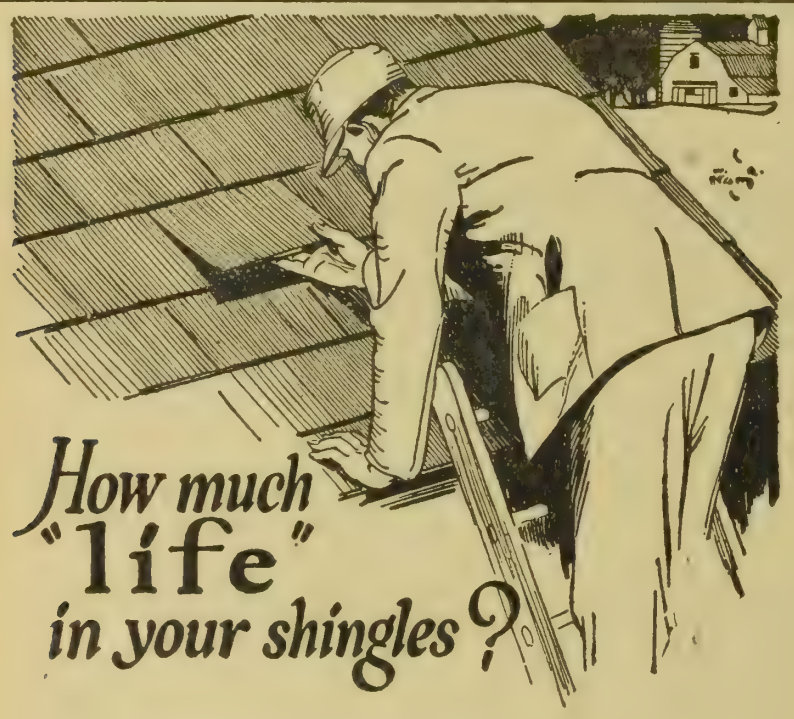
Professor Christie has dehydrated 4 tons of Tuscan Cling and 2 tons of Phillips Cling peaches at the university farm in the dehydrater of the fruit products division. The fruit was lye peeled after hand pitting and halving. Ordinary cannery equipment could be used for this purpose. The dehydrated fruit is of beautiful appearance and excellent cooking quality. When refreshed by overnight soaking in water it returns to its natural color and form perfectly and closely resembles the canned fruit after such refreshing.

The drying ratio on the cling peaches is greater than for freestones; because of the lower sugar content of the former.

The fruit has been placed in half pound cartons under the university label; samples are shown herewith. This will be offered for sale in the bay cities and we shall within a few months have data on the response of the public to this new product. We believe that it is a winner and is destined to find a place in California's fruit industry.

### Dehydration of Freestone Peaches

Muir and Elberta peaches were de-

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hydrated at the university farm two years ago with marked success. The fruit was not lye peeled, but was merely cut in half, sulphured and dehydrated. The product was received at the packing house as first quality. We believe, however, that this fruit should also be lye peeled and sold in carton packed form. It would then be distinctive and more attractive than the usual sun dried product and would not have to compete with it.

I am "sold" on the idea, to put it in a slang phrase, of dehydrating your surplus freestone and also clingstone peaches. I am, however, certain that if you do not peel the fruit and offer it in carton form, any attempt to dehydrate and sell such fruit in competition with the sun dried fruit is doomed to certain failure. If you are going to undertake this method of caring for your surplus fruit, you will have to forget sun drying methods and "do the job" properly. There are no two ways about this fact.

### Dehydration of Plums

Freestone plums make a beautiful dehydrated product; some of the red varieties being particularly desirable in this form. Clingstone varieties can be lye dipped as is done with prunes, sulphured a short time and dehydrated. We have dried only very limited quantities in this manner but find the product very promising. In spite of their high acidity, plums have considerable sugar and the drying ratio is about the same as that of apricots; judging from our extremely limited data.

More work must be done on the dehydration of this fruit, but we believe that it has possibilities. What the market would be no one can say. Canned plums are not used in any great quantity. Whether you could persuade the housewives of America to eat dehydrated plums, I am unable to predict; but there is at least a good gambling chance that you could persuade them to at least try them; and one trial would probably bring return orders.

My advice would be that you make the old "standbys," such as dehydrated peaches and pears, bear the expense of the venture and pay the way for dehydrated plums.

### Dehydration of Pears

In 1920 we dehydrated several tons of unpeeled halved pears in the university farm dehydrater. They were of good flavor and cooking quality, but not attractive in appearance. Others have had the same experience.

This year Professor Christie has dehydrated about six tons of pears after hand peeling, coring and halving. The peeled pears were sulphured a short time and were then dehydrated at a moderate temperature. The finished product is of excellent appearance and even better cooking quality. It is a first class product in every way. It cooks well and makes fine pies. It has a real pear and not a sulphur flavor. It has sufficient merit to be used in any household and we believe represents the only feasible method of dehydrating pears. The cost of drying is, of course, very high compared with that of sun drying; but it is possible that a means of mechanically or chemically peeling pears will be devised and the cost of preparation thereby reduced.

The dehydrated pears have been carton packed under the university label and will be offered for sale at a price high enough to cover the cost of preparation and dehydration.

(Next week, Fruit Beverages, Candies, etc.)

## WHAT THE ELECTRICAL INDUSTRY HAS DONE FOR CALIFORNIA

(Continued from Page 385)

per capita consumption of electricity in California in 1921 was 1085 kilowatt hours, as against an average for the United States of 372 kilowatt hours.

Perhaps the most notable part of this intensive service has been the development of agricultural uses of power. California has pioneered in the reclamation of arid lands through the use of electricity in pumping water and the land so reclaimed in this state exceeds that of all the other states combined.

In 1920 there were in California 1,470,000 acres under irrigation by water pumped electrically, as against 4,500,000 acres under gravity flow. In ten years from 1910 over 1,000,000 acres were reclaimed by the agency of electricity. Over 500,000 horsepower of motors are installed in this service, requiring 17 per cent of the total power generated.

Under private initiative there was built in California the first long distance transmission line, 20 miles at 10,000 volts, from San Antonio to San Bernardino, by the San Antonio Power Company. Under private initiative in California the world's present record in long distance transmission was achieved by the Southern Sierras Power Company, 539 miles at 87,000 volts, from Mono County to Yuma, Arizona.

Under private initiative the highest voltage transmission in the world has been attained in California by the Pacific Gas and Electric Company, 202 miles at 220,000 volts, from the Pit River in Shasta County to the San Francisco Bay region.

All these records, made through private initiative and private ownership were not accomplished in a day, but are the result of careful planning and years of experimenting.

The Pacific Gas and Electric Company, largest of the western power companies and second largest utility of its kind in the world, has been largely the pioneer in the hydro-electric development of the West. Just 27 years ago a little plant on the American River at Folsom was put in service by two far sighted engineers of that time, John Martin and Eugene deSabla. This was the first high head hydro-electric plant of commercial importance in the United States. Its builders not only pioneered the generation of electricity by water power but succeeded in transmitting the energy generated a distance of 22 miles to Sacramento at the record breaking pressure of 11,000 volts. This was the first step in the industrial development of the West, the nucleus of a hydro-electric generating and distributing system that has today developed into the greatest in the world.

Folsom power house is still in operation after nearly 30 years of continuous service, and though relegated to comparative insignificance by the giant plants built in recent years, it still pours its flow of energy into the network of transmission lines that extends from one end of the state to the other.

During the next few years following the Folsom installation new wonders were accomplished. In 1899 the Colgate power house on the Yuba River was completed and engineers succeeded in delivering the energy to Sacramento, 61 miles distant. But even these achievements were surpassed when, in 1901, the power from Colgate was transmitted over a line 140 miles long to San Francisco at the amazing pressure of 40,000 volts, the first linking of the water power of the Sierra streams with the cities of the coast. In order to bring the power of the Yuba to San Francisco it was necessary to cross the Straits of Carquinez, the water gateway to the interior valleys of California and another unprecedented engineering feat was performed when the longest aerial span ever built for the transmission of electricity was stretched across the waterway. For upwards of 20 years electric energy has been coursing through the copper strands of the great span, night and day, without a moment's interruption to service.

The next record to be broken by the engineers of the Pacific Gas and Electric Company was the building of deSabla power house. Here water derived from an old mining enterprise was carried from the West Fork of the Feather River and dropped a distance of 1500 feet through great steel pipes to the power house in the canyon below. This established the world's record for high head generation of hydro-electric energy.

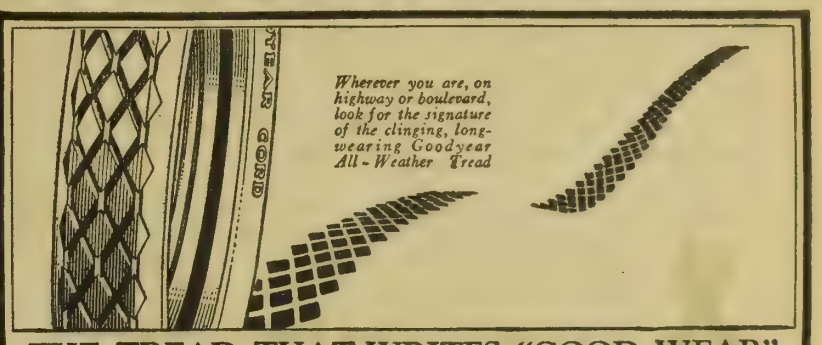
These were the pioneer plants whose little water wheels have been dwarfed by the giant turbo generators of today. But in the development of these projects engineers learned the necessity for cheap power and the almost unlimited potentialities of California's water power resources.

In 1913 the Pacific Gas and Electric Company completed the first great hydro-electric project of the West, the Lake Spaulding Drum development, situated among the peaks of the Sierras. Today the great Spaulding dam, towering 225 feet above the native bedrock of the South Fork of the Yuba, stores the waters of the river until needed by the chain of power plants below. Drum power house is the largest of these, with a generating capacity of 53,000 horsepower.

And so one record breaking achievement followed another. Larger and larger plants were built, higher and higher voltages were utilized in the transmission of power, until today the Pacific Gas and Electric Company ranks as the second largest utility of its kind in the world, operating 29 hydro-electric plants and four steam-electric plants with a combined generating capacity of 595,000 horsepower.

The crowning engineering triumph of all, however, has just been accomplished. In September of this year the first of a series of five giant plants on the Pit River in Shasta County began to transmit its energy a distance of over two hundred miles across the Sacramento Valley to Vacaville, the first transmission system in the world to be constructed for 220,000 volt operation.

Such is the story, briefly told, of some of the achievements that have been wrought during the last 30 years by the power companies of the Pacific Coast. The comforts, conveniences and necessities that are afforded by electricity today are due to that group of farsighted, public spirited men who attempted the "impossible" and succeeded in building up a great electric power system that is second to none in the world and is today the greatest controlling factor in the development of California.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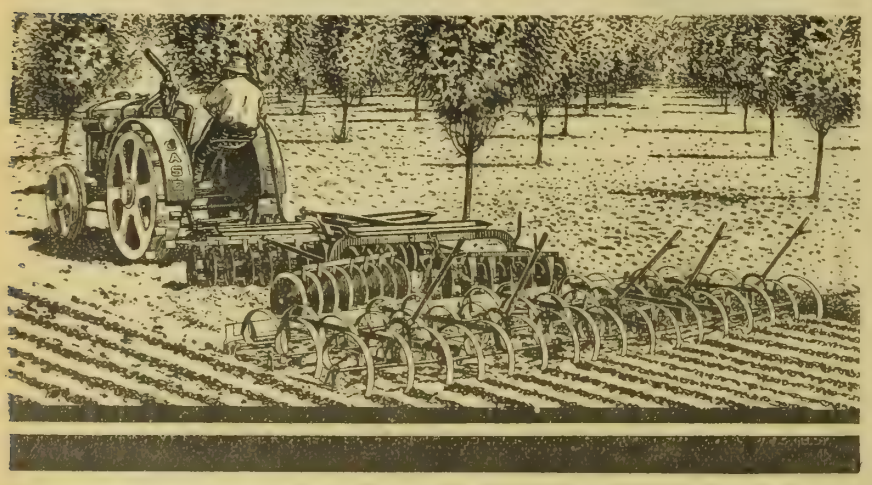

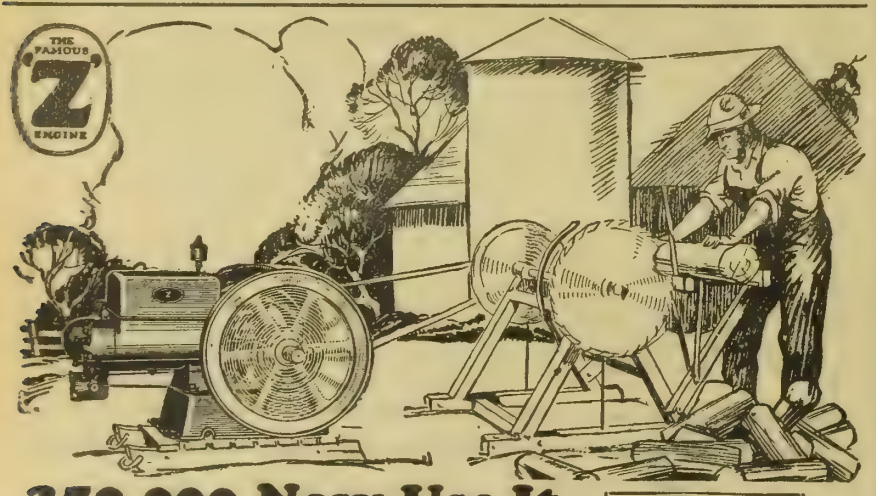


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# The Grain Futures Act

THE full cooperation of the grain trade in the administration of the grain futures act was urged by Dr. H. C. Taylor, chief of the bureau of agricultural economics, United States department of agriculture at the annual meeting of the Grain Dealers National Association at New Orleans. Dr. Taylor stated that in securing the facts regarding the handling of grain and the charges made for the service, the department took an unbiased attitude and was interested solely in the development of the most efficient system of marketing farm products, without prejudice to anyone from producer to consumer.

"If the facts disclosed satisfy farmers that grain is being handled in an efficient manner and for a fair charge, farmers will probably not desire to compete in or to destroy the central grain markets," Dr. Taylor said. "In case the facts do not point to this conclusion, the act carries the basis for making helpful suggestions which will tend to rectify the situation."

In outlining the department's policy Dr. Taylor stated that the department was as much interested in seeing that the legitimate handler of grain received a fair price for his services as it was in educating the farmer to market his product to the best advantage of himself and the national welfare.

The department's attitude toward cooperative marketing and the county agent system was also outlined. Dr. Taylor said: "It is not the policy of the department to participate in the organization or operation of cooperative or corporate marketing undertakings. The department simply attempts to collect and disseminate information which may be useful to anybody who is interested in marketing farm products. It is interested in securing the facts of marketing and getting them to the people concerned. The county agent system was organized as a means of carrying the facts to the farmers, but the function of the county agent is to educate and demonstrate methods of production and marketing and not to organize farmers for other than educational purposes. In the marketing of grain whether by independent grain dealers or cooperative grain dealers we are willing and anxious to help both. Our purpose is to promote the most efficient and cheapest system of marketing by whomever it may be done.

"Apparently the reason for placing the administration of the laws looking toward the regulation of the cotton trade, the meat trade and the grain trade in the department of agriculture is the broad economic point of view taken by this department. While the department is interested in agriculture, it is also interested in those industries and services which are essential to the distribution of farm products. The grain trade has reason to look with satisfaction upon the passing of the grain futures act. Had this act not been passed, bringing with it the reassurance to the people that the grain trade will be operated in the public interest, there is every probability that destructive legislation might have been enacted. The grain futures act is not destructive.

"The department of agriculture recognizes the importance of the functions performed by the grain trade and all of its effort is centered upon the questions of efficiency and fairness. Its point of view is constructive and not destructive. It is interested in the development of the most efficient system of marketing farm products. It is also interested in educating every one concerned, including producers and consumers, with regard to the functions performed by the middleman at the various stages in the marketing of farm products and the elements of cost involved in the rendering of this service. Thus, while the department of agriculture administers many federal acts relating to the distribution of farm products, it looks upon the scientific study of the problems of production and distribution and the education of the people in these subjects as the most important means of putting the business of producing and marketing farm products on a higher plane of efficiency. In order to carry on the research work which is basic to the educational work, the facts must be available. It is through your cooperation that these facts can best be secured, so far as they relate to the marketing of grain."

In Dr. Taylor's opinion the administration of the grain futures act has the possibility before it of rendering the grain trade of the United States a very great service by securing the facts and educating the public with regard to the functions performed and the services rendered by those who handle grain and by the organized markets in which business is transacted.

### CELERY CROP LARGER

Production of commercial celery is estimated by the United States Department of Agriculture at 22,339 cars, or 13 per cent more than the crop of 19,771 cars in 1921. Of this total, Florida produced an early crop of 5,493 cars of 350 crates each, with 4 to 5 dozen bunches per crate. Other states produced a late crop, the total of which is 16,846 cars of 180 crates each, with 8 to 10 dozen bunches per crate. California leads with a crop of 5,000 cars, followed by Michigan with 4,648 cars, New York 4,327 cars, New Jersey 1,150 cars, Ohio 875 cars, Colorado 590 cars, and Pennsylvania 256 cars.

Florida's estimated commercial celery screage increased from 2,260 acres in 1921 to 2,670 acres in 1922, and the acreage of the late states increased from 12,942 acres in 1921 to 14,460 acres in 1922. In yield per acre, Florida's average declined from 768 crates of 4 to 5 dozen bunches each in 1921 to 720 crates in 1922, but in the late states there was a gain in the average from 206 crates of 8 to 10 bunches each in 1921 to 210 crates in 1922.

### GOVERNMENT BULLETINS OF INTEREST NOW

Copies of these farmers' bulletins and circulars of general interest during the fall may be obtained free by addressing Division of Publications, United States Department of Agriculture, Washington, D. C. Specify number and name and whether Farmers' Bulletin or Department Circular.

Farmers' Bulletin 474, Use of Paint on the Farm; 574, Poultry House Construction; 753, Handling, Grading, and Marketing Potatoes; 872, The Bollworm or Corn Earworm; 889, Backyard Poultry Keeping; 900, Homemade Fruit Butters; 903, Evaporation and Drying of Fruits; 991, Efficient Operation of Threshing Machines; 1046, The European Corn Borer; 1049, Baling Hay; 1069, Tuberculosis in Live Stock; 1075, Unfermented Grape Juice—How to Make It; 1080, Preparation of Barreled Apples for Market; 1113, Poultry Houses; 1175, Better Seed Corn.

Department Circular 25, Points for Egg Buyers; 74, Points for Egg Breakers; How to Break Eggs for Freezing; 98, The Installation of Dust-Collecting Fans on Thrashing Machines for Prevention of Explosions and Fires and Grain Cleaning.

### N. A. F. E. M. CONVENTION

The 29th annual convention of the National Association of Farm Equipment Manufacturers, October 18-20, bids fair to be one of the best attended in years. Advance registration indicates a widespread interest in the coming event and a general intention on the part of manufacturers in every line to be present. The convention will be held in Chicago at the Congress Hotel and all manufacturers of farm equipment are invited.

Use of the English language at the meetings of the International Institute of Agriculture at Rome was decided upon by the close vote of 64 to 63. The resolution was opposed by the French and Spanish representatives. Heretofore the French language has been used exclusively, but now both English and French will be spoken. The result is due to the efforts of Leon M. Estabrook, associate chief of the bureau of markets and crop estimates.

# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Dust—Wet Spray

I would like to know if dusting is as effective for codling moth on apple trees as spraying? Also if there is a dust made that will prevent curly leaf on peach trees, and what time of year should dusts be applied to apple and peach trees for the aforementioned pests?—Subscriber, Amos

Dust has been used by orchardists of Monterey and Santa Cruz Counties in the control of codling moth. In drier interior sections the wet spray has been more largely used. For curly leaf of peach we believe the Bordeaux mixture applied a short time before opening of buds in the spring has been generally preferred. Here are two good questions for consideration by those who have tried both forms of pest control. Let us hear from subscribers.

### Transplanting Cypress

Is it safe to transplant a Monterey cypress without balling specimen which is well grown, about 5 to 6 feet in height, planting same day? Is it practical to take with with bare roots protected with burlap? Subscriber, Los Angeles.

It is always safer to ball any tree. Conifers are hardest of all trees to transplant with bare roots when of some size. If all roots are taken, uninjured, and proper care is taken it can be done, though would much prefer to ball. If not balled tree should be moved quickly, not a root allowed to dry, the new hole filled with water, the earth filled in at once and no more water given—unless hot spell comes or rains are late. But top of tree should have cover of burlap or other material, on a frame, not touching the tree, and remain so for not less than a month. The top should be very lightly sprayed once a day, preferably in morning, a mere mist, not enough to water soil beneath except a light drip. This moisture is necessary to keep foliage from wilting or withering until some roots again take hold of soil and start pumping. A few small roots in a ball would keep this up. It would be cheaper to ball.

### Mullein

Has mullein a market value? If so where can it be marketed? It is a great pest here.—Subscriber, Dixon.

Mullein has no market value that we are aware of. It is used as a home relief for asthma, as are cubeb berries, by smoking. But in commercial preparations its place is filled by leaves of Datura Stramonium, the "Jamestown Weed" often called "Jimson."

### Mildew

I enclose rose leaves which turn white, curl up and die. What is cause and remedy?—Subscriber, Rio Linda.

Mildew is the cause of trouble and sulphur is the remedy. It should be used as a preventive, however, rather than a remedy. Mildew, once established, is seldom banished soon enough to help plants. Weather changes usually stop it as soon as applications by man. Plants subject to mildew should be treated like Uncle Josh's faulty fire engine. He moved: "That hereafter the fire engine be inspected ten days before every fire." Sulphur dusted very lightly on foliage and on dry surface under bushes will, in hot weather, destroy or check mildew. In cool weather hot bricks, stones, iron, etc., placed under bushes and sulphur sprinkled thereon will produce equally good results.

### Planting Strawberries

How far apart should strawberry rows be? Is it advisable to cut off runners on vines recently planted?—Subscriber, Porterville.

Rows are almost invariably placed at three feet if cultivator is to be used. If you wish fruit only, keep off all runners. If you wish more plants, take off runners and plant in February. Then keep all cut off during life of plants unless more plants are needed for succeeding years.

### Lawn Grubs

Last year about midsummer the grass in my lawn turned brown and died in spots which started from small round centers and spread outward. We were unable to locate the cause, but this spring, thinking to obviate the trouble, we planted heavily to blue grass and white clover and kept it well watered. Until past the middle of July it looked beautiful. About that time, however, the spots began to reappear and in spite of plenty of water the lawn looks worse than last year. Can you tell me the cause and suggest a remedy?—Subscriber, Ontario.

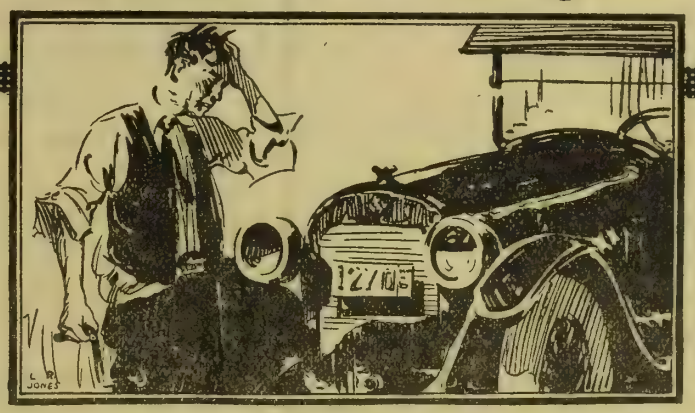
These spots are usually due to the larvae (worms or grubs) of the May beetle or June bug, which eat the grass roots. It is said lime water generously applied after lawn is closely cut will bring the worms to the surface so they may be killed. It is believed tobacco water would perform the same office. Anything that would kill them when applied to the soil would also kill grass and poison soil.

### Red-humped Caterpillar

I am sending specimens of worms that are destroying my prune trees. They work in night and burrow in earth in day time. Please give me name, life history, and how to combat. —Subscriber, Tulare.

Specimens sent are the red-humped caterpillar, Schizura concinna. Eggs are laid on the leaves by grayish moths (which are seldom seen), in May and June. When hatched the caterpillars destroy leaves, all but midribs. They feed rapidly and heavily. When full grown they drop to ground, spin a thin cocoon, and hibernate. The cocoons may be found one to three inches below ground. The new moths emerge about time trees are leaved out. We do not think, after dropping once, that caterpillars crawl up tree again. In small lots hand picking is best way to get rid of them. Where they infest orchard arsenical sprays are best. Hoeing and cultivating close to tree trunk during winter will kill many in the hibernating stage.


# On the Morning You Find Your Battery Dead!



Like every other motorist, you sooner or later have this experience: Some morning you throw open the garage doors, climb into the car, step confidently on the button—*and nothing happens!* Your battery has died in the night.

But why be resentful toward the battery? Rather, dig out the facts and conclusions about batteries you have "filed" in the back of your brain for just such an emergency. You'll probably find they run like this:

"My battery *does* have a hard life. I *do* need the strongest battery I can buy. The Willard Threaded Rubber Battery *does* give longer continuous service at less cost per month and per mile. The use of Willard Threaded Rubber Batteries as standard original equipment by 202 makers is *overwhelming* evidence of quality. On these grounds I have decided the only battery for me is the Willard Threaded Rubber Battery!"

Having once decided, are you going to let expediency, price, or last-minute weakness swerve you when your battery suddenly dies and immediate action is needed? Or are you going to fix that decision *now* with rivets driven through and clinched on the other side?

WILLARD STORAGE BATTERY COMPANY, CLEVELAND, OHIO
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# Legal Queries

Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.

### Collecting

A man purchases vegetables at different times but delays paying for them. He says that some are not fit for use and he pays only half of the amount due. Also, I towed this party when his auto broke down, several miles. Can I require him to pay for this service?—Subscriber, El Cajon.

You are, of course, entitled to bring action against that party for the value of the merchandise delivered and also the value of your services in towing him, and his auto. Such action should be brought in your justice's court, and if it is under $50, you could take the action yourself and it would be of no cost to you as it would go into the small claims court. When you appear before the court you can produce your own witnesses and the court will decide what is proper.

### Community Property

What is community property? The property was owned prior to marriage by either husband or wife. Does this constitute community property?—Subscriber, Anaheim.

Property owned by either spouse before marriage and that acquired afterwards by gift, bequest, devise or descent with the rents, issues and profits thereof is the separate property of the particular spouse. All other property acquired after marriage by either husband or wife is community property.

### Copyright

Could I copyright an idea for the sale of daily papers? How will I go about obtaining it? For what length of time is a copyright in force? What is the cost of obtaining it?—Subscriber, Oxnard.

The copyright law refers to books, maps, charts, compositions, engravings, photographs, paintings, statuary, models or designs, and protects the right of the maker thereof, giving to him the sole rights of publishing, copying or vending the same. The writer can hardly see whereby it would apply to any idea such as stated. Copyrights are granted for the term of 28 years from time of recording the title. In order to obtain such copyright, prior to the date of publication, the person entitled thereto must deposit in the mail, addressed to the Librarian of Congress, a printed copy or description of the work for which he desires copyright, and on the day of publication he must deliver two copies of such copyright to the Librarian of Congress. The fees therefore to which the librarian is entitled is 50 cents for recording the title and description together with certain other fees for assignments and certified copies.

### Barn on Government Land

I have filed on a piece of govern ment land on which there was a barn. A neighbor claimed the barn was upon his land, but on survey it was found to be on mine. He wished to tear it down. I prevented that. He stored hay in it and now wishes to remove the hay. What can be done?—Subscriber, Cobb.

A law of California provides that a certificate of purchase or location of any lands in this state issued or made in pursuance of any law of the United States or of this state is primary evidence that the holder or assignee of such certificate is the owner of the land described therein. From that statement of the law it naturally follows that you can prevent your neighbor from trespassing on your property. Of course the act of entering upon your land to tear down the barn or to remove hay therefrom would be an act of trespass. He is therefore entitled to do neither.

### Responsible for Damages

A lady went to town with horse and buggy to do shopping and took neighbor with her. The horse became scared, ran away, smashed the buggy, and both were somewhat injured. Who is responsible for the damages and loss?—Subscriber, San Fernando.

It makes comparatively little difference as to compensation paid for the transportation. The owner of the vehicle is required to exercise, of course, care, skill and diligence in driving. It would be, therefore, dependent solely upon whether the accident was caused through the negligence of the owner of the buggy or the negligence of some other person. If through the negligence of the owner, then she, of course, will be responsible for whatever damages her neighbor has suffered together with damages to the buggy. Otherwise the person through whose negligence the accident occurred would be responsible. It can hardly be seen how the passenger could be responsible in any way.

### Water Right

I recently bought land and put down a well for irrigating purposes, about 600 feet from the well of my neighbor. After I had pumped a few days my neighbor claimed that his water level was lowered to such an extent that he no longer was able to pump water with his present plant and demands that I cease pumping and pay him damages or he will bring an injunction. What are the rights of the parties?—Subscriber, Elsinore.

It has recently been held in the case of San Bernardino vs. Riverside by the supreme court that each owner of land overlying the same general underground supply of water may take such water on his own land for any beneficial use thereon so long as such taking works no unreasonable injury to other land overlying such water. If the natural supply is not sufficient for all such owners, each is entitled to his reasonable proportion of the whole and each may apply to the courts to restrain an unreasonable taking by another and have the respective rights adjudicated and the use regulated so as to prevent unnecessary injury and restrict each to his reasonable share. It is probably the case that your well is down lower than your neighbor's and your pumping has lowered the water level. But that does not mean that your use is at all unreasonable, as it might be as reasonable to say that your neighbor should deepen his well. Under the above statement of the court it apparently would be that you each be entitled to receive from this underground water your proportionate amount. What this amount would be is of course a very difficult matter to determine.

# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Indigestion

My horses are eating up their mangers. They have plenty of good alfalfa hay before them most of the time and plenty of good water. They run in an alfalfa pasture all summer and had plenty of salt before them which they did not touch. When working they reach for every little tuft of grass or alfalfa after they have been well fed. What is the cause and what is the remedy?—Subscriber, Bakersfield.

Indigestion, caused by overfeeding. You must tie them so they can not gnaw the mangers. Feed them lightly in the morning and at noon and then give them a good feed at night that they can eat up in two hours, then tie them both ways so they can not reach the manger but can lie down. Get one ounce aloin, ten ounces turpentine and three pints raw linseed oil. Mix


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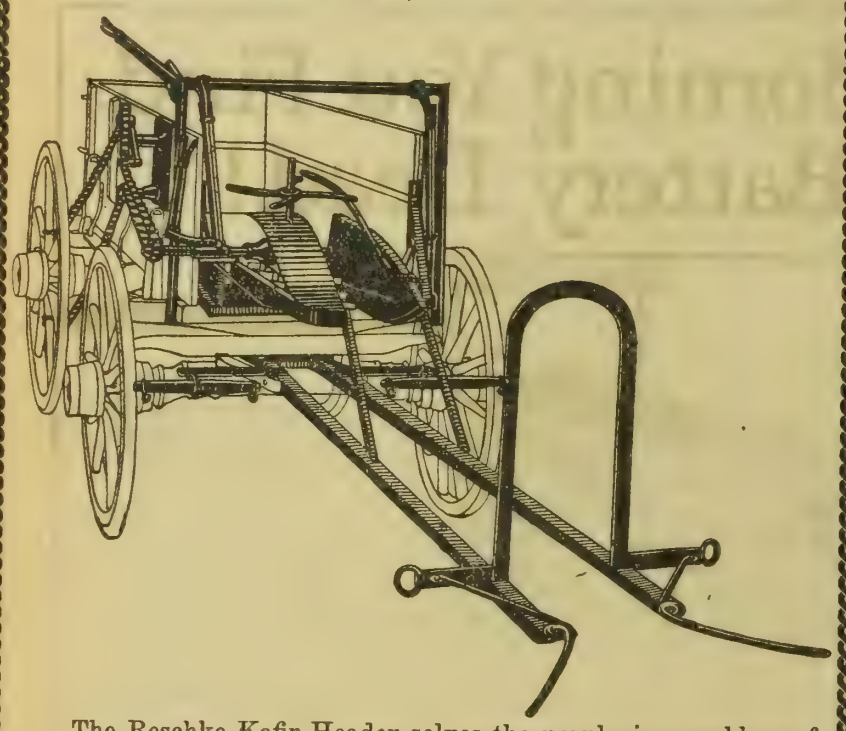

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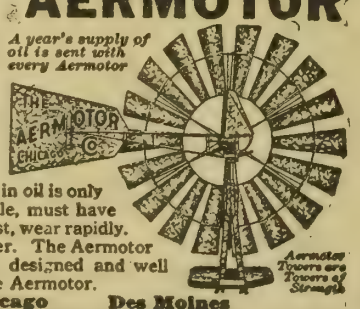


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thoroughly and divide into four doses. Give each horse one dose as a drench and repeat it in two days. Also get these powders: Six ounces powdered gentian, three ounces powdered nux vomica, four ounces bicarbonate of soda and one pound cornmeal. Mix all together and give a tablespoon of it in the feed twice a day.

### Feeding Baby Lambs

Can you tell me of anything I can give baby lambs for scours? Also how to feed cow's milk? I lost quite a few last year.—Subscriber, Dixon.

Lambs are delicate creatures to doctor and should not be given much strong medicine. For scours give a little coffee with a few drops of paregoric in it. When feeding lambs cow's milk they should be fed often and the milk should be warm. If it does not seem to agree with them pasteurize it by heating it up to about 180 degrees Fahrenheit for 10 or 15 minutes. A few times the temperature might go up to the boiling point but do not feed them on boiled milk. Of course it must be cooled to animal heat before giving it to the lambs. A little coffee or a few drops of paregoric added to the milk would help. One or two drops of zenoleum added to the milk once a day will often stop bowel trouble. Do not continue giving any medicine very long.

### Milk Goat

I bought a goat last June that was just fresh and giving two quarts of milk a day. She was very thin so I fed her corn meal, bran and green alfalfa. She picked up a little but is going down again, only giving one quart of milk a day. Should she be bred again or is she lonesome and should have another goat for company?—Subscriber, Modesto.

The flow of milk of most all goats and cows decreases after four or five months milking. Only a few keep up a long time. Probably rolled oats would be better than the corn meal. Corn meal is fattening and will make the milk rich in fat but will not increase the quantity. It would be well to breed her now so she would come fresh early in the spring and get the benefit of the early grass. She will probably do better next time if she is in better flesh.

### RECORD OUTPUT OF "GAS"

The greatest production of gasoline in the history of the oil industry occurred in May of this year, according to data compiled by the American Petroleum Institute and submitted to the senate committee on manufactures which is investigating the industry.

The output was 12,229,975 barrels of 42 gallons each. The highest previous production was in September, 1920, when 10,806,693 barrels were produced.

In spite of the unprecedented production, however, the amount of gasoline available in refinery storage on May 1 of this year was only 82 gallons for each of the 10,500,000 automobiles registered on January 1, as against an average of 87 gallons for each of the automobiles registered for the years 1918 to 1921.

Although the demand for gasoline varies more than 100 per cent between seasons of maximum and minimum consumption, it is necessary for the oil refineries to operate on practically a uniform basis throughout the year. Otherwise it would be impossible for the industry to accumulate sufficient stock to meet the peak demand.

Lime in a spray of paris green will prevent any burning of the foliage of plants.

Give the stock plenty of clean, cold water on these hot summer days.

### PRACTICAL COURSES ON AGRICULTURE

Six weeks courses in practical California agriculture spell opportunity for the busy man or woman who can spend the period from October 2 to November 10 at the branch of the college of agriculture at Davis. For those interested in the broader problems of soils, farm crops and livestock a course in general agriculture will be given. The first three weeks is devoted to crop production, followed by three weeks of highly practical instruction in animal husbandry.

For the poultryman six weeks of intensive study and practice began at Davis on October 2. Hatching, brooding, feeding and care of fowls receive all due attention, but in addition such work as the making of trap nests, feed hoppers and fattening crates is also included. Each student will be given an incubator to overhaul and operate for a period prior to the actual setting of eggs.

The total expense incident to attending a six weeks course, including board, room, supplies and the registration fee of two dollars, will not ordinarily exceed ninety dollars, exclusive of railroad fare.

### INTERSTERILITY OF PLUMS

Though some of the Japanese plums are self sterile, no difficulty has been experienced in cross pollination between any two in bloom at the same time. But experiments for the past two years seem to assure the intersterility of the Formosa and the Gaviota. It is thought to be the first case on record of intersterility of varieties springing from the same species. There is no known intersterility between any two other Japanese plums or between any of the European plums and prunes.

Mildew on roses may be kept in check by spraying with one half ounce sulphate potassium to a gallon of water.

When flowering plants are forming their buds is a good time to apply fertilizer and, if the season is dry, water also.

### A DANGEROUS WEED

The state department of agriculture has repeatedly called attention to the rapid spread of a most undesirable weed, Tribulus terrestis, the common name being "Ground Bur-nut." Owners of automobiles call it puncture weed because the ripened seed pods adhere to tires and if not cleaned off will finally puncture the tube.

It is thought it came to California from the Mediterranean region and is regarded as being native there, but it is found in warm countries throughout the world. In South Africa it has been common for many years, nearly or quite a half century. It has been definitely proved by government veterinary experts to produce the fatal disease in sheep known as Tribulosis ovium and by the native name of "geeldikkop," a disease first officially reported in 1886. As the weed is making a rapid spread throughout California, sheep owners should be careful that animals do not feed on it exclusively. In late summer, on sandy lands it is the greenest plant to be seen.

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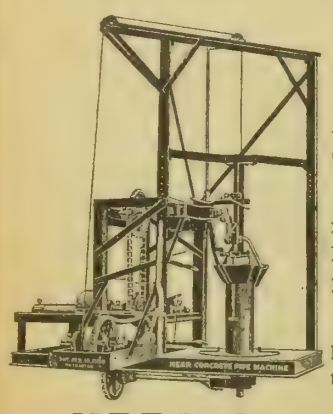

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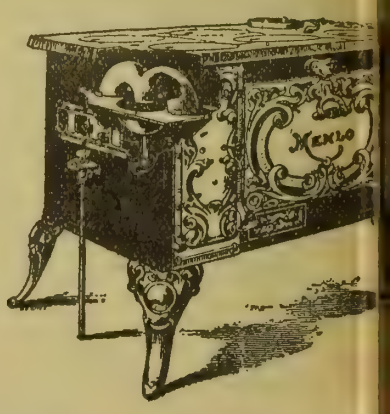

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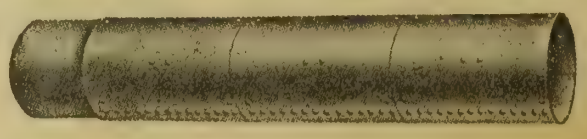

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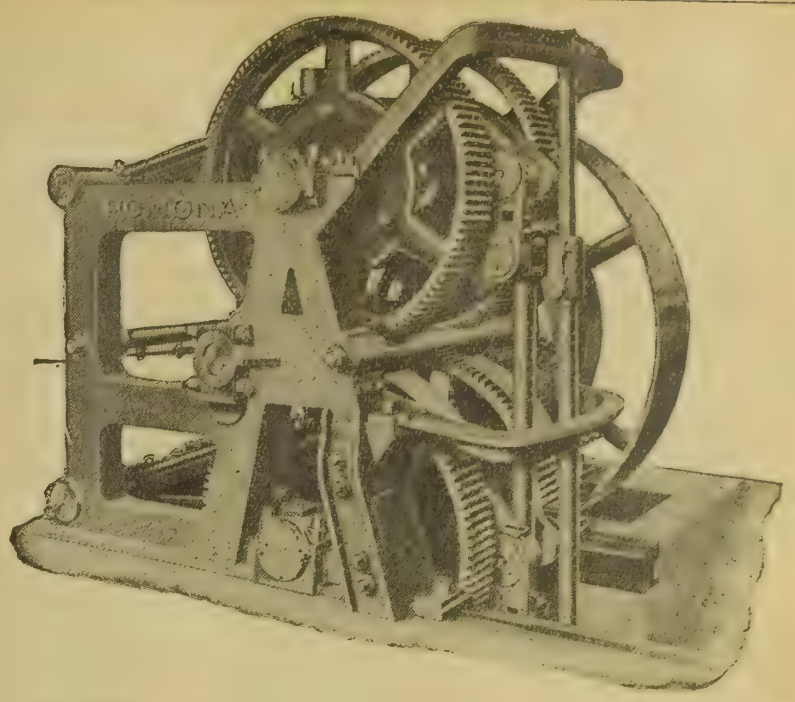

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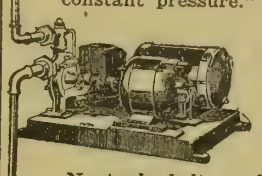

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# Household Department

### TOO FRIENDLY

By Edgar A. Guest

He never caused a man to sneer,
Was never taunted by a jeer,
Had never battled with a foe;
But through the years that come and go
He smiled his easy way along
And played the friend to right or wrong.

He never ventured night or day
Out of the well worn trodden way
He never pried adventure's lid,
He voted as his father did;
But when an argument arose
He sided both with friends and foes.
He talked as one who loved the right,
But he was never known to fight;
Fearing the hate of men, he stayed,
Holding opinions but afraid
To give them voice. In moments tense
His silence gave no man offense.

Pleasant his smile and meek his way,
The same tomorrow as today,
Living this life, its joy and smart,
Yet shirking duty's sterner part;
A friend to all he walked along,
But friendly both to right and wrong.

Who never braves the cynic's sneer,
Nor wins the sinful braggart's jeer,
But seeks through life's long years to go
Free from the malice of a foe,
Buries his talents in the earth
With nothing done to prove his worth.

Better to fight and fall than stay
Upon life's sidelines day by day;
Better the jeers than smiles of those
Who should be looked upon as foes,
For friendships has no value when
It makes no choice twixt knaves and men.

### THE FOOL

By Smith C. McGregor, in Forward

He was just the fiddlin' Fool of Cleartrack Gulch. None of the other inhabitants of the gulch regarded him with any emotion, unless the shrieking wail of his fiddle bothered them, and the Fool seemed content to center his existence about that badly battered instrument. Only from dint of hunger, did he occasionally pause to wash enough gold to buy the few necessaries that his mode of living required.

The rough cabins of the miners were clustered on a level spot on the side of the gulch, a location that was extremely convenient for those who delved in the golden sands that were forever sifting down with the swift current. The Fool had erected a rude hut on the slope above the cabins, close by a towering rock covered with a profusion of wild grapevines. Perhaps one reason he chose such a location was that he liked to sit by the vine-clad rock and fiddle for hours at a time.

The hum of the rushing stream failed to drown the sound of the Fool's fiddle, and a group of miners at the edge of the stream glanced up toward the vine-covered rock. Yes, the Fool was there, leaning against the sunny side of the rock, fiddling away with utter abandon.

One of the miners, a hulking, gorilla-like man, straightened up and glared at the distant fiddler. Then he ran a huge hand through his thatch of uncombed hair and turned back to his work with a sullen growl.

"The Fool's fiddlin'."

"Yes, Red," agreed one of the group, with the ready obedience the timid weak afford the brutal strong, "the Fool's fiddlin.' "

The shrill sound of the Fool's fiddle ceased. A shower of pebbles bounded from the overhanging bank and dropped into the water near the miners. The water had suddenly become muddy, and Red Moran wiped a splash of mud from the corner of his right eye before turning his angry gaze in the direction of the Fool, who now stood on the bank above them, his old fiddle tucked under one arm, the warped bow dangling from his skinny hand. The fiddler had acquired that pose from long observation of a cheap print of Ole Bull that was taked on the wall of his hut.

"I've stopped fiddlin'," said the Fool.

"Yes, Fool," growled Red Moran, "and if you splash any more mud on on me, it'll be a long rest you'll have."

"The water's muddy!" exclaimed the Fool, peering down over the bank with perplexed amazement. Then his face relaxed into a grin, and he laughed. "D'ye know why it's muddy, Red?"

"Yes, because there's mud in it."

The Fool laughed, in imitation of the men in the stream below, and sat down on the edge of the stream. Another shower of pebbles dropped into the water, which was becoming clear again. The Fool noticed the change in the stream and called to the men below.

"Some dirt slid in up there in the gulch where the pines hang over the deep hole. That's why it was muddy."

There was no reply from below, except a few muttered oaths. The Fool glanced across the gulch, where a lone kingfisher was watching the men in the stream from the security of a scraggly pine. Then he called again to the men by the gravel bar.

"Better cut the pines up there. If they fall in and jam, the cabins might get washed out."

Then the Fool suddenly remembered his fiddle, and his face glowed with happiness as he lifted the warped bow and began to scrape it across the discordant strings. The big man below straightened up and flung a pebble.

The crash of the pebble against the fragile fiddle was followed by the shrill yell of the excited Fool.

"You've broke it! My fiddle!"

"Shut up!" mellowed the man in the stream, as though the power of his voice could awe the Fool into silence.

"Tell him it ain't busted, Red," advised one of the group beside him.

The Fool continued to wail over his loss, his hysterical screams echoing back against the slope like the calls of eagles soring above their pillaged nests. The voice of his tormentor again bellowed up from the gravel bar.

"Quit snivelin,' Fool! Fiddles improve every time they're busted."

"But Red," faintly protested the Fool, adding emphasis by a few weird sounds from the broken fiddle, "it don't sound any better than it did before."

"Fool, you can't expect that fiddle to be any good until the old tunes are boiled out of it," answered the man by the gravel bar, going back to his panning operations.

The Fool scrambled to his feet, still clinging to the broken instrument, and turned up the slope.

"I'm hungry. I can't fiddle any more today."

The Fool slowly climbed toward his hut, stumbling across a few fissures where the soil had started sliding toward the bottom of the gulch.

The next morning a heavy fog lay over the gulch. Occasional gusts of rain swept over the bare ridge above the cabins, harbingers of the storm that was long overdue. Then, after a few rumbles of distant thunder had died away, the sun broke through the clouds, making the air more oppressive than before.

The miners filed down to the gravel bar. The water was partially discolored, and the Fool's warning recurred to those who appreciated the power of the rushing stream. One man pointed up the gulch toward the group of leaning pines by the deep hole.

"Red, mebbe th' Fool was right about th' dirt slidin' in. It wouldn't take long to go and find out."

"You make me sick!" grunted Red. "That Swede Fool don't know what he's talking about!"

"All right, Red," yielded the uneasy miner, turning back to his work after another glance up the gulch.

"Anybody see the Fool this morning?" demanded the big man, glancing up toward the hut by the vine covered rock. "Why, he's cooking something in his kettle!"

Yes, the Fool was busy heating water in a huge iron kettle, a few yards from the rock. He had, by much early work, accumulated a pile of branches, and now he was feeding them to the bright blaze under the swaying kettle. Red Moran bellowed a sharp order.

"Davis, go up and see what the Fool's got in that kettle!"

The young miner hastened to obey, and was soon scrambling up the incline toward the Fool, who, if his wild screams were any index to his emotions, now seemed to be in a state of mental anguish. Something in his shrieks seemed to affect the men by the gravel bar, for they talked in subdued tones, never once taking their eyes from the Fool, who had flung himself down by the rock and was rolling about in frantic grief. The messenger came running down the slope.

"The Fool's been trying to boil the old tunes out of his fiddle, Red."

"What?" roared the bully, shaking with mirth. "He's spoiled his fiddle, you say?"

"Yes," Davis answered, rather crisply. "It was all he had, too."

"That's better than the time he cooked the owl," roared the big man. Then his voice grew harsh. "Why don't you laugh?"

"I won't laugh at the Fool's misfortune."

"Oh, you won't eh?" growled Moran, advancing along the bar. "I've a mind to souse you for an hour or so."

"Don't start a fight, Red," counseled another miner, "it's going to rain in a few days and we can't lose time. The Fool can make another fiddle."

The Fool did start another fiddle. That very afternoon he sought out Red Moran and inquired for glue to use in making his fiddle.

"You see, Red," explained the Fool, "I didn't take the fiddle out of the water soon enough. I want some glue to put a new one together. The old tunes won't bother now, will they?"

"They hadn't ought to, Fool," advised the bully, a new scheme for torment gradually forming in his slow-moving brain. "But I wouldn't use glue. Nails hold better."

"They spoil the tone," protested the Fool.

"It don't make any difference, for a good player like you," said Moran. "Anyway, you try some packing box boards and these nails. It'll be a great fiddle."

The Fool took the nails and eagerly sought the privacy of his hut.

A miner, after listening to the sounds of pounding within the hut, spoke to the bully.

"Red, we'd better watch th' Fool."

"Why?"

"He may hang himself. He's made a rope and noose of grapevines, and now he's poundin' on somethin'. Might be fixin' a coffin."

The bully suppressed a grin. "It wouldn't make much difference."

Large drops of rain cut short their conversation, and both men hurriedly sought shelter in their respective cabins. The storm was at hand.

Lights soon appeared in the cabins, for the storm brought with it an inky blackness, each flash of lightning intensifying the darkness rather than alleviating it. Even the Fool's hut was dimly illuminated by a rude contrivance that burned bark dipped in pitch. The stream, swollen to unusual volume by the cloudburst, roared like some wild monster of the towering mountains as it flung its force against the confining banks of the gulch, and even the sturdiest of the miners shuddered at the sound. It was too much like the agonized cry of the Fool when he had spoiled his fiddle.

One by one the lights flickered out, and by midnight only the dim glow in the Fool's hut gave sign that the gulch was inhabited by any living thing. The rain had suddenly ceased, but the roar of the stream continued, and the Fool at times paused in his task to listen. Once, as he was nodding into slumber, a strange sound aroused him; then the Fool slept.

The eastern sky was just beginning to tint when the Fool, his rude, unfinished fiddle clutched in one hand, dashed down the slippery slope toward the cabins. Fear added speed to his ungainly legs, and his voice shrilled

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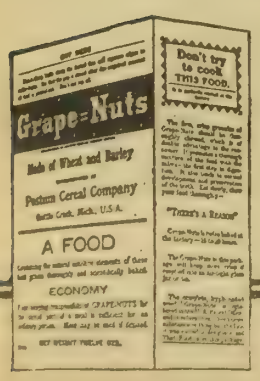


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its warning again and again, starting a kingfisher from the scraggly pine across the gulch, which now leaned far out over the stream.

"The jam! The jam! Get up the bank!"

There was wild confusion inside the cabins as planks were ripped from caches of the precious gold, curses mingling with prayers that the jam would not break until they were safe from the reach of the stream. From every door, save one, men dashed in the wild panic that only intense fear can create. But Red Moran did not rush up the bank with the others; he stood in his cabin door and cursed the Fool until he could no longer see him, then slammed the door, as if defying the stream to do its worst.

The Gulch was strangely quiet. The air, damp and chill, seemed oppressive. The Fool stood near his hut, apart from the awe-struck miners, and listened. A mere trickle of a stream was flowing through the golden sands now, and only the Fool had detected the change that followed the crash of the leaning pines up the gulch, their tangled branches having provided ample reinforcement for the masses of earth that plunged after them. The Fool brought his warped bow from the hut and sat down on his coil of grapevines.

Like the sullen rumble of distant thunder, a deep roar was heard up the Gulch. The men shuddered. The Fool pressed his rude fiddle closer and spoke the thought that was uppermost in their minds, yet they feared to say it.

"The jam's broke!"

The door of the one occupied cabin below was thrust open, and Red Moran stepped outside. Suddenly, as if confronted by an unbearable horror, he gave a wild cry and started up the slope, carrying his sack of gold. The wet soil above the cabin was slowly sliding down toward the frantic man.

Up the gulch another fearsome sight came into view. It was the towering wall of water that had broken its bonds. The man on the slope, who was making painfully slow progress in the sticky mass, resolutely turned his glance from this new menace and redoubled his efforts to gain solid ground. He flung down the heavy sack of gold, and the moving earth engulfed it; the roar of the water now drowned out every other sound. A few yards below the muddy torrent swept, snatching up the cabins as if they had been so many straws, and struck against the cliff beyond the gravel bar with an impact that made the leaning pine shake violently.

Moran, sensing that the crisis was at hand, strained ahead, his muscles standing out till they threatened to burst the skin, his teeth firmly gripped in his bleeding lips, while the miners on the slope above stared down at him in mute helplessness.

The scraggly pine trembled again, then pitched out into the stream, followed by a mass of earth that caused the torrent to swirl up toward the man at alarming speed. Moran leaped forward, spurred on by this new menace, and gained the edge of the firm ground, while an adventurous comrade ran down to catch his hand; then he slipped and was carried back beyond reach. Nearer, nearer swirled the water, like a giant octopus reaching for a victim caught in a coral crevice, and Moran screamed in fear, while the men shuddered.

"He's done for," Davis said huskily.

The Fool did not seem to hear. He had dropped his precious bow in the mud and had fastened the unfinished violin to one end of the grapevine rope. Now he started down the slope, trailing the rope behind him; Davis cried out to him in undisguished amazement.

"Are you going to try to save him, after all he's done to you?"

"He might drown in that water," the Fool said simply, preparing to throw the line.

A cry surged over the men, and they rushed to carry out the plan the Fool had conceived, pushing him aside as they flung the vine to Moran, who lunged for it with fearful eagerness. The water was now swirling about him, well above his waist, and he floundered about in agony as he sought to break away from the mud that kept pulling him down. Blood spurted from his fingers as he clutched the rough fiddle and was slowly dragged from the water; then he dropped to the ground, insensible.

The stream, seeming to sense the loss of its victim, sullenly broke through the barrier of earth and rumbled on down the Gulch.

Red Moran, for a long time after he had regained his senses, stood near the Fool's hut and looked down into the gulch. A slender object lay in the mud at his feet, and he picked it up, wiping the dirt from it with clumsy hands. It was the Fool's bow, warped and ruined; sound from the interior of the hut gave token that the Fool was lamenting the loss of his unfinished fiddle, and a strange mist wavered before Red Moran's eyes as he again looked down into the desolation of the gulch.

"I reckon I'll buy the Fool another fiddle," he said.

## POINTERS ON WHIPPING CREAM

Pasteurized cream will whip as well as raw cream if its butterfat content is slightly higher. A 20 per cent raw cream is nearly equal to a 25 per cent homogenized cream in whipping quality. It takes less time to whip raw cream than pasteurized.

To insure good results the temperature of the cream should not exceed 45° F. Increasing the acidity up to 0.3 per cent, when the cream acquires a sour taste, does not affect the whipping quality, but adding sugar at any time during the whipping tends to thin the whip. Flavoring extract in ordinary quantities has no detrimental effect.

Whipped cream will stand up, or remain stiff, for some time if the temperature, the quality of the whip, and the butterfat content are right.

Powdered cream is useless for whipping purposes. Evaporated milk will whip, but it will not stand up. In the same time it took to thicken, the cream will return to its original form.

## HOUSEHOLD QUERIES

### Olives—Green Tomato Pickle

Am still watching for recipe for putting up olives. I want to pickle some for my own use. Please give as soon as convenient, recipe for green tomato pickles.—Subscriber, Claremont.

A number of good recipes for green tomato pickles have been given in the past few weeks in this department. References to pages and issues will be found on Page 370 of last week's Cultivator under heading "Recipes Requested." Directions for pickling both ripe and green olives follow. They are given by Prof. W. V. Cruess.

Ripe Olives. Use firm ripe olives of the Mission or the Manzanillo varieties. Place these in a wooden bucket or a glass or stoneware jar or crock. Do not use metal.

Prepare a lye solution containing two ounces of lye to a gallon of water, or approximately one-half pound to five gallons of water. Use a good grade of lye, such as Red Seal or Babbitt's. Thoroughly dissolve the lye in the water before adding the solution to the olives.

Cover the olives with this solution. Stir the olives once an hour and allow the lye to remain on them until it has penetrated the skin of all the olives, but has not entered the flesh of the olives more than one-sixteenth of an inch. The fruit may be cut with a knife from time to time to note the progress of the action of the lye. the flesh will be discolored, that is, turned yellowish brown, by the action of the lye. It ordinarily requires about four hours for this action to proceed far enough.

Remove the lye solution but do not discard it. Expose the olives to the air in the vessel in which they have been treated, stir them three times a day and leave until jet black in color, usually about four days.

Return lye solution to the olives and allow it to stand until it reaches the pit of the olives. This will usually be about 18 hours. If it is found that the lye does not reach the pits of the olives it should be drained off and to each gallon of the liquid one-half

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PATTERN DEPARTMENT
California Cultivator Los Angeles

ounce of fresh lye should be added, or about one-fourth pound to five gallons.

When the lye has reached the pits of the olives remove it and discard it. Cover the olives with fresh water which should be changed three times a day until the olives are free from any taste of lye, usually a week.

Prepare a brine of one-quarter pound of salt to a gallon of water, allow the olives to stand in this about three days. They are then ready for use or for sterilizing.

Place the olives in jars or cans and add boiling hot to them, the brine in which they have been standing. If cans are used seal them at once; if jars are used place on them the scalded caps and the best rubbers obtainable—cheap rubbers cannot be used. Screw the caps on the jars loosely. Place the jars or cans in a pressure cooker and heat to ten pounds pressure for 40 minutes. Turn out the fire and allow the retort to drop to zero pounds pressure. Remove the jars while still hot and seal at once.

If a pressure cooker is not available sterilize the olives in the jars or cans in a wash boiler for two hours at the boiling point and then seal them. In this latter case, however, it is necessary to boil the olives for 20 minutes after the jar or can is opened for serving. Olives sterilized in boiling water cannot be offered for sale.

Green Olives. Use olives that have reached full size but are still hard and green.

Prepare a lye solution of one and one-half ounces per gallon of water or approximately one pound of lye to ten gallons. Use granulated lye such as Red Seal or Babbitts.

Place the olives in this solution and allow to stand until the lye reaches within a very short distance of the pit. Stir the olives frequently during this treatment.

Remove the lye solution and cover the olives with fresh water. Change the water daily until the taste of lye is removed and until most of the bitterness has been washed out of the olives. This will require about seven days.

Place the olives in a barrel or in ordinary fruit jars and cover with a brine consisting of half a pound of salt to a gallon of water. Fill the barrel or fruit jar full and seal.

Set aside until the proper flavor has developed, usually about five or six months.

Fermentation is improved if to the brine is added a small amount of good vinegar; about half a pint per gallon of brine.

### Candied Citron—Dill Pickles

How can I make candied citron like we buy in the stores? Please send recipe for dill pickles.—Subscriber, Lakeport.

Directions for making candied citron were given on Page 330 of the Cultivator of March 25; for dill pickles, on Page 133, issue of August 5. Copies have been mailed Lakeport subscriber.

The Cultivator is always glad to mail back copies answering special questions, but the large number of such requests received emphasizes the value of saving and filing in order every issue of the Cultivator. Then by use of the index one may find wanted directions in a few moment instead of waiting on slow mails and a busy office force.

### Ginger Snaps—Catsup—Canned Figs

Will you please furnish me with a recipe for ginger snaps, the kind sold in grocery stores; also a recipe for tomato catsup that will not sour quickly and canned figs?—Subscriber, Marysville.

Ginger Snaps—One cup molasses, ¼ to ½ cup butter, suet or chicken fat, 2 teaspoons salt, 3 cups flour, ½ teaspoon soda, 1 tablespoon ginger. Boil shortening and molasses 2 minutes. Add remaining ingredients, mixed and sifted. Beat well; chill over night. Roll very thin. Shape with knife or cutter. Bake on buttered pan in quick oven 8 to 10 minutes.

Directions for making tomato catcup are given on Page 85 of the Cultivator of July 22.

Where figs are simply to be canned firm ripe fruit is chosen, skinned and canned in sweet syrup like peaches. A piece of ginger root is placed in each can or jar by those who find the fig insipid; some add a slice or two of lemon. If subscriber wishes recipes for preserves, candied figs, etc. we will send on request recent issues of Cultivator containing them.

### Pimientos—Apple Sauce Cake

In a recent copy of the Cultivator there was a recipe for putting up pimientos. I have misplaced mine so I will be obliged to you if you will send me the recipe in enclosed stamped envelope.

Here is a recipe for an apple sauce cake that we like very much: One cup sugar, ½ cup shortening, 2 cups flour, 1 cup sour apple sauce, 1 teaspoon soda, ½ teaspoon each of cloves, cinnamon, nutmeg, pinch of salt. Cream sugar and shortening, put sode in apple sauce, and then add to sugar and stir well. Sift flour and spices together and then add raisins. Nuts may also be used. Bake in a slow oven about an hour.—A Reader, Cupertino.

Pimiento recipe has been mailed. Thank you for passing along the apple sauce cake recipe.

## HINTS FROM HOUSEKEEPERS

### Tomato Mincemeat—Chocolate Cake

In the September 9 issue of Cultivator I noticed a request for green tomato mincemeat so am sending my recipe which is the best ever. It is different from any I have seen in print. Am also enclosing my recipe for loaf chocolate cake.

Tomato Mincemeat—Eight quarts green tomatoes chopped fine. Drain off juice, pour over enough boiling water to cover and drain again. Then pour on boiling water the second time and cook till tender. Drain this off and then add the following: 5 pounds sugar, 2 pounds raisins, ½ pound currants, 1 cup suet (chopped fine), 1 cup vinegar, 2 tablespoons cinnamon, 1 tablespoon cloves, 1 tablespoon nutmeg, 1 tablespoon salt. Cook till well mixed, stir constantly. Put in cans and seal while hot.

Chocolate Loaf Cake—Pour ½ cup boiling water over 2 squares Bakers unsweetened chocolate. Place over top of teakettle and let stand while mixing the following ingredients: 2 cups sugar and scant ½ cup shortening creamed together. Add two unbeaten eggs, ½ cup thick sour milk, 2 full cups flour, 1½ teaspoons soda, 1 teaspoon vanilla, pinch salt. Beat thoroughly, then add chocolate and hot water. Bake in moderate oven.—Mrs. F. J. Bohlayer, Canton, Pennsylvania.

### Tile Drainboard

Noticed in Cultivator of September 16, "Subscriber, El Monte," asks about tile drainboards. Have used tile drainboard and work table for nearly three years. It is fine. I scrub it every month or two with Dutch Cleanser and find it very easy to keep clean; and I never have broken a dish on mine. I always use a dish drainer, (could not do without one). The only other drainboard I would have would be a porcelain one like the sink. My tile has never cracked and the cement is not dirty.—(Del Monte) Fowler.


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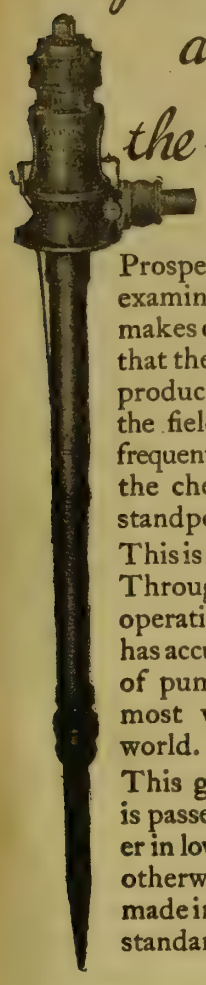

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## GRADES FOR ALFALFA HAY IN OREGON

Standards for alfalfa hay have been fixed by the Oregon public service commission, effective June 15.

### Choice Alfalfa

Choice alfalfa shall be 98 per cent pure, of bright natural color, not over 2 per cent weather bleached, and not over 2 per cent plants with pods. It may contain not over 1 per cent worthless content, and not over a trace of harsh, bearded grasses. It shall be reasonably fine, sound, dry, clean, sweet, leafy and well baled.

### Number 1 Alfalfa

Number 1 alfalfa shall be 95 per cent pure, of good natural color, including not over 5 per cent weather bleached. It shall contain not over 2 per cent weeds, or other worthless content, including not more than a trace of harsh, bearded grasses, and the other 3 per cent may be other grasses of feeding value. It shall be dry, sound, sweet, reasonably leafy and well baled.

### Standard Alfalfa

Standard alfalfa shall be: Ninety per cent pure, of green color, and may contain not to exceed 10 per cent foreign matter and 10 per cent weather bleach. It may be of green color, coarse or medium texture with 15 per cent weather bleached hay, and 5 per cent foreign matter. It may be of greenish cast, of fine stem and clinging foliage, and may contain not to exceed 10 per cent foreign matter.

Standard alfalfa may contain not to exceed 3 per cent worthless content, including not more than a slight trace of foxtail. It shall be sound, dry, sweet, and well baled.

### Number 2 Alfalfa

Number 2 alfalfa shall be alfalfa hay containing not to exceed 25 per cent foreign matter, and bleached hay, either singly or in combination, and not more than a slight trace of fox tail or thistles, and shall be of fair color, dry, sound, sweet, and well baled, and not to exceed 10 per cent of worthless content.

### Number 3 Alfalfa

Number 3 alfalfa may contain 25 per cent stack spotted hay and may contain not more than 10 per cent foreign matter or it may be green color and may contain 50 per cent of foreign matter or it may be set alfalfa and may contain 10 per cent foreign matter—all to be dry and reasonably well baled.

### No Grade Hay

No grade hay shall include all alfalfa not good enough for No. 3.

The following rules are established: Worthless content shall include all kinds of weeds, thistles, ripe cheat, large damaged spots, old stubble, sage brush, roots, field soil, etc.

Harsh bearded grasses shall include foxtail as otherwise defined in these rules and cheat grasses Bromus rubens, Bromus sterilis, Bromus villosus and Bromus tectorum, when they contain well developed seeds.

Foxtail shall include squirrel tail grass Hordeum jubatum, wild barley, Hordeum murinum and Hordeum nodosum. It does not include wild millet or green and yellow foxtail or pigeon grass, Chaetchloa virdis and chaetochola Glauca.

Weeds shall include all plants other than grasses or those plants generally used for forage purposes.

Foreign matter is anything other than alfalfa.

Weather bleached hay shall be bleached hay inside the bale. Outside bale bleach shall not be considered as weather bleached hay.

Good natural color shall include hay of any green color that has not been bleached due to exposure to light or moisture. Red or light color of lower leaves and base of stems shall be considered natural color.

Trace shall not exceed ½ of 1 per cent.

Percentages shall be based on determination by weight.

## APPEARANCE OF FARM COUNTS

"If you will fix up your home, paint the house, set out some trees and shrubbery and improve the appearance of the place, you will get more consideration from the loan companies."

This is the way a banker put the matter to an Eastern Colorado rural community recently in discussing development plans. This banker gave a very practical turn to the advice which is so frequently brought to farm audiences by home demonstration agents. Extension workers think of home improvement from the standpoint of convenience, comfort and family content, but the banker's argument was from a new angle.

He said he had recently talked to officers of trust companies and asked them why certain communities seemed to be favored by larger loans on lands which were not more productive than the lands of neighboring communities where sums loaned were held to the minimum. These bankers declared that the home was always taken into consideration; that where evidences of neglect, such as poorly built shacks, unpainted houses or barns, run down fences and absence of machinery sheds were noticeable, the borrowing capacity of the farm owner was reduced in comparison with a neighbor who might have no better farm lands but who gave proper attention to keeping the premises in good condition and who provided a dwelling for his family worthy to be called home.

## COOPERATIVE FARM MARKETING

In Minnesota 78,314 farms, or 43.9 per cent of all farms in the state, reported cooperative marketing of farm products in 1919. Both cooperative elevators and cooperative creameries are numerous in this state.

Sales through farmers' marketing organizations in the United States in 1919 amounted to $721,983,639, or an average of $1,412 for each farm reporting. The most important products marketed in this way were grain, milk and cream, fruits and truck crops, according to The World Almanac's census summary.

The number of farms in the United States reporting cooperaitve purchasing of farm supplies through farmers' organizations in 1919 was 329,449, or 5.1 per cent of all farms. In six states, cooperative purchasing of farm supplies was reported by over 20,000 farms, as follows: Iowa, 32,530; Kansas, 32,321; Minnesota, 29,611; Nebraska, 27,335; Wisconsin, 21,792, and Ohio, 21,250.

Important items purchased cooperatively were fertilizer, feed, binder twine, spraying materials, coal crates, boxes, etc.

## JAPANESE AND OTHER ALIEN FARMERS IN THE UNITED STATE

Japanese, in 1920, says The World Almanac in a census summary, tilled 361,276 acres in California, 37,939 in Colorado, 25,340 in Washington, 11,357 in Idaho, 8,348 in Utah, 8,080 in Oregon, 5,714 in Montana, 3,527 in Arizona, 1131 in New Mexico, 601 in Nevada, 165 in New Jersey, 121 in New York, 7 in Wisconsin.

Chinese, in 1920, tilled 50,472 acres in California, 2,439 in Oregon, 1,599 in Washington, 822 in Arizona, 671 in Montana, 334 in Idaho, 227 in Alabama, 148 in New Jersey, 124 in Utah, 101 in Colorado.

Native white farmers, in 1920 tilled 799,431,898 acres; foreign-born whites, 111,176,522 acres; colored farmers, 45,068,125.

## ROCK SALT FOR ASPARAGUS

At the New Jersey experiment station rock salt was applied to asparagus beds for two years. Three plots were given 150, 300, and 500 pounds of rock salt, supplementary to liberal amounts of barnyard manure. The largest increase of crop on an old bed, planted 11 years, was 11.7 per cent and on a two year old bed, 17.1 per cent, both obtained with the largest amount of rock salt used, or 500 pounds. There were several plots of each amount of salt used and on one the gain in number of stems amounted to 28.8 per cent.


**I Can Save You Money on Fence**

I am specializing in farm fence materials. I buy steel posts and fencing in tremendous quantities which come in great boat shipments at lowest possible freight rates direct to my warehouses in Los Angeles and Oakland. This way I make possible enormous savings, and these savings I pass right on to my farmer friends. Furthermore, I guarantee personal service and prompt delivery.

**Red Top Steel Fence Posts**

The RED TOP Studded Tee is a new line post for heavy field, pasture, highway and railroad fence—stronger and better than any fence post on the market. My FREE catalog tells how nationally known engineers tested this post and found it 25% stronger than a new Punched Tee Post and 32% stronger than a Round Sheet Steel Post. **Be sure to read about this test before you buy fence posts.** The Red Top Studded Tee Post is a solid bar of Tee steel, without a single hole, equally strong throughout every inch of its length. **Nothing to weaken this post; everything to strengthen it.** (See illustration.) I recommend it as the most durable post on the market. Prices are so reasonable that you cannot afford to buy even wood posts.

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Fencing Facts for Farmers **It's FREE**

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THE minute that pocket gopher touches the cork, he is a dead gopher. The Getsem Gun never fails. It gets them every time. You have tried traps and poison with fairly good results, but with a Getsem Gun you get him and you know you get him because every time the gun barks you drag out a dead gopher.

Liebers "Getsem" Gun is simply a small shot-gun specially made for killing pocket gophers and other destructive pests. It shoots standard .410 shot-gun shells.

How It Operates

Just scrape away the pile of dirt and spike the gun in the ground with the muzzle pointing down the hole. Set the trigger and insert firing pin. In a few moments Mr. Gopher comes up to close the hole, bumps into the cork on the trigger wire and Bang! there's a dead gopher. It never misses.

**72 Gophers with 75 Shells** is what one farmer did with a Getsem Gun. Another shot 200 pocket gophers this summer.

Send $3.85 for one Getsem Gun or $11.00 for three. Absolutely guaranteed to satisfy or your money refunded. Ask your dealer—if he can't supply you send your order direct to us—or send for circular.

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Clear your stump land cheaply—no digging, no expense for teams and powder. One man with a K can rip out any stump that can be pulled with the best inch steel cable.

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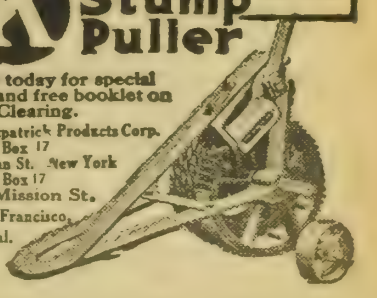

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# Livestock News Notes

LIVESTOCK SALE CALENDAR

October 26, C. W. Anderson, Burbank.
November 16, Dispersal, Arthur & Maxfield Holstein Co., Hanford.

The farm adviser of Inyo County is organizing a calf club and some of the boys have specified Ayrshire heifers. W. R. Ralston of the state leaders office, college of agriculture, Berkeley, is handling the matter for the banks of Inyo County.

Paul Hill who has been associated with the Hartford Livestock Insurance Company for a number of years has resigned in order to become affiliated with his father in a livestock commission business in connection with the new union stockyards in Los Angeles.

Fred Hartsook is going to sell 60 of his fine Holsteins at public auction on November 10. The breeders are anxious for the progeny of his great bull, Sir Aaggie De Kol Mead, and he is selling a lot of very fine cows and heifers bred to this sire. Every animal in the sale is hand picked from the big Hartsook herd of nearly 300 females, and since it is the owner's intention to make this an annual affair his first sale will include some very choice individuals who have made big records. The sale will be managed by C. L. Hughes of the California Sales and Pedigree Company.

An error was made in reporting the winners of the breeders young herd in the Duroc hogs at the state fair. This class was won by Charles J. LeMoyne of Lankershim. His herd was made up of the junior champion boar and some of the best gilts in the show and was obviously the best one in the ring.

The extension committee of the Holstein-Friesian Association of America announces the reorganization of the extension service, the appointment of Fred A. Koenig, formerly in charge of publicity, as director; Earl J. Cooper, formerly of the Wisconsin college of agriculture, in charge of junior work; W. B. Barney, 12 years dairy and food commissioner for Iowa, specialist in dairy products, and Edward G. Horst, formerly livestock representative of The Prairie Farmer, as publicity man. Headquarters of the extension service have been established at 230 East Ohio Street, Chicago, Illinois.

Valef's Grace Dereen of L, a Jersey cow owned by J. H. Sawyer of Galt, has qualified for the Register of Merit with 783.33 pounds fat from 13,701 pounds milk. She made over 50 pounds fat each month and averaged 5.72 per cent for the year.

Lydia's Valentine 604276, owned by H. G. Gross of Eureka, is now junior 3 year old class champion of California. She started test at three years of age and in 362 days produced 9413 pounds milk and 606.58 pounds butterfat, exceeding the class record by 15.19 pounds butterfat. By meeting the calving requirements Lydia qualifies for class AA and a silver medal. Her average test was 6.44.

At a meeting of the State Swine Breeders Association resolutions were drawn up requesting changes in the method of classifying the barrows and asking for some small improvements in the hog barns. These resolutions are to be presented to the board of directors early enough so that some action can be taken before next year's fair.

The Brant ranch of Owensmouth was unable to show Guernseys this year but contributed to the success of the show by sending up a large working model of the dairy department of the ranch. This was displayed in the space set aside for a resting place for the Guernsey breeders.

The Berkshire men are rejoicing because the grand champion barrow of the last two shows has been a Berk shown by the Italian Vineyard Company and the first prize carload has been Berks shown by Napa State Hospital.

## PREDATORY ANIMAL CONTROL

The losses to California stock and poultrymen through the ravages of predatory animals have been conservatively estimated at four millions of dollars a year. With the limited force of men at the disposal of the California department of agriculture and the biological survey cooperative service, it is true that operations have not been on the same state-wide basis as obtained in the ground squirrel eradication work, but notwithstanding, the efficiency of the campaign is attested by the fact that in localities where such operations have been conducted the animal losses have been reduced from 10 to 20 per cent of annual increase of stock to less than 1 per cent.

Since July 1, 1921, the following counties have cooperated: Humboldt, Napa, Solano, Monterey, Lassen, Lake, Yuba, Nevada, and others are offering their services and soliciting state aid. Losses in stock and poultry in counties where the cooperative work has been conducted, have been reduced 93 per cent. Between 4000 and 5000 coyotes and cats were killed during the fiscal year ended June 30, 1922, and many hundreds died of poison that were never found or accounted for. It should be remembered that this warfare on predatory animals is not inspired as a warfare for pelts, although the skins are sold at government sale and the proceeds turned into the state treasury.

## WASTING VALUABLE FOOD

That the scientific world is neglecting a vast opportunity to discover uses for dairy by-products was the statement made in an address by Prof. H. E. VanNorman, president of the World's Dairy Congress, in addressing the Eastern Section of the American Dairy Science Association. For every pound of butter we eat three pounds of milk solids are produced which are highly valuable for human feeding, he said. At present all except a trifling part of these solids are used at comparatively small profit in the feeding of calves, hogs and chickens. In 1921 nearly 36,000,000,000 pounds of mill were used in the manufacture of butter, yet only 1,700,000,000 pounds of butter were turned out. Out of the remaining billions of pounds of skim milk and butter milk, besides a small quantity of butter milk sold the public, only 700,000,000 pounds were utilized for skim milk powder and skim milk and cottage cheese. That year, also, 13,650,000,0000 pounds of whole milk were used in the manufacture of cheese, yet only about 356,000,000 pounds of solids were left in the cheese. Of the billions of pounds of whey remaining, only 32,000,000 pounds were used for crude milk sugar. In addition, about 269,000,000 pounds of skim or cheese whey were used in the manufacture of dried casein. However, all told, only a scant billion pounds of the by-products of butter and cheese were made use of in a really profitable manner beside the butter milk disposed of. In other words, only 2,140,000,000 pounds of solids, out of a possible 4,300,000,000 contained in the 36,000,000,000 pounds of milk that were used in the manufacture of butter and cheese, were utilized for human food or for casein for industrial purposes, according to the figures of the dairy division of the United States department of agriculture.

## COST OF WEANLING PIG TO A PENNY

What has that weanling pig cost you? You are in the pure bred hog business primarily to make money, and should know.

Your sow during the year produces two litters of ten pigs each, but saves only six out of each litter or 12 pigs at weaning time, per year. She weighs 400 pounds and consumes in a year about 2000 pounds of feed. You are feeding her a ration consisting of corn 55 parts, oats 35 parts, tankage 10 parts.

This costs you $32 per ton, or $32 per year, to feed the sow. She cost $50 and your boar cost $100, and is used with ten sows.

The pigs when born weigh about three pounds and make a daily gain of eight-tenths of a pound fed through the sow. They consume about 2.2 pounds feed per day. At 50 pounds weight they have consumed about 125 pounds grain per head, costing $2.

This gives the following figures per sow each year:

| | |
|---|---|
| Cost of sow $50; interest at 8 per cent | $ 4.50 |
| Depreciation (sow produces 12 litters and sells for $24.00) | 4.33 |
| Feed cost sow per year | 32.00 |
| Cost of boar $100; interest per sow | .80 |
| Feed cost boar per sow | 5.00 |
| Feed cost 2 litters | 24.00 |
| Shelter | 4.00 |
| | $74.63 |

Then each pig at weaning time has cost $6.24. If the pig is registered and immunized an additional expense of $2 should be added. The pigs costing $8.24, if sold for an average price of $15.00, will return a profit of $6.76 per head. Ten sows, then, would return a profit, cost of labor excepted, of $811.20.—E. J. Maynard, Colorado agricultural college.

## "SILO JUICE"

There are two classes of errors made about silage, the first being made by people who know of silos only by hearsay. Some people believe that silage burns out cows' stomachs and loosens their teeth, and that cows and hired men both get drunk on the juice that runs out of the silo. The writer has been feeding silage, or has been more or less directly connected with silage feeding for over 20 years and knows of no such injurious results. Many cows have been eating silage for ten years without injury. The teeth of the cow are naturally loose. There is no more reason for silage eating out the stomach of a cow than for canned peas hurting the stomach of a man.

The other class of mistakes is due to misplaced optimism. Silage is not a "miracle feed" to produce results by itself. It is not a balanced ration. It is not a hog feed, or especially horse feed, though hogs and horses can use some silage. It is not a substitute for grain, although some people try to use it as such. Silage is a feed for cattle and sheep and a substitute for dry roughage. The silo method is a substitute for wasteful ways of handling forage. It takes from two to three pounds of silage to equal a pound of good hay in feeding value, though in the right combinations it may sometimes appear equal to hay, pound for pound. Balanced rations and full feeds are just as necessary when silage is used as without silage—Charles I. Bray, Colorado Agricultural College.

## FEEDING BROOD SOWS

Brood sows must have enough protein in their rations to keep up with the requirements of the suckling pigs. Farm grains alone do not supply enough protein for heavy milk production. Skimmilk, buttermilk, middlings, oilmeal and tankage will balance a ration of farm grains under the conditions given.

The trend of farm planning seems to be toward more dairy cattle, more hogs, more poultry, and more potato acreage, with less oats and more grass.

An investment in a purebred sire yields dividends with every calf.

See the Champions at
Pacific
International
Live Stock Exposition
PORTLAND
Nov. 4 - 11

Over 3,500 purebred animals.
Night Horse Show.
Western Dairy Products Show.
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Manufacturers and Land Products Shows.
Six Auction Sales of dairy and beef breeds.
International Dairymaids' Milking Contest.

*Largest exposition of its kind in America*
*—10 acres under one roof!*

Come and bring the family. Stay from the opening day to the Grand Parade of Champions Saturday Night

Reduced Fares on All Railroads

*Remember the dates—*
November 4-11

*Write for descriptive folder*
*211 Northwestern Bank Bldg.*
*Portland, Oregon*

The 1922 Modesto Fall Sale
50 Registered Holsteins 50
Thursday, November 2 Modesto, California

Drafts of choice cattle from a number of leading Stanislaus County herds will make up this offering.

GUARANTEED BREEDERS—SOLD SUBJECT TO RETEST

Later announcements will outline the animals to be sold and names of consignors, also exact place of sale which will be right close to Modesto.

Write for catalog now.

Management
CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
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**Do You Prefer to Buy from Mail-Order Houses or Your Home Town Stores, and Why? You Can Earn $2.00**

For the 100 best answers to the above question, we will pay $2.00 each. This question is advertised so we may know best how we can make our unusual offer of two regular $1.00 packages of LAYMORE (makes hens lay in fall and winter) for only $1.00 for the two packages. Replies to the questions (and orders also) are to be sent to the MAYER COMPANY, Dept. 20, Minneapolis, Minnesota. LAYMORE, it will be remembered, produced 540 eggs from a flock of 20 hens.

# Ventura County Fair

A REGULAR old fashioned county fair and one of the best we have seen in recent years," was the concensus of opinion on the fair held at Ventura last week.

Set in a beautiful park, the gift of one of the leading citizens to the county, and right on the ocean front, the location is ideal for fair purposes. The men in charge are a bunch of hustlers and each year the increase in the size and quality of the exhibits is remarkable. Men who have shown there always want to go back and take their friends.

The large livestock quarters were filled to overflowing this year by the best the state affords. On account of the mountainous character of a large part of the county it is a great range cattle country and everyone has a keen regard for good horses. Probably at no place else in California can so many beautiful horses and such extravagant silver trimmed equipment be assembled. Also the bean and orange and lemon men of the lowlands use many draft animals, and there were more horses, jacks and mules on hand than at any other fair so far. A large number of registered jacks and horses have been taken into the county in the past year, and they were all on hand, polished and shined to the highest degree.

Practically all of the cattle and hogs came from other parts of the state as Ventura County has not yet taken her place in the sun as a breeding county of purebred stock. The one big Holstein herd of the county was not present on account of a difference of opinion between the owners and the fair management. Hartsook's big herd was the sole representative of the Holsteins and G. E. Gordon of Los Angeles placed the individuals much as before. The young bull, Tritomia Pansy Ormsby, was grand champion.

Jim Thorp and the Waterloo Jersey Farm presented the Jerseys and Thorp won most of the ribbons. Jolly Senator Raleigh was grand champion bull and Salome won the cow honors.

The Gantz Ayrshires were alone but the size of the herd allows it to make a fine showing. The Dibblee Estate showed Shorthorns including one of the sweetest two year old heifers we have seen in a long time. C. S. Howard of San Francisco sent his small herd of Herefords which includes the grand champion cow of the state fair.

Two fine herds of Guernseys were shown by the Italian Vineyard Company and A. B. Humphrey. Honors in the classes were about even but Humphrey won all championships. Mayhew's Bonnie Lass, the two year old who was grand champion of the state fair, was defeated by Caroline E. Langdon of Hollow-Hill Farm who was later placed second to the Humphreys cow, Phyllis of Mayhew for champion. The get of Effie's King of Hollow-Hill Farm won over the get of Nobleman of Maple Hill which had defeated them at the state fair.

The hogs were well represented in all breeds, which is unusual for a county fair. Humphreys and the Italian Vineyard again fought it out in the Berkshires. Humphreys won the boar championship on Escalon Big Joe, and Violet's Festline was again champion for the Italian Vineyard Company. Honors in this breed were also divided between these two herds which are the best in the West.

Thorp and Le Moyne displayed Durocs and split the ribbons but Le Moyne won both championships. Le Moyne's junior yearling sow and his aged boar are both hard to fault.

Buckland had little opposition in the Polands, and lost but two ribbons. Dr. Summerfields Tamworths were alone also and won all classes.

Two large herds of Hampshires were there but Underhill was too strong for Carl Miner of Ojai and took most of the honors.

A sweepstakes prize for the best five cows in milk was won by Fred Hartsook's Holsteins with Thorp's Jerseys second and the Gantz Ayrshires third.

### Community Exhibits

Seven communities competed for honors in booths showing farm products. The judges awarded on the following points and per cents: quality, 30; variety, 20; originality, 20; educational, 20; execution, 10. The standing in the totals was as follows: First, Mound; second, Santa Paula; third, Simi-Santa Susana.

The citrus exhibits were not competitive, but fine displays of lemons in booths were made by the Limoneira Company, Rancho Sespe, George C. Power, and Oxnard Citrus Association. In oranges the Mupu, Ojai and Piru Associations had box exhibits. Fillmore displayed both oranges and lemons. The largest number of prizes for horticultural products was won by 19 year old James Thurmond, of Saticoy, who also received a blue ribbon in the calf club contest.

## PROF. REGAN COMES TO DAVIS.

Announcement is made of the appointment of Professor W. M. Regan to the staff of the animal husbandry division of the California college of agriculture. Professor Regan will be in charge of the dairy production work at Davis. He comes to this state from New Jersey college of agriculture where he was at the head of the dairy department. From New Jersey we have this word as to Prof. Regan's work:

Prof. W. M. Regan

"During the five years that Professor Regan has been in New Jersey, he has built up one of the best managed and supervised Advanced Registry systems in the country. Since 1919 Professor Regan has been superintendent of livestock exhibits at the Toronto interstate fair; has built up the exhibit until today Trenton has one of the best shows in the country. He instituted the most rigid tuberculin test regulations. He sponsored the county show herds which have been responsible for giving Trenton a greatly enlarged dairy cattle exhibit, and one of the very best Holstein shows in the country. This has brought the little breeders and plain farmers into the show ring with their cattle from all over the state."

## PACIFIC COAST RECORDS BROKEN

One of the most noteworthy records ever completed on the Pacific Coast is that of Hollywood Lilith Palmyra Abbekerk, 400491, in the herd of the Los Angeles County Farm

In 305 days as a senior four year old this wonderful cow has made 22,245 pounds of milk and 982.94 pounds of butter, which is the Pacific Coast record for both milk and butter and the second highest record for milk and for butter ever completed by any animal of the breed. This record is all the more remarkable because made following the birth of twin calves and is the highest record ever made in this class by any cow having twin calves At the beginning of this lactation period the world record was held by Rose De Kol Wayne Butter Boy, and her production figures were exceeded by the County Farm cow by just .9 pounds of butter and 829 pounds milk but meanwhile another star had risen and annexed the world's record with a little greater production

If it had not been for a rather serious injury by a fall to the County Farm entry in May, which reduced her production in the last three months, it is probable that she would now be in first place for both butter and milk. This is the second long time production record made by this cow, the first beginning at the age of three years, six months, 27 days, when she made 21,608.8 pounds milk, containing 883.7 pounds butter, in 365 days. During this lactation she was shipped from Seattle to the County Farm, went through the public sale ring and carried twin calves during nearly one-half of this period.

## WHO MAKES THE PROFITS?

Only high producing cows are economical producers. Low producing scrub cows are always the ones that consume the most feed in proportion to the milk and butterfat produced.

This fact is proven again by the past year's results in the Webster County cow testing association, according to E. M. Harmon of the Missouri college of agriculture. The cows which averaged only 100 pounds butterfat per year, produced that butterfat at an average feed cost of 25.6 cents per pound. This cost gradually decreased as production per cow increased. The cows which averaged 200 pounds fat for the year produced that butterfat with an average feed cost of 16.1 cents per pound. Those that averaged 300 pounds fat per cow showed an average feed cost per pound fat of 12.8 cents, and with the 400 pound cows the average feed cost for each pound butterfat was only 11.4 cents. The profit per cow above feed cost varied from $18.27 in the case of the lowest producing class to $115.10, in the case of the cows averaging 400 pounds of butterfat per year.

The average Missouri cow is credited with from 100 to 110 pounds butterfat per year. According to the above results these average cows charged their owners over 25 cents worth of feed for every pound of butterfat they produced last year. Through the cow testing associations a few herds have been developed which average over 400 pounds fat per year. A great many average over 300 pounds fat per cow in a year. These herds last year cost their owners only 11 cents to 13 cents for each pound butterfat produced. Who makes the profits?

"Fairy Boy's Mary Margaret, a Jersey cow, owned by T. B. Purvine of Petaluma, has completed her year's test with 11,343 pounds milk and 664.57 pounds fat as a junior four year old.


# Mammoth Dispersal!

# 300 HOLSTEIN FEMALES

## MINOR & THORNTON HERD
## FRESNO, CALIF.

## October 26 and 27

This long established herd was founded upon selections from the Pierce and Sherman herds, blood that has produced many of the great record makers and show ring winners of California.

Approximately 90 of the cows in this herd are registered, and at least 90% of the balance are unregistered purebreds that will be sold as grades.

### OVER 100 MILK COWS

More than 100 milk cows are in the offering, including a large number of fresh cows and heavy springers.

### OVER 100 BRED HEIFERS

More than 100 bred heifers are in the offering, many of them heavy springers.

The property upon which these cattle are located has been sold and the cattle must be off the place by November 1st.

**There Are Sure to Be Many Great Bargains in This Offering.**
**Be There to Take Advantage of It.**

Terms of Sale:—Responsible parties may secure terms of one-third cash, balance in three, six, and nine months, if arrangements for credit are made prior to sale with California Breeders Sales and Pedigree Co.

MANAGEMENT

**CALIFORNIA BREEDERS SALES AND PEDIGREE CO.**
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# LONGYEAR RANCH HEREFORDS

BRED FOR RANGE PURPOSES

**SELECTED BREEDING STOCK**

This herd originated from registered cows of first Hereford quality. Standard has been maintained with registered bulls of superior type for over 35 years.

**MOUNTAIN BRED AND RAISED**

These cattle all range at 4000 to 10,000 feet elevation the year round with green feed nine months in the year making large rugged cattle of the true Hereford type.

**BREEDING GUARANTEED**

Range bulls, heifers and cows. For more particulars address

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# "ALL DEAD ABOVE THE EARS"

is the only possible explanation as to why the man who has money doesn't buy ranches or cattle at their present prices.

**A. L. SPELLMEYER**

Ranches, Feeders, Beef and Carlot Dairy Cows

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YOU'LL never find me without Gombault's. I'd rather be caught short of oats or hay. When you need Gombault's, you need it badly and sometimes you need it mighty quick, too.

GOMBAULT'S CAUSTIC BALSAM does the work better than firing. Hair will positively grow back natural color.

*A reliable remedy for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Windpuffs, Skin Diseases, Spavin, Ringbone, Throat and Bronchial Troubles. Will not scar or blemish. Supercedes all firing and cautery.*

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IT is unsurpassed for muscular and inflammatory rheumatism, sprains, sore throat, burns, bruises, cuts, etc.

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# Both Quality and Numbers

Not only the quantity of livestock, but the quality as well would suffer at the Pacific International Livestock Exposition were California not represented. This great show is held at Portland, Oregon, November 4 to 11 this year. It follows the California National Livestock Exposition at San Francisco, there being two weeks between which gives ample time for the proper shipment of the livestock.

Located 800 miles to the north in a part of the country where particularly fine livestock has always been produced, it is a source of self congratulation to California that last year with much smaller entries than the northern states, California breeders won two championships in Shorthorns; two in Herefords; four in milking Shorthorns; one in Southdown sheep, two in Corriedales, one in Border Leicesters, two in English Leicesters; and three in Duroc-Jersey hogs. This is a remarkable showing of purples under the circumstances, but the breeders of other parts of the Pacific Slope are as eager as ever to compete with their best livestock against California.

**To Be at the Pacific International**
Sultan's Dale owned by Pacheo Cattle Company was junior grand champion at 1921 fair.

The Pacific International Livestock Exposition is not a young institution, having been in existence, in embryo at least, a good many years. It attracts breeders of every kind of livestock from a very wide area, fine herds and flocks coming from British Columbia on the north, Texas and New Mexico on the south, and last year drawing two wonderfully fine dairy cattle herds (Guernseys and Ayrshires) from as far east as Massachusetts and Vermont.

The building at North Portland is a model of its kind and the largest livestock building in the world. It covers ten acres all under one roof and is as conveniently arranged as can be imagined. In 1921, there were 3,500 head of livestock at the Pacific International; this year indications are that the number will be greatly increased and it is expected that a good share of the increase will come from California.

A much larger showing of dairy cattle is expected this year, with no diminution of beef cattle, sheep, hogs and horses. There will be some wonderful animals at the Pacific International this fall. The world's champion Jersey butter fat producer, Lad's Iota, will be there; the world's champion Holstein butter fat producer, Segis Pietertje Prospect, will be there also; and the third of the world's champions, Blosson of Three Oaks, a Saanen milk goat from California, has also been promised for this show.

O. M. Plummer, the presiding genius of the Pacific International, attended the state fair at Sacramento and saw most of the breeders who were there. It sounded as though they all promised him they would come to Portland, and it was indicated that 25 or 30 carloads of purebred livestock would start north after the San Francisco show. These will be the very finest produced in California and that means in the world.

The $75,000 offered in premiums is a drawing card. It is worth mentioning that $3,500 in prize money is offered to boys' and girls livestock clubs this year. Of more immediate interest in this state is the inauguration of a livestock judging contest between teams representing the high schools with vocational courses. A large number of teams are expected to compete in this state. The college judging teams will be there in force. California has always stood high.

The exposition is not local in character and draws from the entire Pacific slope. Its directorate is represented by men in California, Oregon, Washington, Idaho and Montana. It deserves the support of the livestock industry in all of these states as it serves them all.

## TESTING PROVES WORTH

Recently completed records in the Los Angeles County farm dairy herd include that of Henrietta Luecke Colantha, senior four year old, 25.70 pounds of butter from 466.8 pounds of milk. She will be continued on yearly test.

Concordia Segis Phoenix, at 10 years of age, made 24.09 pounds of butter and 586.3 pounds of milk in seven days, later milking as high as 95 pounds of milk per day on semi-official test.

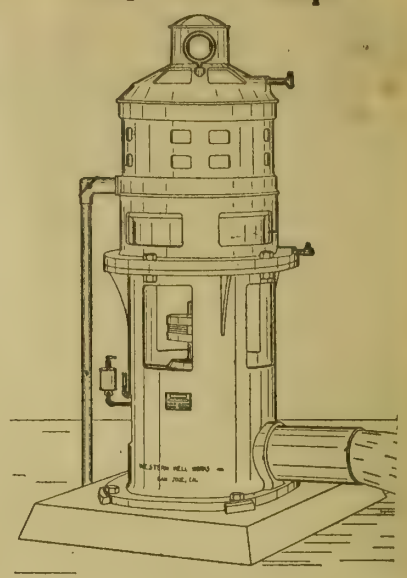
Whittier Pontiac Netherland 4th, the 1139 pound, state champion, four year old, has freshened again with a beautiful heifer calf, sired by King Korndyke Pontiac Mead. This calf traces three times to the famous foundation matron, De Kol of Valley Mead, through both sire and dam. The descent from De Kol of Valley Mead is through an 1100 pound, three year old and an 1100 pound four year old, and twice through the thousand pound four year old, De Kol of Valley Mead, 2d—all of these cows having held state or world records.

## CALIFORNIA MEN AT NATIONAL DAIRY EXPOSITION

California delegates attending the National Dairy Exposition at St. Paul this week are C. E. Gray of San Francisco, president California Dairy Council and of California Central Creameries; Sam H. Greene of San Francisco, secretary manager California Dairy Council; Prof. C. L. Roadhouse of Davis, manager Pacific Slope Dairy Products Show; George W. Prising of San Francisco, dairy machinery man; B. H. Rawl, of San Francisco, assistant general manager, California Central Creameries; E. C. White of San Francisco, dairy machinery dealer; Ben W. Annixter, of San Francisco, creameryman; T. D. Chapman of Los Angeles, ice cream manufacturer; D. M. Dorman of Los Angeles, creameryman; W. Stabler of Los Angeles, creameryman; M. Alfred, of Los Angeles, ice cream manufacturer; J. S. Calkins, of Los Angeles, ice cream manufacturer; L. A. Hughes of Los Angeles, ice cream manufacturer.

Tentative plans for a Poland China sale to be held in Southern California this winter were made at the annual meeting of the Poland China Association.


**Western Turbine Centrifugal Deep Well Pumps**



represent a highly developed construction of a simple practical pump. They are manufactured to meet rigid inspection and deliver long uninterrupted service. The cost of maintenance is very small over many years of severe use.

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produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

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W. H. Dupee, Owner Riverside, Calif.



**Italian Vineyard Company**
**GUERNSEY CATTLE**
Herd Headed by the King of Hollow Hill
**BERKSHIRE HOGS**
Stock of Both Breeds For Sale
Alex. Wilson, Supt. Guasti, Cal.



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Inexpensive Operation—Long Life
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Extra parts are always available without delay for standard advertised machinery. This class always found in the California Cultivator.

# Hemp in Arizona

By M. E. Bemis

FOR some time there has been more or less speculation as to the possibilities of hemp as a commercial crop in the irrigated valleys of Arizona. The Phoenix chamber of commerce in order to have this matter tested obtained some seed from the United States department of agriculture and distributed it among a number of growers. Complete reports will not be available for some time, but, without question, the most reliable data will be had from the plots at the Salt River Valley experiment farm at Mesa.

Two varieties of hemp seed were obtained, one, the common variety, which is universally known as Kentucky hemp; and the other a hybrid which originated at the experiment farm near Washington, D. C. This variety is known as the Tochimington.

It was presumed that there would be little probability of growing hemp fiber on a commercial scale as labor costs are greater than in most sections where hemp is grown for the fiber. It was thought, however, that inasmuch as hemp does not mature seed in the northern states where it is grown for fiber that there might be possibilities of growing seed commercially. The results at the station so far indicate that this may be true.

The Tochimington variety was planted for seed in check rows five feet apart each way. This has attained a height of eight to ten and 12 feet. The Kentucky variety was planted adjoining and sown broadcast.

Some old hemp growers familiar with this crop in Kentucky are making careful observations at the experiment farm and believe that the Kentucky variety, while not planted for seed purposes, will prove better adapted and will produce seed in quantities that should make its growing profitable. Of course, the harvest will determine this more definitely.

There is a possibility that hemp might have some other uses here for shade and ornamental purposes. The character of the leaf is such that it makes a shade somewhat similar to that of the umbrella tree which is generally conceded to make the best shade although having many objections which do not encourage the planting of this tree.

For annual shade, and one which will also be ornamental, it would appear that the hemp might have considerable advantage over the castor bean which is universally grown for this purpose in the Southwest. I am inclined to believe that for shade in chicken yards, or wherever castor beans are now planted, that hemp will serve the same purpose equally well and will be fully as easily grown and quite probably will furnish a more satisfactory shade.

# Manure Preservatives

Much advice has been given on the preservation of manure, some of it based on sound principles and some merely on hearsay. Nothing very definite has been known about what takes place in the manure pile, however, except that nitrogen is lost through the ammonia which is given off and that other valuable plant food constituents may be lost by leaching if the manure is exposed to the weather. Most directions for the care of manure, therefore, include a recommendation for storing the manure in a covered shed or pit and usually advise the use of some material believed to have a beneficial effect in preserving the nitrogen otherwise lost as ammonia.

The New York agricultural experiment station at Geneva now comes out with a report in Bulletin No. 494 on a series of investigations of a number of manure preservatives in which careful chemical and bacteriological studies were made of the effect of the various materials on the changes taking place in the manure pile. The conclusion is reached that most manure preservatives are of little value in checking the loss of nitrogen. Horse manure was used in all the experiments and straw, peat, acid phosphate, rock phosphate, and gypsum were compared as preservatives.

The results obtained demonstrated to the satisfaction of the station experts that acid phosphate is the most efficient and only practicable material that can be recommended at this time as a manure preservative. In the experiments the amount of nitrogen lost ranged from 15 per cent for manure treated with acid phosphate to 51 per cent for untreated manure. The loss in dry matter after four months' composting ranged from 25 per cent for manure and acid phosphate to 63 per cent for untreated manure.

The experiments also showed the benefit of immediate application of the preservative to the manure, even if the latter is to be hauled out and spread on the field as soon as voided. It is suggested that two handfuls of acid phosphate be scattered in each stall each day, the trampling of the stock being regarded as the most efficient means of mixing the material with the manure.

Along the same line the Ohio experiment station at Wooster has been making observations and has issued the following statement:

Fresh stable manure lost one-third of its nitrogen, one-fourth of its phosphorus, and one-half of its potassium content when exposed in open yard for three months of winter weather in tests at the Ohio experiment station.

The loss in fertilizer value of the manure was even greater than indicated by these fractions, it was explained, for the more available constituents are the first to be lost by leaching.

The loss of nitrogen and potassium from each ton of manure is fully equal to the amount of these elements carried in 150 pounds of a 2-12-3 fertilizer costing at least $1.75 after deducting the price of the phosphorous. These losses may be largely prevented by keeping the manure under cover or hauling directly to the field.

When the elements in the manure are properly balanced by a liberal application of acid phosphate they easily produce this amount in increased crop yields.

## SMALL POTATOES AND SEED SELECTION

The small potatoes from healthy, vigorous plants are just as good for seed purposes as pieces of the large tubers from the same plants, declares the potato expert at the experiment station at Geneva, New York. In careful studies made at the station the yield of marketable tubers from whole small seed potatoes exceeded that from pieces of large potatoes from the same plants by almost 17 bushels per acre. It is the opinion of the station specialist that the disadvantages of whole small seed potatoes have been overestimated.

Where a special seed plat has been maintained and all diseased plants carefully removed there is no reason why the small tubers will not give as good, if not better, results than pieces of the large tubers from the same plants. The continued selection of small tubers year after year, of course, is not advisable. Neither is it desirable to use small tubers from the main crop, in case a special seed plat has not been established, unless the diseased and weak plants have been removed from the field. Also in buying seed potatoes from outside sources it is always best to insist on medium sized tubers unless the potatoes come from a field which has been certified by a regularly authorized inspector as being free from mosaic, leafroll, spindling sprout, etc.

In other words, if the seed potatoes are known to have come from healthy, vigorous plants, the small tubers will be just as satisfactory as the large tubers for seed purposes.


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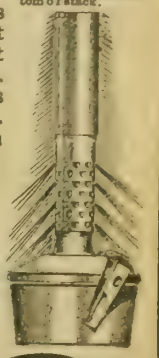
The DUNN With Improved Lower Stack, Umbrella Cover and Removable Top Cover.

It is important that orchardists insure their crops against frost and freezes—because when killing frosts do come—the loss is appalling. These losses can be eliminated. DUNN Orchard Heaters completely solve the problem.

650 thousand DUNN Orchard Heaters in use by California citrus growers. Hundreds of thousands this type used elsewhere in U. S. Most effective because of exclusive patented features. Improved lower stack with perforations depressed to inside, radiates heat to side and down—with most heat at bottom of stack. Perfect combustion. All heat—no smoke. Joints fit tightly. Only draft is through patented downdraft tube. Heat generated rapidly; maximum protection secured at once.

Improved stack with perforations depressed to inside. Radiates heat to side and to ground—with most heat from bottom of stack.



The DUNN Orchard Heater

is the only orchard heater with permanent asbestos lighting wick. Lights quickly and stays lit. Burns clean as a gas jet. Uses less oil. 9½ gallon heater burns 20 hours at 100% efficiency, without refilling. Patented swedge on bowl is hand grip for carrying heater. Made of 24 gauge extra heavy Keystone Copper Bearing Steel. Seamless bowl and cover.

Orchard Heaters Needed Everywhere

Growers of oranges, grape fruit, limes—apples, peaches, pears, plums, cherries, berries—every orchardist—from largest to those with less acreage—you should make prompt inquiry as to the DUNN Orchard Heater and how it protects profits.

Records—everywhere—show DUNN Orchard Heaters do pay hundreds of dollars on investment. First cost—except for fuel—is only cost. Depreciation based on actual facts, less than 2 per cent for 8 years.

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Representatives wanted in every county. Good pay weekly. Good territory open. Write today.

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You need DUNN Orchard Heaters. Write for booklet which gives facts and valuable information on how to protect YOUR crops and insure profits. Every orchardist should have it. Write today. No obligation. A postal will do. Address

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Where DUNN Orchard Heaters are manufactured. The plant of the Geuder, Paeschke & Frey Co. A well known, long established company—who have built a successful manufacturing enterprise by selling at lowest possible prices and rendering prompt, efficient service.

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This special receiving outfit will give as good results as any outfit of this improved type on the market. It is absolutely complete, there is nothing extra to buy. We include everything—you simply put up the aerial, connect the instruments, which is easy to do, and in less than half an hour you can be receiving signals, radio music, lectures, stock reports, market reports, or any other radio program sent out.

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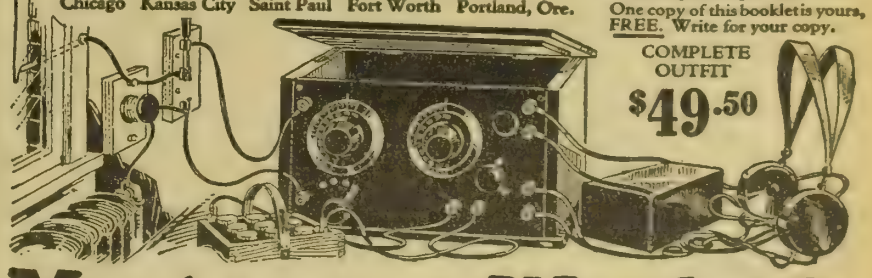

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We can deliver on October 22nd 500 White Leghorns at $17.00 per hundred, 300 R. I. Reds at $21.00 per hundred, 100 White Wyandottes at $25.00 per hundred. Delivery charges paid in California, full count guaranteed. This is all exceptionally fine stock from Purebred flocks kept on large range. We guarantee chicks to be purebred and true to type and color. This stock comes from our hatchery, Corner Vine and Hollenbeck streets, Covina. Phone Covina 375. These chicks are all hatched in the famous Chic-Elec Incubator made in Los Angeles which assures you a scientifically and perfectly hatched chick.

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**For Sale**—Pedigreed White Leghorn Cockerels—Mother laid 252 eggs at Santa Cruz egg laying contest. Father's mother laid 306 eggs, grandmother, 312 eggs. The egg habit can not be fed into a hen, it must be bred in. California Poultry Farm, R. 1, Box 160, Modesto, California.

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**100,000 Pearl Cauliflower Plants** $2.00 per 1,000. A. E. Nelson, El Monte, Calif.

**For Sale**—About a million cabbage plants. L. C. Johnson, Pomona, Cal.

## WANTED

**Wanted Throughout California,** men with autos to represent established farm publication selling and collecting subscriptions. Flat salary. Write or call J. H. Yetter, 317 Central Ave. Los Angeles.

**Want to Hear from Owner** having farm for sale; give particulars and lowest price. John J. Black, 116th Street, Chippewa Falls, Wisconsin.

**Wanted**—Triplex pump, capacity 40 inches, lift 250 feet. W. M. Bristol, Highland, California.

**Wanted**—New crop walnut meats and cull walnuts. Fred L. Mitchell & Son, 214 French St., Santa Ana, Cal.

**Wanted**—Position by man as caretaker on ranch. Address E. F. S., Pozo, California.

## GUINEA PIGS

**For Sale**—Guinea Pigs. Females, 75c, males 50c. Mrs. Albert Stone, Route 1, Box 195, Escalon, Cal.

## FARM LAND FOR SALE

THE CHARLES WEEKS SYSTEM OF INTENSIVE POULTRY AND BERRY FARMS

ONE ACRE AND INDEPENDENCE

or

The fine art of earning a comfortable living on one acre in California.

For those who desire to dwell in sunny California without living up hard earned capital.

For 18 years proprietor of the most intensive Egg Farm in the world and Founder of the Famous Charles Weeks Poultry Colony at Palo Alto, California.

The Charles Weeks Poultry Colony No. 2 is now being established at Owensmouth, California, 26 miles from Los Angeels.
Write for literature.

Charles Weeks, 1124 Loew's Theater Bldg., Los Angeles, Calif.

**Dairymen or Farmers Attention**—For sale an ideal dairy ranch of 21 acres, finest soil, grow anything, fruit or grapes. 16 acres in alfalfa, all under irrigation and cultivation, plenty of water at $2 an acre a year. 5 acres in pasture—can be put into fruit or grapes. Six Holstein graded cows, two Durhams, all milking, 7 heifers from four to twelve months old, good Durham bull, fine team, harness, wagon, all implements and chickens go with the place. Modern 5 room plastered house, bath, toilet, wired for electricity throughout, all plumbing done, large open fire place, porches all screened, chicken houses, bunk house, barns, in fact place all ready to move right into. Place right on the river, beautiful view, entire property all fenced and cross fenced. Fine well for house 63 feet deep. Only reason for selling getting too old to work it. Price absolutely right. This place must be seen to be appreciated. Address owner—L. D. Reynolds, Los Molinos, California.

**Improved Alfalfa and Fruit Land For Sale**—House, barn, tankhouse and irrigation plants, all ready for occupancy. Prices of land under value of same and surrounding land. Very desirable terms. Ten (10) per cent down, balance to suit purchaser; deferred payments six (6) per cent, payable semi-annually. Contracts to extend over a period of nine (9) years. Located in the rich alluvial soil of San Joaquin County, Ripon district, known as the Massachusetts Farm located on River road, extending south to Stanislaus River. Now being subdivided and improved. For further information F. F. Copp, 430 E. Mariposa Ave., Stockton, California.

ARE YOU GAME?
Some people have said the day of opportunity is past, but that is not so. We offer ambitious farmers an opportunity to own a farm on easy terms. Deep, rich, tried soil. Cheap irrigation, complete drainage. Rail and water transportation. Diversified crops.
SUTTER BASIN COMPANY,
304 California Fruit Building
Sacramento, California.

**Ventura County—13 Acres Citrus** in heart of Fillmore Citrus Groves. Full producing orchard of Valencias, Navels, lemons. Trees in excellent condition. House, barn. Full coverage irrigation and domestic water stock. On paved highway, 1¼ miles from city. An unusual income opportunity at $1300 per acre. Liberal terms. FARMERS REALTY AND INVESTMENT CO., Fillmore, California.

**Going to California**—For sale or exchange—all or part of 320 acres level land. Suburban to Vancouver, city water, near electric car lines, can clear loan and assume mortgage on California improved country or city property. Owner J. D. Westenhaver, 2048 Stephens Street, Vancouver, British Columbia.

**For Sale**—$13,200—33 acres of the finest soil, plenty of water, all under irrigation and cultivation, family orchard, all varieties of fruit and berries; grow anything. Water costs $2 an acre. 4 room house, screen porches. Address owner—A. L. Plummer, Los Molinos, California.

**For Sale**—264 acres near Lakeport, 30 farming land, pear or walnut land. New 6 room bungalow, other outbuildings, farm implements, stock. Price $11,000. Consider small place in trade. Address Cultivator, Box FAJ, Los Angeles.

**For Sale**—20 acres of fine soil, all under irrigation and cultivation, family orchard, thirteen acres in alfalfa, 4 acres in corn, 3 acres in Thompson Seedless. Good cottage, 4 rooms and bath. Address owner, W. W. LePage, Proberta, California.

**For Sale by Owner**—20 acres well fenced, with buildings and 20 head dairy stock in San Jacinto. For immediate action $3500 cash—no trade. Stewart-Smith Co., San Jacinto, California.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**$71,000 Buys 120 Acre** bearing orchard on highway near Chico; easily subdivided. 86 acres in trees, mostly prunes; irrigation. Levi H. Maxwell, Rd. 1, Chico.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## HORTICULTURAL PRINTING

**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St. Los Angeles.

## CATTLE

**Jersey Bull Calf For Sale.** Dandy bull calf whose sire traces six times to Financial Count in five generations. Dam is Financiers Lady Joy who has a R. M. record of 423.67 pounds of fat at 2 years of age. Again on test and has made 327 pounds fat in 5 months. A splendid bull priced to sell. Grant A. Brown, El Monte.

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aaggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys—Grape Wild Farms—Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Registered Guernsey Bull:** Name of animal—Parish Gay Boy, born July 29, 1920. Sire, Imp. Hayes Gay Boy of Edgemoor—Dam, Nellie Parish. Will sell reasonably. For information write to Gus Matchinske, 1532 J St., San Diego, Calif.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

SHORTHORNS STRALOCH FARM
Two and one-half miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**For Sale**—Registered Holstein cows and calves. Champion stock A. R. O. Mallette & Higgins, Box 14, Moraga, California.

**Aberdeen-Angus Cattle**—Registered bulls; heifers always on hand. Everything priced to please buyer. Brook Hollow Farm, Hollister, California.

**Holstein Fine Yearling Bull For Sale**—Netherland Ormsby De Kol Pontiac. K. B. Utigaard, Hemet, California.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls of various ages** for sale. Millbrae Dairy, Millbrae, California.

**Herefords**—"Veramont Stock Farm," H. M. Barngrover, Prop., Stockton, California.

**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

**Registered Herefords**—Anxiety IV strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

## FOR RENT

**For Lease**—167 acres, 1 mile northwest of Westminster. Gun Club ranch,, improved, artesian water, good for dairy, beets or intensive farming. Last year's crop of peppers sold for $9,000. W. F. Marks, 1318 W. 3rd St., Los Angeles. Phone 52471.

**For Rent**—Thirty acres best vegetable land in state. No irrigation. New bungalow. Terms, cash. R. H. Blohm, Route 2, Box 96, Watsonville, California.

## HOGS

**Blue Hogs**—Actually blue in color. Large, growthy and prolific. Fancy show hog. All stock pedigreed. Registered in purchaser's name. Blue Hog Breeding Company, Wilmington, Massachusetts.

**Tamworths, The Bacon Breed... James J.** Summerfield, Santa Rosa.

## DUROC-JERSEYS

**Weanling Boars and Gilts by Pathfinder** Wonder (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

**Winsor Ranch Durocs**—The best of stock at reasonable prices. BONITA, CALIFORNIA.

## POLAND CHINAS

POLAND-CHINAS STRALOCH FARM
Two and one-half miles west of Davis, Calif. on Highway, C. Harold Hopkins, Woodland, California.

## SHEEP

HAMPSHIRE DOWNS
STRALOCH FARM
Two and one-half miles west of Davis, Calif. on Highway, C. Harold Hopkins, Woodland, California.

## MACHINERY

**For Sale**—Windmills, Tanks, Pumps
Pump Cylinders
Pump Rods, Wood, Iron
Tons Casing and Standard Pipe Fittings
Gates Unions Ls Ts Check Valves
50 Wood Iron Pulleys
Eight foot rebuilt mills, do same work as new $35; 10 feet $45; 12 feet $68; 36 feet fine steel towers, $30. We make new galv. tanks 400 capacity, $21.25; 600, $26.25; 1000 gallons, $35.25; 2000, $48.25. Go in car door, cheap freight. Used redwoods. 1,000, $21.00; 5,000, $58.00; 8,000, $78.00; 25,000, $135 to $150; 50,000, $250. Why pay more. 18 years experience insures service. Call, write Demmitt Co., 120 North Main. L. A.

## GOVERNMENT LAND

**Attention:** Million acres Government land for farming, grazing, timber. Near R. R. Plenty water. Send for folder. Rally, 1111 So. Alvarado, Los Angeles, California.

TREES

**Get My Prices** on Japanese persimmons, Kadota and Black San Pedro figs, Concord grapes, Muscats, Malagas and Thompson Seedless, rooted and Black Monukka cuttings. Nursery stock growing at El Monte, and Vista near San Diego. Easily accessible to Southern planters. Good stock at right prices. Fred W. Kelsey, El Monte, Cal.

**Fruit Trees and Grapevines**—Still have unsold few varieties grapes grafted on resistant root. We ship all stock on approval, if not entirely satisfactory return at our expense. Write for our special prices. J. F. Miller & Sons, Healdsburg, California.

**For Sale**—Native Northern California Black Walnut Seedlings. Two to four foot, good heavy stock. The Native Northern Black Walnut is the most resistant grown. Write for prices. Anderson Water Co., Anderson, Shasta County, California.

**For Sale**—3500 Washington Navel trees; two year old sour stock root. 1500 Washington Navel trees; one year old sour stock root. 2000 Eureka lemon trees, one year old, sour stock root. F. A. Tetley & Son, Riverside, California.

**For Sale**—Florida Sour Orange Seed Bed Stock, from fruit growers seed. All leading varieties avocados, grafted Placentia walnuts. Mathers' Avocado Nursery, Pasadena. P. O. Box 585. Phone Colorado 6044.

**For Sale Grafted Walnut Trees** for searus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E 4th Street, Santa Ana, California. Phone 572-W.

**For Sale**—Hachiya Persimmon trees. Large trees of finest stock. Circular. Sherwood Persimmon Nursery, Fullerton, Cal.

**For Sale**—Grafted Walnut Trees for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**For Sale**—5000 Placentia Perfection Walnut Trees, northern black root stock. Grafts were taken from one of the best producing groves in California. F. A. Tetley & Son, Riverside, California.

**For Sale**—Hachiya Persimmon Trees, grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**Tree Agents** and working partner wanted. Cash Nursery, Sebastopol, Cal.

**For Sale**—All kinds fruit trees, also vines. K. S. Kamada, R-3, Box 29, Dinuba.

MISCELLANEOUS

**Manufacturer of Garden Tractor** now doing business in all parts of the world is offering extensive territory to dealers and agents. This is a sturdy, practical and proven power cultivator for truck farmers, nurserymen, florists, home gardeners, suburbanites and small fruit growers. Big profits. Unlimited field. Machinery experience unnecessary. American Farm Machinery Co., 2531 University Ave., S. E. Minneapolis, Minn.

**Two Indiana Silos**—18x40, used 3 months, $300 each. 1921 Reo Speed Wagon in good condition. Price $1000. C. C. Rudolph, 216 Third Ave., Santa Barbara, California.

**Natural Leaf** Tobacco—Chewing, 5 pounds, $1.75; 10 pounds, $3.00. Smoking, 5 pounds, $1.26; 10 pounds, $2.00. Send no money. Pay when received. TOBACCO GROWERS UNION, Paducah, Ky.

**Smoked Salmon**—5 pound box, $1.25; salt salmon bellies, 5 pounds $1.25, delivered by mail. Coffin Fish Co., Seattle, Washington.

**Hemstitching and Picoting Attachment**; fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Tillicum**—Fluid grafting—Covering Wax; no heating required. Sample 25c. No stamps. Paul Kruger, Watsonville, Cal.

**I Want Farms for cash buyers.** Will deal with owners only. R. A. McNown, 870 Wilkinson Bldg., Omaha, Nebr.

**Free Tobacco**—Write for sample of Kentuckys best smoking tobacco. Hawesville Tobacco Co., Hawesville, Ky.

TURKEYS

GIANT BRONZE TURKEYS

**Large turkeys** can be raised at practically same cost as small ones. It is in the strain. One of our toms will give you five more pounds of meat to market in all his get the first year; besides vitality and beauty.

GOLD NUGGET STRAIN
J. Will Blackman, Originator

Again prove their superiority by winning at California State Fair, September, 1922. Gold Special Sweepstakes for best turkeys in the show. All breeds competing. In open class they won 1st old tom, 1st and 2d yearling tom, 1st and 3rd yearling hen. This, along with practically every Gold Special Sweepstake at the West's greatest shows since 1915, prove that they have

AN UNEQUALED RECORD

Toms and hens for sale. Book orders now for December delivery as each year we are sold out early.

BLACKMAN & MUMFORD
609 East Third St., Los Angeles, Cal.

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

LIVESTOCK

**For Sale**—Registered Percheron Stallion, "Avelene 11" Kentucky bred saddle stallion "Jack Rogers" and three saddle horses (two geldings and one mare). Also three registered Jersey bulls by "Merry King Pogis" and five young Hereford bulls (Repeater strain) all ready for use. These can be seen at the ranch which is seventeen miles north of Santa Barbara on the main highway or particulars can be had through the mail on application to the Secretary. DOS PUEBLOS RANCHO, Naples, Santa Barbara County, California.

PATENT ATTORNEYS

WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

PIGEONS

**White King Pigeons** unmated pairs $3.00, mated pairs, $5.00, and Pearl Guineas $5.00. Paradise Valley Poultry Ranch, National City, Cal.

DUCKS

**For Sale**—White Mammoth Pekin Ducks, good strain. Trio $5.00. J. B. Wagner, Watsonville, California.

# Kell-Oil Heaters

Are built in three sizes, 4½, 6½ and 9 gallons. They burn from eight to twelve hours.

**They Burn Clean**

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**$3.00** Per Set of eight Check, Money Order or C. O. D.

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## IN AN AMERICAN DESERT

One of the driest parts of the United States is what is called the Papago country, a region including about 13,000 square miles in southwestern Arizona, so called because it was long ago inhabited by the nomadic Papago Indians. This broad expanse of desert country, which lies between Gila River and the Mexican boundary, contains many groups of volcanic and other mountains separated by broad alluvial basins, which though the rainfall is small and the temperature is high, sustain a scant growth of desert plants, including orchard like groups of strange trees. Here the bold slopes of the mountains, the general absence of watering places, and the peculiar forms of the vegetation impress the traveler strongly with the majesty and the mystery of the desert and excite his wonder as to the origin and history of the natural features.

A report on this region by Kirk Bryan, has just been published by the United States geological survey as Bulletin 730-B, under the title "Erosion and Sedimentation in the Papago Country, Arizona." The report describes the geology briefly as a setting for a consideration of the agencies that have produced the forms of the land and presents detailed conclusions as to the mode of origin of the desert landscape. The paper is illustrated with diagram, views and maps and should be of interest to all students of topography and physiography, particularly those who are endeavoring to solve problems of erosion by wind and water in desert regions.

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The federal bureau of markets figures an annual loss of a hundred million dollars from spoilage of perishable foods in transportation.

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Group flower beds. When they are scattered all over the lawn they are ugly, take more work, and make the lawn seem smaller.

## NICKNAMES OF STATES

A question often asked in vain is: "What are the nicknames of the states?" Following is a complete list, taken from The World Almanac:

Alabama—"Cotton," "Lizard."
Arizona—"Sunset," "Apache."
Arkansas—"Bear," "Bowie."
California—"Golden," "El Dorado."
Colorado—"Centennial," "Silver."
Connecticut — "Nutmeg," "Freestone."
Delaware—"Diamond," "Blue Hen."
Florida—"Peninsula," "Everglade."
Georgia—"Cracker," "Buzzard."
Idaho—"Gem."
Illinois—"Sucker," "Prairie."
Indiana—"Hoosier."
Iowa—"Hawkeye."
Kansas—"Sunflower," "Jayhawk."
Kentucky—"Blue Grass," "Corn-Cracker."
Louisiana—"Pelican," "Creole."
Maine—"Pine Tree," "Old Dirigo."
Maryland—"Old Line," "Cockade."
Massachusetts—"Bay," "Old Colony."
Michigan—"Wolverine," "Auto."
Minnesota—"Gopher," "North Star."
Mississippi—"Bayou," "Eagle."
Missouri—"Ozark," "Iron Mountain."
Montana—"Stub Toe," "Bonanza."
Nebraska—"Antelope," "Black Water."
Nevada—"Silver," "Sage Brush."
New Hampshire—"Granite."
New Jersey—"Jersey Blue," "Garden," "New Spain."
New Mexico—"Sunshine," "Spanish."
New York—"Empire," "Excelsior."
North Carolina—"Old North," "Turpentine," "Tar Heel."
North Dakota—"Flickertail," "Sioux."
Ohio—"Buckeye."
Oklahoma—"Boomer."
Oregon—"Beaver," "Web-Foot."
Pennsylvania—"Keystone," "Steel," "Coal."
Rhode Island—"Little Rhody," "Plantation."
South Carolina—"Palmetto."
South Dakota—"Sunshine," "Swiagecat."
Tennessee—"Big Bend," "Volunteer," "Hog-and-Hominy."
Texas—"Lone Star," "Beef."
Utah—"Desert," "Mormon."
Vermont—"Green Mountain."
Virginia—"Old Dominion," "Mother."
Washington, "Evergreen," "Chinook."
West Virginia—"Panhandle."
Wisconsin—"Badger," "Copper."
Wyoming — "Equality" (Suffrage Pioneer).

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## HUBAM

Iowa and Alabama are still pushing hubam, a clover named after Prof. Hughes, formerly of Iowa, and the state of Alabama. Prof. Hughes is now with the Alabama station and writes most hopefully of this clover which has been but little tested in California.

We note that an Ohio producer says: "We sowed a part of the seed we raised last season, with oats. We cut before the oats was ripe for green feed. The clover was then about 30 inches high. The clover started up again nicely, then in August we cut the clover again, a fair crop of green feed. The clover started again and blossomed and set seed and we think ripened seed enough to well seed the ground again. The rest of our seed we sowed in three rows for seed. We had a very hot dry summer here and the clover grew only about four feet high, but made a very good crop."

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## THE CHINESE LYCHEE

Studies in China of the lychee nut tree, Litchi chinensis, or Nephelium litchi, show that we may not expect to grow this tree on all kinds of soil. It was found that an acid soil is most favorable and promotes the growth on the roots of tubercles containing mycorrhizal fungi which are apparently beneficial to the plant. Lack of winter dormancy is also detrimental, according to Walter T. Swingle, as the lychee will grow at very low temperatures.

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Grass is the foundation of the cattle business. Every fire on pasture land is a direct loss to some cattle man and adds to the cost of producing meat.

## HARVESTING GRAIN SORGHUMS

Demonstrations of harvesters of grain sorghums were given at the university farm at Davis, September 30. Entirely successful results were shown by four harvesters, giving assurance of more economical handling of those grains at harvesting time. We will give later illustrations of machines in action. Regarding the demonstration Prof. Hendry writes:

"About 100 farmers attended and the machines performed, for the most part, in a very satisfactory manner. Our crop of White Yolo was so uniform and so well matured that we were able to operate a small combined harvester with satisfactory results, without heating of the grain in the sack. We also demonstrated a 12 foot International push header, which cuts four rows at a time and recovered practically all of the heads. The other smaller machines, such as the John Deere, Reschke and the Ventura all did satisfactory work and would be adapted to smaller acreages.

"Our particular crop was grown on summer fallow without irrigation and yielded at the rate of one ton of threshed seed per acre, which would be worth $24 gross at present prices. The entire cost of production, including tillage, seed, planting, cultivating, hoeing, harvesting, threshing, sacks, hauling, etc., has been about $14, or the crop has returned a net of about $10 per acre. The crop was produced without irrigation, but the winter rainfall was conserved by early fall plowing followed by frequent spring working to maintain a good tilth and hold moisture near the surface until planting on or about April 20.

"We also found it advantageous to thin the stand when the plants were two to three inches in height by crossing the rows with a beet cultivator equipped with spear head sweeps set to cut out from one-half to two-thirds of the stand. At maturity the crop presented a very uniform appearance and all of the heads were carried on straight stems at a height of about four and one-half feet from the ground.

"On the whole the demonstration illustrated the advantage of the new dwarf, straight headed, variety from a harvesting standpoint over the taller more irregular Egyptian corn varieties previously grown."

The Reschke Machine Company demonstrated a header attached to a wagon. This is a product of the big kafir, milo and sorghum areas of the Southwest.

The Ventura Implement and Manufacturing Company successfully demonstrated two special California headers attached to wagons—one, one row and one, three row header. These machines are made to gather up down heads, heads standing, uneven heads, etc., cut them off and elevate to wagon bed.

The implement manufacturers giving attention to the harvesting have made splendid progress, indicating that the demand for machinery to harvest kafir heads on both small and large acreages will be supplied.

Among the machines used at the demonstration were an International Harvester Co. push header, cutting four rows at a time. The machine performed splendidly, getting practically all of the heads and demonstrating its adaptability on large acreages. A successful demonstration was also made by a John Deere harvester.

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## WINTER GARDEN PEAS

If one lives in a section where very light frosts only occur he may grow winter peas, but they are distinctly an upland crop during the cold months. No better sort is known than the Telephone, and they should be planted at once.

It is better to plant them in a soil that has been plowed or spaded deeply, a foot is not too much, and plant one inch deep in wet soil. A little dry soil may be lightly sprinkled on top to keep surface from baking. Do not water after planting until plants are up, for peas rot very quickly at this time of the year. The seeds are better planted one inch deep at the bottom of a trench four to six inches deep so soil may be filled in after plants are several inches high, on the installment plan, a little each week.

**Holly Hatchery**
Capacity 200,000 Eggs
WHITE LEGHORN CHICKS ONLY
Order Fall Chicks Now

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We have open dates and can supply our chicks when you want them.
We are exclusive hatchers for Fall of 1922 for; F. R. Richardson, Geo. J. Richardson, G. A. Saylor, F. C. Barker, J. H. Tumbach, L. G. Hack, San Marino Poultry Ranch, Geo. L. Miller, James Poultry Ranch, R. C. Gibson, C. W. Phelps being the product of 30,000 Selected Breeding Hens.
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80 pages chock full of information about the feeding and rearing of chicks, culling of hens, etc. Tells how to keep chickens healthy and how to make them pay. Whether a beginner or a professional, Conkey's Book is worth dollars to you. Sent for 6 cents in stamps to pay postage.
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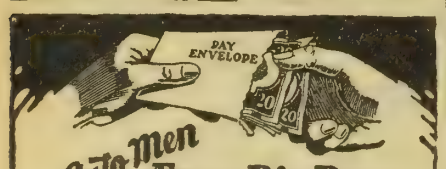


**Auto Men Earn Big Pay**
YOU CAN HAVE THAT GRAND AND GLORIOUS feeling when you tear open a fat pay envelope every week and count $40 to $75 in greenbacks.
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WORKS—LINCOLN, CAL.


# Poultry Queries

(Conducted by Jean A. Koethen)

### Chick Mash

Can you give me a good mash mixture for growing chicks?—Subscriber, Pomona.

Excellent growing mashes are prepared by the various feed and milling companies, and most poultrymen prefer these because they are mixed by experts and are less trouble than the home mixed mashes. If you prefer to mix your own there is nothing simpler than the Cornell mash, which consists of equal parts by weight of bran, corn meal, middlings and beef scrap, with about 5 per cent of bone meal added.

### Caponizing Instruments

Where may caponizing instruments be obtained?—Subscriber, Pomona.

They may be obtained at poultry supply houses advertised in the Cultivator.

### Sticktights

Our chickens are troubled with small black bugs that stick their heads into the flesh. Will blue ointment kill them?—Subscriber, Porterville.

Those bugs are sticktight fleas, and the safest treatment for them is carbolated vaseline. You may have to make several applications but in the end it kills every one. Blue ointment is poisonous and can not safely be used where the bird can reach it with her beak.

### Electric Brooders

I have ordered 500 chicks for January and am thinking of buying an electric brooder. What do they cost, and are they more expensive to run than other kinds?—Subscriber, Pasadena.

A 600 chick electric brooder costs from $20 to $25. As long as kerosene is cheaper than electricity I suppose it will cost a little more to operate an electric brooder but it can be used in any kind of building. If your brooder house faces south and is mostly glass on that side, you will be surprised to see how soon you can begin to shut off the heat during the day.

### Unsatisfactory Pullets.

My 300 pullets have sore eyes and colds in the head. They also have lice and are laying only 20 eggs per day. I use potassium permanganate in the drinking water and spray the coops once a week with sheep dip and kerosene.—Beginner, Long Beach.

To get rid of lice you should dust the pullets occasionally with a good prepared louse powder and see that they have somewhere in their yard a dust hole where they can wallow and help to clean themselves. The way to make such a dust bath is to spade and pulverize the soil then keep it a little damp by hosing daily. Most Leghors will keep themselves clean if they have a chance to dust. Something is wrong with your housing if the birds have colds and roup. You say your coops are well ventilated, but are you sure the birds have sufficient room? Overcrowding is one of the most common causes of roup. The birds are overheated on the roost and then are chilled when they come out into the chilly morning air. Fresh air and cleanliness are preventives and cure, but you may help things along by dipping the heads of the birds in a potassium permanganate solution if there is considerable discharge from the nostril. For the sore eyes, wash twice a day with a boric acid solution made by dissolving ½ teaspoon of boric acid in a cup of warm water. You will get more eggs if you improve your feeding methods. Keep the mash before the birds all day in hoppers. Feed sprouted oats or barley in the morning, what they will clean up in ten minutes, cut alfalfa, kale or barley about 10 o'clock, mash moistened with sour milk or semi-solid buttermilk and water at 2 o'clock, and all the scratch they will eat at night, with a little left for early morning. I have my doubts about grass as the only green feed. It may do if it is cut fine in a clover cutter, but either alfalfa, barley or kale is better.

### Cure for Blackhead

Mrs. W. H. Monroe of Burbank has found this treatment successful with blackhead in young turkeys: As soon as the bird begins to droop she gives two tablespoons of olive oil. This is given in the morning. The next morning, if the bird will not eat, she mixes one-third teaspoon each of red pepper and charcoal, a cup of clabbered milk sufficient dry toast or corn bread to thicken the mixture, and forcibly feeds it three or four times daily, about a tablespoon at a time. For baby turkeys the dose is 1 tablespoon oil and a proportionate quantity of the feed.

### Culling Reds

How should R. I. Red pullets be culled for color and production?—Subscriber, Oakdale.

To cull for color follow as nearly as you think advisable the Standard of Perfection, which is for females: Head, brilliant red. Beak, reddish horn. Eyes, reddish bay. Comb, face, wattles, earlobes, bright red. Neck, rich red with slight ticking of black on tips of lowest feathers except in front. Wings, a rich red when folded; primaries red above, black underneath with narrow edging of red. Back, rich red. Two top feathers may be edged with red. Breast, rich red. Body, fluff and undercolor, red. The best way to familiarize yourself with the color requirements for Reds is to attend a few shows and study carefully the color of the winning birds. To cull for production, go through the flock at night and remove all whose combs and pelvic bones show that they are not laying. This should not be done till about 75 per cent of the birds are laying—as hens that are laying will have pliable pelvic bones with room between them to insert at least two fingers, red combs and a good distance between keel and pelvic bones, you will find it easy to distinguish the non-layers. Do not be in a hurry to send them to market, but keep by themselves a few weeks and check your own ability to select by their actual performance.

### Blue Bugs

How can I get rid of blue bugs on birds and old buildings?—Subscriber, Oakdale.

By blue bug I take it you mean the tick which is the bedbug of the poultry yard. A subscriber recently reported his success in ridding an old hen house of these pests by means of crude oil. I think he added crude carbolic acid to the crude oil and sprayed or painted several times. A mixture of kerosene and crude carbolic acid, 1 part acid to 10 of kerosene, ought to do the work if the crude carbolic is of full strength, but it takes repeated applications. I know of no


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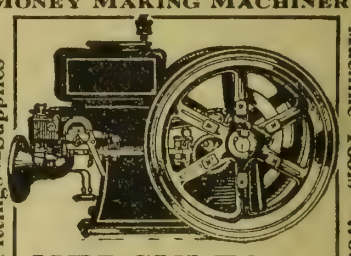
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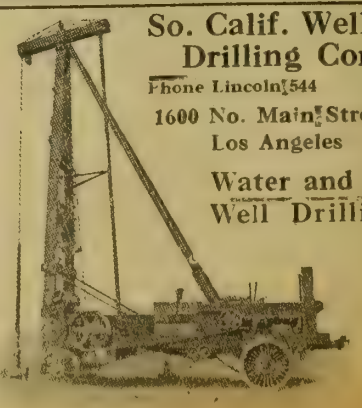
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sure way to kill ticks on the bodies of the hens but by greasing. Possibly buhach powder or tobacco dust will kill them if used very freely.

### May be Cholera

I am losing one or two R. I. Red hens daily. Their droppings are yellowish white. Feed regular egg mash in hoppers during the day, cracked corn, wheat and barley at night—Subscriber, Compton.

You do not mention green feed. Its absence might account for intestinal disturbance, but those yellowish droppings looks like cholera which is becoming more and more prevalent in California. You would do well to disinfect houses and feed troughs thoroughly and keep hydrochloric acid in the drinking water, a teaspoon of acid to a quart of water. Kill and cremate all sick birds.

### High Flyers

Our White Leghorn pullets persist in flying over an 8 foot fence, though it turns in at the top. We have never cut their wings because we are told that to cut the wing of a White Leghorn is sure to throw her into a molt. Is this true? If so, how can we keep them in?—Subscriber, Bakersfield.

I am afraid you will have to cover at least a part of the yard with wire. Try running a 3 foot strip of chicken wire around inside the fence. A hen rarely flies straight up. I have seen turkeys kept in by a 1 foot fence with two or three single wires stretched across the yard. I never heard before that wing cutting induced a molt, but I do know that some poultrymen cut the wings at the first joint when their chicks are a few days old and that the practice of clipping wings of full grown birds is not followed to any extent.

### Leghorn Magazine

Is there any magazine published exclusively for the White Leghorn or the Leghorn family?—Subscriber, Bakersfield.

The Leghorn World, published at Waverly, Iowa.

### Stiff Legs

Several weeks ago one of my hens became stiff in one leg, would rest the whole leg on the ground, walking with great difficulty. Today I notice a 5 months old bird doing the same thing. This one never had many feathers and many of my chicks hatched the first of May are stunted and featherless. Is this trouble communicable?—Subscriber, Alta Loma.

There may be no connection between the stunted condition of your May chicks and that of the hen. Faulty incubation, overheating in the brooder and lack of proper food might all produce stunted chicks. The lameness of the hen and chicken is symptomatic of tuberculosis, and of course it is possible, though not very likely, that tubercular breeding stock has weakened the young stock. If I were you I would kill every bird that develops lameness. There is no cure for tuberculosis but cleanliness and careful feeding may keep it from spreading.

### Balanced Ration

Here are two requests for balanced ration for laying hens. Mountain View subscriber wishes a balanced ration to use with skimmilk and corn and another to use without milk. A Santa Ana subscriber asks for a laying mash formula.

First let me say that no one need mix his own mash unless he prefers to do it. Commercial mashes are mixed by experts and are giving excellent results in the hands of hundreds of successful poultrymen. Neither is it necessary to have different formulas to use with milk and without. When milk is kept in pans before the hens a good part of the day a smaller proportion of beef scrap is needed in the mash, but the addition of bran to the mash will accomplish this dilution without other change. Some poultrymen add as much as 50 per cent bran to the commercial mash, but the exact amount of dilution required can only be determined by experimenting. As long as the droppings are dry and hard the proportion of meat in the mash is right. If the droppings become soft and brown like molasses there is too much meat, and bran should be added. If only a little milk is used no change need be made in the mash. Many poultrymen, in addition to keeping the dry commercial mash before their hens all day, moisten a small quantity of it with milk or water, preferably sour milk, and feed at noon or just before the birds go to roost. Corn should be part of every scratch mixture. For those who wish to mix their own mash nothing is better than the formula used at the California farm bureau egg laying contest at Santa Cruz. It consists of 240 pounds bran, 160 pounds middlings, 100 pounds each of corn meal and ground oats, 40 pounds each of soybean and linseed meal and 60 pounds each of fishscrap and meatscrap, with 2½ per cent of finely granulated charcoal and ½ per cent finely sifted salt. With this is used in the morning a scratch mixture of 80 pounds recleaned barley, 120 pounds whole wheat and 200 pounds cracked yellow corn, and in the evening 200 pounds sprouted barley and 200 pounds of the morning scratch mixture.

### COMING EVENTS

(Corrections and Additions Requested.)

**Short Courses,** Davis, October 2-February 15: General Agriculture, October 2-November 10. Poultry Husbandry, October 2-November 10. Deciduous Fruits, December 4-9. Dairy Manufacturers' Short Courses: Buttermakers and Creamery Managers, February 5-15. Cheesemakers, February 5-15. Milk Plant Operators, February 5-15. Ice Cream Making, February 5-15.

Berkeley, November 13-February 8: Conference Pear Growers, Prune Growers and Apricot Growers, November 13-15. Fruit Products Conference, November 16. Canners, January 2-6, 1923. Land Settlement, February 4-8, 1923.

**California Industries Exposition,** San Francisco, October 7-28.

**California National Livestock and Horse Show,** San Frncisco, October 14-22.

**Los Angeles County Fair,** Pomona, October, 17-21.

**Southern California Fair,** Riverside, October 10-16.

**California Horsebreeders Association,** Los Angeles, October 18-22.

**International Festival of Dates,** Indio, October 18-22.

**Pork Day, Fresno,** October 20.

**Apricot Institute,** Ventura Union High School, October 27.

**Yucaipa Apple Festival,** Yucaipa, November 9-12.

**Pacific Slope Dairy Products Show,** Fresno, November 13-18.

**Pork Day,** Hanford, November 16.

**Fruit Show,** University of California, Berkeley, November 16-18.

**Orange and Olive Festival,** Oroville, November 28-December 2.

**First National Walnut Exposition,** Santa Ana, December 4-9.

COAST AND GENERAL

**Arizona State Fair,** Phoenix, October 30-November 4.

**Pacific International Livestock Show,** Portland, November 5-12.

**Northwest Fruit Growers Exposition,** Seattle, November 11-19.

### STORRS EGG LAYING CONTEST

Sorrs, Connecticut, September 26, 1922.— Report for the week ending September 25. The best single individual hen in the contest to date is Barred Rock from Guelph, Ontario, with 272 eggs. The four leading pens in each of the principal breeds are as follows:

#### Plymouth Rocks

Harry G. Culver (Barred), 1969; W. H. B. Kent (Barred), 1913; Ontario Agricultural College, (Barred), 1832; Michigan Poultry Farm (Barred), 1777.

#### White Wyandottes

Frank P. Matteson, 2041; Woodbridge Orchards, 1943; Walter Bradbury, 1877; Clemens J. Dieman, 1705.

#### Rhode Island Reds

The Orchards, 1783; Charles D. Pierce, 1759; John Z. Labelle, 1740; Applecrest Farms, 1664.

#### White Leghorns

Hollywood Farm, 2044; Goshen Poultry Club, 1844; Rapp's Leghorn Farm, 1831; Andrew L. Ohr, 1801; Beck Egg Farm, 1801.

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# Los Angeles Markets

Los Angeles, October 11, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 56 cents.

Prices Creamery Extras past week:

| October | 5 | 6 | 7 | 9 | 10 |
|---|---|---|---|---|---|
| | 55 | 55 | 55 | 56 | 56 |

### CHEESE

Brokers' prices:
California flats, 24@26.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 56, case count, 53; pullets, 41; pewee pullets, 25.

Prices Fresh Extras past week:

| October | 5 | 6 | 7 | 9 | 10 |
|---|---|---|---|---|---|
| | 53 | 53 | 53 | 56 | 56 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 21; colored, 30; broilers, 36, roasters, 26; old roosters, 14; fryers, 26; ducks, old, 15; ducklings Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 40; dr., 45; old, live, 35; dr., 40; hens, live, 37; dr., 42; small hen and tom, 15; squabs, 45@50; capons, 43.

Belgian hares, 11@16; old, 8.

### LIVESTOCK

(Quotations furnished by Federal-State Livestock Market News Service, 1014 Pacific Finance Building, based on prices off cars at Los Angeles.)

Cattle: Market for virtually all grades of cattle continues firm and the scarcity of fat bullocks in California is evidenced by arrivals at Los Angeles packing houses of fat cattle from Utah, Nevada, Montana, Arizona and Texas. One packer late last week bought ten cars of corn fed cows on the Kansas City market, for shipment here.

Good fat steers sold around 7.75 to 8.00, delivered off cars here. Twelve loads of good Herefords from Marria, Texas, brought 7.90 here and some good 1000-pound Orange County, California, steers, brought 8.00 delivered here. A Los Angeles packer paid 7.00, f. o. b. ranch, for 6 cars of 1200 pound Fresno County bullocks. A string of 137 medium to good grass steers, averaging 974 pounds, brought 7.50, at a local feeding station. Local packers this week purchased a string of fat 1250 pound steers near Salt Lake at 6.90 and 4 cars of coarse 1200 pound bullocks in the same territory at 6.00, both deals f. o. b. ranch. Common light Arizona steers brought 6.00 to 6.75, delivered off cars here.

Good weighty cows brought 5.75 to 6.00 off cars here, and 5.00 to 5.25 at country points. Medium cows and lighter weights brought 4.25 to 4.75, f. o. b. ranch. There is some inquiry for bologna bulls at 2.50 to 3.50, delivered here.

A broad feeder demand exists and recent sales of California, Nevada, Montana and Utah feeder steers at 5.50 to 6.00 were made. Arizona feeders ranged from 5.00 to 5.50.

Calves: Good 150 to 200 pound dairy calves are in good demand at 7.75 to 8.00, delivered here. Heavy offerings are finding dull outlet and numerous sales of West Texas and Arizona 250 to 300 pound calves were made at 6.50 to 7.25, some as low as 6.00.

Hogs: With the bulk of locally slaughtered hogs coming from Texas and Oklahoma, the market for California offerings holds steady. Two cars of 180 pound Imperial Valley porkers brought $11.00, delivered off cars here, this being the top on native stock. Heavier weights and small lots are selling at the usual discounts, with heavy sows as low as 6.00. There is a good country demand for brood sows.

Sheep and Lambs: In sympathy with the recent slump in Eastern values fat lambs have declined slightly. Good and choice lambs this week brought 12.75 to 13.25, delivered here. Choice Utah lambs brought 11.50 f. o. b. ranch. Feeders are in active demand at prices almost equal to fat stock.

Breeding ewes are aso in good demand. A band of Kern County ewes sold to a Southern California buyer at 9.00 a head. —Nelson R. Crow, livestock market reporter.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, October 10 by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement moderate, market steady. New Stock: Locals, best, sacked 1.35@1.65; mostly, 1.50@1.65; poorer, low as 1.00 cwt. Northerns: Rivers, 2@2.15 per cwt.; poorer, 1.75; Idaho Rurals and Cobblers, 1.50@1.65; Russets, 2.00@2.25 per cwt. Sweets: Locals, Nancy Halls, 2½@3½. Northerns: Nancy Halls, 3½@4 lb.

Onions: Demand and movement slow, market steady. Stocktons: Yellow and White, 2.00 per cwt. Locals: Whites, 75@85; Spanish, 85@1.00 per lug. Mexican and No. best, 6; poorer 5 lb.

### PRODUCE MARKET

Trading was fairly active yesterday with the demand moderate and supplies liberal. Apples, grapes, pears and potatoes are selling freely with no changes in price. The demand for watermelons is dull but casabas are moving freely. Citrus fruits are scarce and high, but the demand is light so that supplies will likely be adequate until the new crops are available. Cucumbers and squash are in lighter supply and prices have an upward tendency.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, October 10, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Artichokes: Doz., 1.35.

Beans: San Pedro: Kentucky Wonders, 7½@8; Limas, 5@6.

Bunched Vegetables: Per dozen bunches: Trunips, carrots, beets parsnips, 30. Parsley, onions and radishes, 15; spinach, 25.

Cabbage: Market steady, quality generally good. Field cr., best mostly, 2.75@3.00.

Cauliflower: Per doz., 1.25; large sizes, 1.50@1.75.

Cucumbers: Local, lug, 1.50@1.75; few, 2.00 lug; Pickling, 2.75@3.25.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, best, 3.00; poorer, 2.50@2.75.

Corn: Green, local, best, lug, 60@90.

Eggplant: Local, 2½ lb.

Lettuce: Market steady. Locals: Ordinary, leafy, 80@1.00 cr.; Northern, 4.50@4.75 cr.

Okra: Lb., best, small, 10@12.

Peas: Best, Northern, lb., few best, 12@14; poorer, 8@9.

Peppers: Locals: Bells mostly, 3@3½; Chilis, 3@3½ lb.; Cherry and Floral Gem, 10; Pimentos, 5@6.

Squash: Market steady. Locals: Summer, lugs, 50@65; Italian, lugs, 70@80; cream, 65@75 lug; Hubbard, 2 lb. cream, 65 lug; Hubbard, 2 lb.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs, best pink, 75; ripe, 40@60.

### FRESH FRUIT

These are actual prices obtained October 10 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Bellefleurs, fancy 3½@4; tier, 1@1.10; loose, 2 lb. Locals: loose, King Davids and Jonathans, 3@4; Delicious, 5@6 lb. Utah: Jonathans, loose, 4 lb. Washingtons: Jonathans packed, extra fancy, 2.50; fancy, 2.25 per box.

Grapes: Demand slow, market steady. Northerns and Locals: Muscats, 3½@4; Malagas, 4@4½; Black Hamburg and Rose of Peru, 5; Black Prince and Zinfandels, 6; Tokays and Cornichons, 5; Black Morocco and Mission, 6@7.

Peaches: Market steady. Locals and Northerns: Freestone and Clings, all varieties, best 3; poorer, 2 lb.

Pears: Demand good, market firm. Northerns and Locals: Bartletts, mostly 5½@6; ripe, 3½@5.

Persimmons: Lb., 10.

Pomegranates: Lb., 6@8.

Plums and Prunes: Demand and movement moderate, market steady. Per lb.: Locals, 3@4, according to variety and quality. Northerns: 3@4 lb.

Watermelons: Demand moderate, market dull. Locals: Klondikes, medium size, 1.00@1.25 cwt.; smaller, mostly, mostly 1.50; casabas, mostly 1.50@1.75 cwt.

### CITRUS FRUIT

Grapefruits: Market steady. Locals: packed box, fancy, 9.00@10.00; small sizes, 7.00@8.50 according to size and quality.

Lemons: Demand and movement light, market steady. Special brands, fancy, 8@9; choice, 6.50@7.50.

Oranges: Demand moderate, market steady. Valencias, special brands, $10@11 according to size.

### HONEY

Much honey still in hands of beekeepers, many of whom are holding for higher prices especially on orange. Colonies in good condition for winter. Carlot demand light, movement limited, market generally steady. Firmer feeling on lower grades account recent tariff increases. Carlots f. o .b. usual terms. Extracted: per pound, White Orange, 9@9½; White Sage, 8¼@8½; Light Amber Sage, 6½@7; Light Amber Alfalfa, 6¼@6½.

Beeswax: Cash to beekeepers mostly, 20 per lb.

Comb: Carlot sales Inyo County stock reported at 2.70 per case to growers.

### WALNUTS

Prices named by the California Walnut Growers Association on last Tuesday are: No. 1, 22½; No. 2, 17½, and fancy budded, 26. Last year's closing price for No. 1 was 27. The market opened at 24½, but only stood at that point for a day, strengthening immediately and moving up to 27.

### BEANS

California Lima Bean Growers Association, October 7:

The market on Limas and Baby Lima beans improved past week. Shipping price on choice recleaned Baby Limas strong at $6.75 f. o. b. cars, $7 almost certain.

This is due to realization that Baby Limas are in smaller supply than last year, and that certain coast dealers have "shorts" to fill. Regular Limas have stiffened and California Lima Bean Growers Association is daily booking sales orders on basis of $6.45 f. o. b. cars choice recleaned and $6.65 Seaside packed in bags with usual higher differential on deliveries to docks and for Seaside packed in cartons. It now appears that efforts by speculative interests to break prices have failed. The association is for the present confining sales to wholesale trade. Favorable weather permits threshing and delivery free from rain damage which will allow shipment of better quality without expensive handpicking.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

Prices quoted f. o. b. L. A. to producers:

| | |
|---|---|
| Tame Oat | 20.00@22.00 |
| Barley Hay | 16.00@18.00 |
| Rabbit Alfalfa | 24.00@26.00 |
| No. 1 Dairy | 22.00@24.00 |
| Standard Alfalfa | 16.00@18.00 |
| Wheat Straw | 8.00@10.00 |
| Barley Straw | 7.00@ 9.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around $22 as a fair average. No. 1 dairy is varying from $15 to $17 with $16 as a mean or average price. Standard alfalfa is not much in evidence. Few offer it; fewer want to buy. If sold it brings from $10 up.

### GRAIN

L. A. Grain Exchange prices:

Barley: October delivery, 100 ton lots, 1.45.

Milo: December delivery, 100 ton lots, 1.75.

# San Francisco Markets

San Francisco, October 10, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras (Oct. 11) | 58 |
| Prime Firsts | 46 |

Prices Extras past week:

| October | 4 | 5 | 6 | 7 | 9 | 10 |
|---|---|---|---|---|---|---|
| '22 | 55½ | 55½ | 56½ | .... | 57 | 58 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats, fancy | 26½ |
| Oregon Trips | 25 |
| Oregon Young America | 27 |
| Cal. Y. A. fy | 28½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras (Oct. 11) | 60½ |
| Extra Pullets | 45 |
| Undersized Pullets No. 1 (Oct. 4) | 25 |

Prices California Extras past week:

| October | 4 | 5 | 6 | 7 | 9 | 10 |
|---|---|---|---|---|---|---|
| '22 | 58½ | 58½ | 60½ | .... | 60½ | 60½ |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of October 9 by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers, 1 to 1¼ lbs. 36@40 per lb.; 1½ to 1¾ lbs., 30 to 33c lb. Colored, 28 to 30c per lb. 2 to 2¼ lbs., 28 to 30c per lb. Colored 28 to 30c per lb. Fryers: 2½ to 3¼ lbs., 28@30 per lb. Colored, 29@31 per lb. Young Roosters: Colored, 3¼ lbs. and up, 28@30. Staggy, showing spurs, 21@23. Colored, Old Roosters: 17@18 per lb. Leghorn Old Roosters: 14@15 per lb. Leghorn Hens: 2½ to 3 lbs., 18@20. 3 lbs. and over, 21@23. Large Colored Hens: 28@30. Off stock, 26@27.

Ducks: Young, 18 to 20c per lb. Off stock, 10 to 15c per lb.

Geese: Young, 20 to 22c per lb. according to quality.

Live Turkeys: Old, 32 to 35c per lb. Spring 36@38 per lb. Dressed turkeys nominal.

Belgian Hare: Live, 15 to 18c per lb. Dressed 18 to 23c per lb.

Jack Rabbits: $2 to $2.50 per doz.

Squabs: Live, fancy, 50 to 52c per lb. Common, $3 to $3.50 per doz. Old pigeons, $2.50 to $3.50 per doz.

Guinea Fowls: Young, $8 to $10 per doz.

### LIVESTOCK

Quotations furnished by the Federal-State Livestock Market News Service:

Cattle prices per cwt. (delivered off cars from San Francisco)—Beef steers, good grade, $7.75@8; medium grade, $7@7.50; common grade, $6@6.75; beef cows, good grade, $5.75@6; medium grade, $5.25@5.50; common grade, $4@5; canners and cutters, $2@3.50; bologna bulls, $2.50@4.

Calves: 150 to 200 pounds, good and choice, 7.50@8.50; 250 to 300 pounds, good and choice, 6.50@7.50; over 300 pounds, 5.50@6.50.

Hogs—Good and choice, grain fed Californias, 150 to 200 pounds, $11@11.50; 200 to 250 pounds, 10.50@11; 250 to 300 pounds, $9.50@10.50; 300 pounds up, $8.50@9.50; smooth sows, 250 to 300 pounds, $7@7.50; rough sows, 250 to 300 pounds, $6@6.50; rough sows, over 300 pounds, $5@6.

Sheep and Lambs—Lambs, good and choice grades, 12.00@12.50; medium grades, 11.50@12.00; ewes, medium and good, 5.00@6.00; wethers medium and good, 7@8.50.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Rivers, 1.10@1.25 at wharf. Salinas, 2@2.25 cwt. Idaho Gems, 2@2.25 cwt. Bakers, 2.75 on track. Jobbing, Rivers, 1.25@1.50 cwt. Sweet Potatoes: Merced, 2¼@2½ lb. Nancy Halls, 2½@2¼ lb.

Onions: Green onions, 1.25@1.50 box. Stockton Browns and Yellows, 1.00@1.25 cwt. at wharf, jobbing price, 25@35 higher. Garlic: 3½@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, October 9, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per lug, 12.00@15.00.

Beans: Kentucky Wonder, Blue Lake 8@11 per lb.; Italian, 10@12; Lima, 8@10 per lb.

Brussels Sprouts: 6½@7½ lug.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Celery, 2.50@3.50 cr.

Corn: Green, 2.00@3.00 sack.

Cucumbers: Lug, 75@1.25; pickling, 2@3; small, 3½@5 lb.

Eggplant: Lug, 75@1.00.

Lettuce: Local, best, 1.50@2.00 cr.

Peppers, Cal. Bells, 60@85 lug.

Rhubarb: 1.00@1.50 box.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 75@1.00; beets, 1.00@1.25; pumpkin and squash, 1.00@1.25 sk.

Spinach: Lb., 5@7.

Squash: Summer, lug, 1.50@2.00; Italian, 1.50@1.75.

Tomatoes: Bay and Peninsula, 75@1.00 lug; few higher. Plum tomatoes, 15@20, a berry drawer for best.

### FRESH FRUIT

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, October 9, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Apples: New crop apples, 75@1.25 lug box. Gravensteins, fancy, 3½@4 tier, $1.50@2.00 box. Smaller, $1@1.50 box. Crabapples, 50@1.00 lug. Bellflowers, best, 1.00@1.10 box. Winter Pearmains, 1.50@1.75 box. Newtowns, 4 tier, $1.35@1.50 box. Wealthy, fancy, $1.25@1.50 box. Jonathans, 3½@4 tier, 1.75@2.25.

Avocados: Florida and Tahiti, $3@7 doz.

doz. Poor, 75@1.50 doz.

Bananas: Best Eastern and Hawaiian, 6½@7 lb.

Blackberries: 20@45 drawer.

Cantaloupes: Turlock, standard, $1.25@1.50; flats, 55@75. Honey Dew and Casabas, crates, 50@1.00.

Figs: Black, 1.20@1.50 double layer box. White, 90@1.00 crate.

Grapes: Thompson Seedless, 1.10@1.25 crate; 1.75@2.25 large lugs; Malagas Tokays and Muscats, 1@1.25crate;Malagas and Muscats, 2.25@2.50 lug; Tokays, 2.25@2.50 lug; Rose of Peru and Isabella, 1.25@1.50 crate; Black Prince, 2@2.50 lug; wine grapes, track prices, Zinfandels, 100@110 ton; Muscats, 40@50 ton.

Peaches: 65@1.00 crate; 1@1.25 L. A. lug; 1.25@1.50 large lug. Clings, 1.50@1.75 large lug.

Pears: Bartlett, 2.25@2.50 box. No. 2, 1.50@2.00; small box, 1@1.25.

Pomegranates: 1.00@1.25 small box.

Persian Melons: 50@1.00 crate.

Persimmons: 1.25@1.75 flat crate.

Plums: Best, 1.00@1.50 crate; few higher. lug, 1.00@1.50.

Quinces: 1.25@1.50 box.

Raspberries: 50@65 drawer.

Strawberries: Local, 45@70 drawer.

Watermelon: Southern, 1 lb. No. 2, for less.

### CITRUS FRUIT

Grapefruit: Southern California fancy special pack, 8.50@9.00 box. Choice, 7.50@8.00 box.

Lemons: Special pack, 8.50@9.00 box. Choice, 6.50@8.50. Lemonettes, 3@4.00 box.

Oranges: Valencias, fancy boxes, 126s-216s, 10@11; 250-288s, 9@9.50. Smaller, 8@8.50, choice, 6@9 box.

### DRIED FRUITS

Figs, 1922, Packers' prices f. o. b. Cal.:

| White Adriatic | | |
|---|---|---|
| Standard | (in 25s) | 7¼@7½ |
| Choice | (in 25s) | 9½@10 |
| Fancy | (in 25s) | 13½@14½ |
| Extra fancy | (in 25s) | 15 @15½ |
| Bricks, 12 No. 10s | | 1.12½@1.20 |
| Bricks, 24 No. 8s | | 1.85@1.90 |
| Bricks, 50 No. 6s | | 2.85@3.00 |
| Bricks 70 No. 4s | | 2.90@3.10 |
| Layers, 10-lb., 4 row | | 1.75@1.85 |
| Layers, 10-lb., 5 row | | 1.50@1.60 |
| Calimyrna | | |
| Standard | (in 25s) | 14 |
| Choice | (in 25s) | 16 |
| Extra choice | (in 25s) | 19 |
| Fancy | (in 25s) | 22 |

Few black figs left for sale; those commanding high prices.

Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:

California Peach and Fig Growers has withdrawn prices on all figs.

Raisins, Sun-Maid Raisin Growers' Prices:

| Seeded | |
|---|---|
| Sun-Maid, 15 oz | 11¼ |
| Sun-Maid 11 oz | 8¾ |
| Bakers (in 30s) | 9½ |
| 1-crown (in 30s) | 9½ |
| Loose Muscatels | |
| 4-crown (in 25s) | 11 |
| 3-crown (in 25s) | 10 |
| 2-crown (in 25s) | 9½ |
| 1-crown, rceleaned (in 25s) | 9 |
| Seedless | |
| Thompsons, 15-oz | 10½ |
| Thompsons 11-oz | 8 |
| Thompsons bulk (in 25s) | 10 |
| Thompsons bakers (in 25s) | .... |
| Sultanas, bulk (in 25s) | 9 |
| Bleached Thompsons, Northern: | |
| Choice (in 25s) | .... |
| Fancy (in 25s) | 13½ |
| Extra fancy (in 25s) | 15 |
| Soda dipped (in 25s) | .... |
| Soda dipped 15-oz | .... |
| Bleached Thompsons, Southern | |
| Choice (in 25s) | .... |
| Fancy (in 25s) | 14 |
| Extra fancy (in 25s) | 15½ |
| Bleached Thompsons, California Brand | |
| Choice (in 25s) | .... |
| Fancy (in 25s) | 13 |

| | | |
|---|---|---|
| **Extra fancy** | (in 25s) | 14½ |
| Oil dipped | (in 25s) | |
| Soda dipped | (in 25s) | |
| Bleached Sultanas | | |
| Oil dipped | (in 25s) | 10 |
| Little Sun-Maids, 5c pkgs, six 24s, case, f. o. b. obbing points | | 3.65 |
| Layers | | |
| 3-crown, | 5-lb | .80 |
| 3-crown | 10-lb | 1.50 |
| 3-crown | 20-lb | 2.90 |
| 4-crown, | 20-1s | 3.15 |
| 4-crown | 12-2s | 3.75 |
| 6-crown, | 5-lb | 1.40 |
| 6-crown, | 4-5s | 5.30 |
| Vineyard Run, 80-lb | | 9.00 |

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 20-30s | | @25 |
| 30-40s | 10¾@11 | 14½@14¾ |
| 40-50s | 8½@8¾ | 11¾@12 |
| 50-60s | 7½@7¾ | 10¼@10½ |
| 60-70s | 7 @7¼ | 9¼@9½ |
| 70-80s | @7 | @8¾ |
| 80-90s | @7 | @8¼ |
| 90-100s | @7 | @7¾ |
| 100-120s | in50-lb. boxes | 6½ per lb. |
| 120 up | in 50-lb boxes, | 6 per lb. |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | 10¾@11 | 11 @11¼ |
| Choice | 11½@11¾ | 11¾@12 |
| Extra choice | 12½@12¾ | 13 @13¼ |
| Fancy | 14¼@14½ | 15¼@15½ |
| Extra fancy | 15¾@16 | 16¾@17 |

**Peaches, 1922, California Peach and Fig Growers' Assoc. new price list:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Choice | @12¼ | @12½ |
| Extra choice | @13½ | @ |
| Fancy | @15¾ | @16¾ |
| Extra fancy | @17¼ | @18¼ |
| Practically Peeled— | | |
| Choice | @13¼ | @13½ |
| Extra choice | @14½ | @ |
| Fancy | @16¾ | @17¾ |
| Extra fancy | @18¼ | @19¼ |
| 11-oz Cartons, 60 per case | | 7.00 case |
| 2-lb Cartons, 24 per case | | 8.25 case |
| 5-lb Cartons, 10 per case | | 8.50 case |

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | @ 9½ |
| Choice | 12½ |
| Extra choice | @13½ |
| Fancy | @15½ |

**Apples, 1922 Packers' Quotations f. o. b. Cal.:**

| | |
|---|---|
| Choice | @9½ |
| Extra choice | @9¾ |
| Fancy | 10½@11 |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | @18½ |
| Slabs | @19 |
| Choice | 22½@23½ |
| Extra choice | 24½@25½ |
| Fancy | 27 @28 |

### HONEY

Northern California: Up to September 1 only half crop of Star thistle had been gathered, but with warmer weather, honey has continued to come in during the month. Carlot offers made of 7½ per pound f. o. b. shipping points for Star thistle but beekeepers holding for higher prices. Few sales reported at 8@9. Hawaiian imports have been heavy during September. Demand and movement good. Quotations, White, 6½ per lb.; Light Amber, 5½@5¾; Amber, 5, f. o. b. San Francisco.

### BEANS

California Bean Growers Association selling prices, 100 pounds, for choice recleaned California beans (1922 crop) in carloads, f. o. b. California common shipping points on October 9, 1922:

| | |
|---|---|
| Large Whites | 5.25 |
| Small Whites | 5.25 |
| Pinks | 5.00 |
| Mexican Reds | 4.75 |
| Red Kidney | 6.25 |
| Bayos | 5.25 |
| Henderson Bush Limas | 7.00 |
| Cranberry | 5.75 |
| Blackeye | 5.10 |

### HAY AND FEEDSTUFF

Under date of October 6, A. W. Scott Co. says:

Receipts past week 741 as compared with 752 previous week.

Light arrivals with addition of warehousing expense have caused a firmer feeling in the local market and slight advance of prices on all qualities of hay. The unsettled weather has interferred somewhat with deliveries and this has had an effect of strengthening the general feeling. Export and coast shipments have been light and steady. Interior trading continues light. Alfalfa has been doing proportionately better. Appearances are for steady demand through the winter.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges of switching, cartage, commission and handling expenses must be added according to conditions.)

| | Ton |
|---|---|
| Wheat Hay, No. 1 | 16.00@19.00 |
| Wheat Hay, Fair Grade | 14.00@16.00 |
| Tame Oat Hay | 16.00@19.00 |
| Wild Oat and Barley | 13.00@15.00 |
| Alfalfa Hay | 16.00@19.00 |
| Stock Hay | 11.00@13.00 |
| Straw | 11.00@12.00 |
| Barley, Ground | 31.00@32.00 |
| Rolled | 29.00@30.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 30.00@33.00 |
| Millrun | 31.00@34.00 |
| Middlings | 42.00@44.00 |
| Linseed Meal | 58.00@60.00 |
| Coconut | 33.00@36.00 |
| Alfalfa Meal | 25.00@27.00 |
| Cottonseed Meal | 50.00@56.00 |
| Molasses Beet Pulp | 37.00@39.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 37.00@39.00 |
| Scratch Feed | 43.00@45.00 |

### GRAIN

Prices S. F. Grain Exchange, October 9, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 1.90-1.95; feed, 1.80.

Barley Feed, 1.30@1.37½; shipping 1.40@1.50.

Oats: 1.60@1.85.

Corn: Colored Milo, 1.80@1.95; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.60@1.62.

## Citrus Markets

Los Angeles, October 11, 1922.

Shortage of refrigerator cars is slowing shipments. Movement will continue moderate, but the limited supply of Valencias left will safely be moved before Navels fill the market. Prices are hardly as high as auction reports show. The lemon market is still strong, with supply very low.

**Shipments**

Shipment of citrus fruits to date since November 1, 1921. Southern California: Oranges, 23,037 cars; lemons, 9,585; total, 32,622. To same date last season: Oranges, 39,507; lemons, 11,184; total, 50,691. From Central California to date this season: Oranges, 5,111; lemons, 106; total, 5,217. To same date last season: Oranges, 6,650 cars; lemons, 212; total 6,862. From Northern California to date: Oranges, 373 cars; lemons, 10; total, 383. To same date last season: Oranges, 305; lemons, 5; total, 310.

### AT THE AUCTIONS

**October 4**

New York: 13 Val. 4.30@13.65, 1 lem. 8.45@9.50.

Boston: 3 Val. 3.55@8.35, 1 lem. 10.10@11.20.

Cleveland: 3 Val. 1.90@5.90, 2 lem. 7.60@9.35.

**October 5**

New York: 13 Val. 2.75@12.90, 1 lem. 8.95@10.50.

Boston: 3 Val. 4.40@8.10.

Philadelphia: 4 Val. 4.15@10.80, 1 lem. 7.15@8.90.

**October 6**

New York: 10 Val. 2.50@10.70, 1 Aus. Nav. 3.60, 1 lem. 9.80@10.08.

Boston: 3 Val. 3.45, 2 lem. 9.35@10.15.

Pittsburg: 1 Val. 4.40@6.40, 1 lem. 5.95@6.35.

Philadelphia: 2 Val. 4.85@8.70, 1 lem. 6.15@7.45.

Cincinnati: 1 Val. 3.40@6.45, 1 lem. 5.70@6.70.

**October 9**

New York: 23 Val. 1.70@12.65, 1 lem. 8.35@9.20.

Boston: 6 Val. 3.50@7.95, 2 lem. 8.60@9.50.

Pittsburg: 5 Val. 2.50@6.95, 1 lem. 5.90@7.10.

Philadelphia: 4 Val. 3.75@8.50, 1 lem. 6.50.

Cleveland: 2 Val. 3.25@7.55, 1 lem. 4.25@6.50.

**October 10**

New York: 14 Val. 3.05@12.85.

Boston: 4 Val. 3.50@9.20, 2 lem. 7.70@10.00.

Philadelphia: 5 Val. 1.50@9.60.

Pittsburg: 1 Val. 5.45.

St. Louis: 2 Val. 3.10@6.50, 1 lem. 6.70.

## Snappy Notes on Livestock

**By A. L. Spellmeyer**

Any error herein is unintentional and subject to correction the following week. This summary is assembled from the best sources obtainable, and both producers and packers can assist by reporting actual sales or buys, giving names, dates and facts, and we will, if requested, withhold names. All we want is fact and a fair deal and correct information for the producers. Address A. L. Spellmeyer, care California Cultivator, 317 Central Avenue, Los Angeles. The Cultivator reaches over 40,000 producing farmers and livestock men.

The whole cattle trade is different from what it used to be in these parts. Operation on verbal word was a fact 20 or even 10 years ago. Operation on word with a little writing was the custom five years ago. Today you can't take any word, and if you want it rock bound the amount of cash forfeit will state the degree it is effective or not. It is a matter of great regret that modern business habits and ethics have at last invaded the western cattle trade, for you can't trade now without bonds and lawyers, if you trade safe. It is indeed a change with 14.75 feeder lambs at some markets and $9 per head f. o. b. ranch lambs, from that period one year ago when one could not sell a lamb for more than $2 nor a good breeding ewe for over $1.50 right near Los Angeles.

It will be a change when we see the $25 cow again selling for $75 to $90, and this is as sure and inevitable as was the change in the price of lambs and oranges. The low cattle prices and drouth have been forcing to a certainty a beef shortage, and though it is almost here men are not buying the bargain stock cattle that are offered. Does any sane man acknowledge that a cow that costs $60 or more in actual expense to mature and three or more years of time isn't worth more than three baby lambs that cost under $12 to raise and under 8 months, and a tenth of the investment? Cattle will do what lambs have done, what oranges are doing. Not only that but other products from eggs now at 60 cents to turkeys at prospective 75 cent prices are doing the same thing, and the farmer is gradually coming into a state where in some articles the price is what he cares to demand.

Beef shows around the 7.50 mark for steers. Cows are offered in the country at 4 cents for grass fat and 3 for feeders. Feeder steers are around the 5.50 mark in Arizona, for good cattle. Fred Colter and Springerville district have 5000 cattle to sell and ship next month. Ed Sawyer of Winslow just sold a load of lambs that beat the 70 pound mark and went without cut at $7.35 per head f. o. b. ranch.

### CELERY, ONCE A NOVELTY

From a crop that was a novelty and served on the tables of only a few people to an industry that has produced as many as 17,000,000 crates in a year has been the development of celery production within the memory of many people now living. With the rapid increase in the growing of the crop methods of culture and marketing have materially changed, new diseases and pests have appeared, and a number of problems have arisen. Because of these new problems and difficulties the United States department of agriculture, Washington, D. C., has just issued Farmers' Bulletin 1269 "Celery Growing," by W. R. Beattie, in which are discussed the fundamentals of successful production, including the best methods of growing and handling the crop.

The crop can be grown on almost any type of soil if enough plant food is present and water is supplied during the dry periods, but most of the successful celery growing enterprises are on low lying muck, or "hammock" soils. Under present day conditions it is not practicable to depend entirely on manure as a fertilizer and large quantities of commercial fertilizer are used, growers in the northeastern part of the country using from 1,400 to 1,800 pounds of high grade plant food to the acre. Florida growers sometimes use as much as 3 tons to the acre. But not all of the discussion is devoted to the commercial growing of celery. There is a chapter on producing the crop in the home garden, and many of the practices that have been developed are applicable no mattter on what scale it is grown.

### COST OF POTATO CROP

Potato growers and contemplative growers do not always know just what it will cost to plant and care for an acre. One could not, of course, make a fixed schedule that would do for all sections, conditions or practices. But Bert C. Bougher, superintendent of the Pasadena city farms, has studied the fields under his charge very carefully and has compiled the following schedule of costs of the many necessary operations. The cost is per acre:

Furrowing out after digging, $. 75; cover crop seed, 260 pounds at 8 cents, $1.60; labor on seeding, .30; labor and cost of water for three irrigations, water one cent an inch per hour, $3.60; plowing under cover crop, $5; disking twice. $2; furrowing out after disking, .75; water and labor for one irrigation, $1.20; seed, 100 pounds per acre at 3½ cents, $35; planting, $1.50; harrowing after planting, .75; cultivating six times at $1, $6; furrowing three times for irrigation at 60 cents, $1.80; digging, $2.75; grading, sorting and hauling from field, $10; sacks, 100 at 8 cents, $8; hauling to shipping point, $3; depreciation on implements, mules and equipment, $10; total, $92. For certification the following costs must be added: Certification, $1 an acre per visit, 5 cents per sack for tag, $8; roguing and weeding, $3.50; total $103.50 The following costs should be added but are generally omitted: Interest on an acre of land valued at $600, at 7%, $42; taxes, $20; grand total, $165.50.

Plant alfalfa; it feeds your soil with nitrogen, your cattle and hogs with protein, and your heart with contentment.

### KILLS STRIPED CUCUMBER BEETLE

Nicotine sulphate, when applied in a mixture with a dust, protects young cucumbers, melons, and related crops from the striped cucumber beetle. A dust mixture containing 4 per cent nicotine proved as effective as those containing greater amounts. One-fourth to one-half an ounce to the hill is effective for one application. The dust acts as a repellent and also kills the beetles when they come in contact with it. When applied properly it drives the insects from the cracks in the soil at the base of the plants, and so prevents serious injury.

A duster that will throw a good volume of dust quickly and forcibly to prevent the beetle from escaping by flight should be used. A cheesecloth sack or knapsack bellows type of duster is effective on small areas. The dust may be applied as soon as the plants appear above the ground so that they are well covered. The insect makes its appearance suddenly and in large numbers and serious damage may result if this application is neglected. The number of applications will depend on the abundance of the beetles and on weather conditions.

### APRICOT PASTE MADE INTO JAM

The ancient Damascus oasis of Syria still bears abundantly and now modern commercial methods are employed in cultivating the fruit trees, which have been blooming there for centuries. Apricots constitute the most important fruit crop, Consul Charles E. Allen at Damascus informs the department of commerce. The fruit is marketed in four forms: fresh, sold locally; apricot paste; dried apricots; apricot nuts or seeds. Apricot paste is prepared by mashing the fruit to a pulp, straining out the seeds and sundrying the resultant product on a board until it becomes hard. It then resembles a large sheet of leather and is of sufficient pliability to permit of its being rolled. English and German jam manufacturers are eager to purchase this paste. A cooking oil is pressed from the apricot kernels.

Hogs roughly handled get their revenge after death. Bruises and dislocations of carcasses, it is estimated, reduce the value of 15 per cent of the hogs that come to the Chicago stockyards.

**STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST, 1912,** of California Cultivator, published weekly at Los Angeles, Cal., for October 1, 1922.

STATE OF CALIFORNIA,
County of Los Angeles, ss.

Before me, a Notary Public in and for the State and County aforesaid, personally appeared Frank J. Ironmonger, who having been duly sworn according to law, deposes and says that he is the publisher and business manager of the California Cultivator and that the following is to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

| NAME OF— | POSTOFFICE ADDRESS |
|---|---|
| Publisher, Cultivator Publishing Co., | Los Angeles, Cal. |
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2. That the owners are (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding one per cent or more of the total amount of stock):

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3. That the known bondholders, mortgagees, and other security holders owning or holding one per cent or more of the total amount of bonds, mortgages, or other securities are: (If there are none, so state). None.

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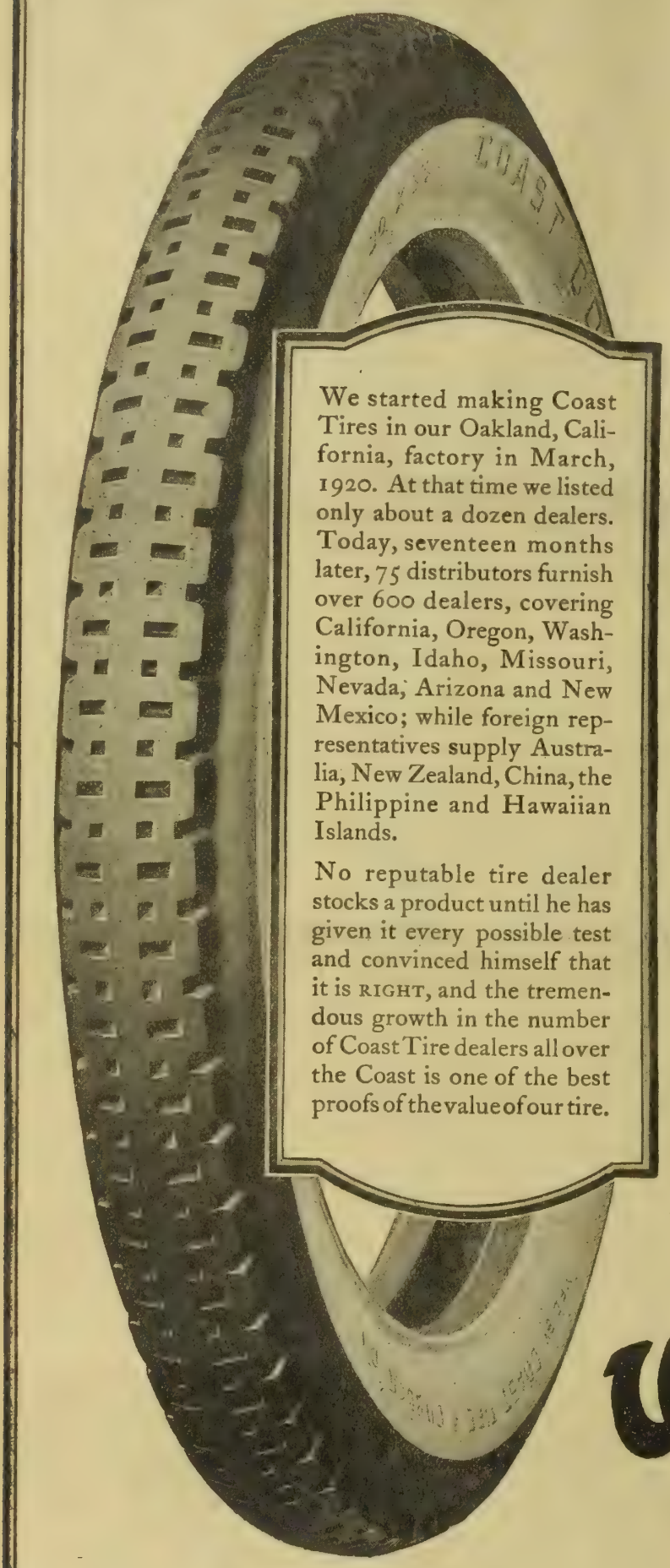
5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is ———. (This information is required from daily publications only.)

FRANK J. IRONMONGER, President and Manager

Sworn to and subscribed before me this 30th day of September, 1922.

(SEAL) ROBERT WHITFIELD.
Notary Public in and for Los Angeles County, Cal.
(My commission expires April 4, 1923.)

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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — October 21, 1922 — No. 17

# *Keep California Free*

## *from Political Control of Industry*

We represent many owners of real property in California. The tax burden on real property, which falls ultimately on tenants as well, and the tax burden on public utilities, which falls ultimately on rate payers, have become oppressive.

The great bulk of our California taxes are laid upon us by popular votes and not by the local and state legislative authorities. The people are too prone to vote for bonds and other expenses without calculating the cost to themselves in taxes. When they get the tax bill, they groan and wonder who saddled them with such burdens.

## *from Enormous Debt*

State Controller Ray L. Riley in his 1921 report, recently published, says:

"During the past decade the total bonded indebtedness *for all forms of government* in California has increased from $93,906,423 to $321,616,238.66, or 242 per cent, while the wealth of the State has increased about 60 per cent. This tremendous increase that aggregates more than 3 per cent of the total wealth of the State should have the attention of all tax-levying bodies. California's credit must not be jeopardized by over-financing and the same ratio of increase during the next ten years would impose confiscating tax burdens upon the people."

"During the past year the total amount expended for interest and redemption of debt was $27,559,297. To produce this amount it would require a tax rate of 56 cents on every $100 of assessed valuation."

## *from Destructive Taxes*

*In face of that warning,* a proposed constitutional amendment has been put on your ballot to be voted on November 7th which creates a powerful new commission, called the Water and Power Board, and authorizes it, *without further reference to the people or the legislature,* to issue state bonds to the enormous amount of half a billion dollars. That bond issue will multiply the *state's* debt more than *six* times. The board is authorized to invest the money in water and power speculations and "to do *any* and *all* things *necessary* or *convenient* for the conservation, development, storage and distribution of water, and the generation, transmission and distribution of electric energy." It is authorized also "to purchase, acquire, produce, manufacture or otherwise provide facilities, materials and supplies, raw or finished, *and any property or thing necessary or convenient* to the accomplishment of the purposes of this article."

The board is authorized *to fix its own* rates, which need not be uniform, so that particular *localities* or *industries* could be favored. The proposed amendment makes an appointive board, sitting at Sacramento, the arbitrary masters of the credit and the industry of the State of California. The amendment even authorizes the board to appoint and fix the compensation of such employes as it may require and *exempts the board from the state civil service.*

This is bureaucracy in its completest form. We have had sufficient experience with government by bureaus to know that we don't want any more. California, prosperous as it is, cannot stand the proposed addition to the state debt and the proposed arbitrary control of industry by a board of politicians. Give a political board unrestricted authority to hire employes and fix their compensation, and give them 500 million dollars of taxpayers' money to play with, and in a year you will see *the biggest political machine* and the *biggest tax bills* that any state has ever had.

*Vote* NO *on number* 19 *on your ballot November 7th*

**CALIFORNIA REAL ESTATE ASSOCIATION**

*By* **C. C. C. TATUM,** ***President***

# California Cultivator

Vol. LIX, No. 17 | Los Angeles, October 21, 1922 | One Dollar Yearly


# Light and Power from the Hills

By C. B. Messenger

THE time was when some of us who are yet young attended annual conventions of fruit growers and others of California when it was in order to present resolutions favoring construction of a canal which should unite the Atlantic and the Pacific somewhere between the two Americas. We in California favored the route of Nicaragua. It was longer than that of the Panama but there was much less of cut and it was asserted it could be built at tidewater and without locks, besides the cost of the Panama Canal might reach the enormous total of a hundred million dollars. But regardless of repeated "resolutions" neither Panama nor Nicaragua routes received much effective promotion from the powers that were. When Theodore Roosevelt became president of the United States action began at Panama and the prediction of Californians that the cost of that waterway would exceed a hundred million dollars was realized. But the canal was built and the commerce of the world has been carried through it for nearly a decade.

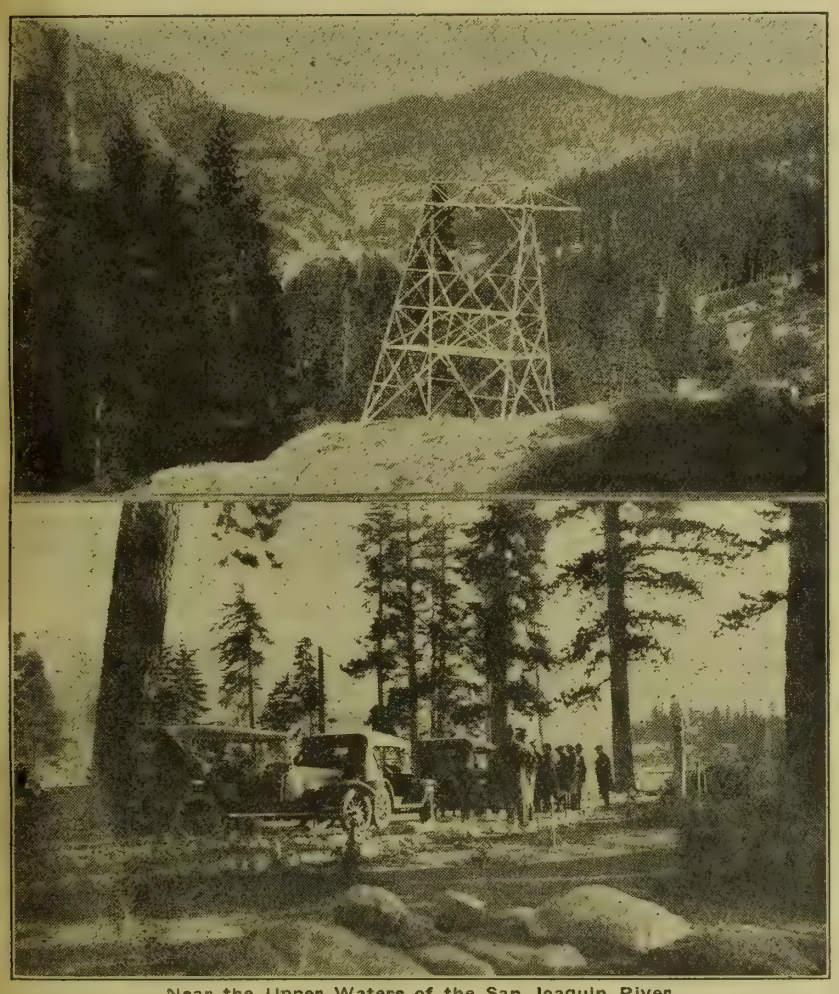
It was the fulfillment of a dream and has resulted in wonderful developments on the Pacific Coast, until today, we, in California, are dreaming of accomplishments infinitely greater than the construction of the Panama Canal. We are dreaming—and bringing to fulfillment as we dream—of storing the floods which have since time began been tearing down the mountains and opening great gashes through the valleys—of turning those floods into warmth and light and heat and to pump other waters onto rich mesa lands to produce more food for more people.

Only the other day I saw some of this work in the doing. Great bores through solid granite are being made of such size as to permit diversion of rivers from their former channels and turn them through penstocks down nearly vertical declivities more than a third of a mile in height and change them into electrical force, then deliver the waters to the rich lands of the valleys without impairment.

But while some make dreams come true with the use of dynamite, steel and concrete, other dreamers are at work looking for other opportunities to increase human comfort.

It is costing millions? Yes, hundreds of millions, even billions. The people are not discouraged nor astounded at the great cost but take it as a matter of fact that the forces of nature must be brought into service that the comforts of mankind may be increased.

One great corporation alone stands ready to undertake at least one billion dollars worth in this great scheme of development. Even today it has in hand work in the Sierra Nevada which involves the expenditure of 375 millions of dollars. This is on the headwaters of the San Joaquin River, the principal portion of which is known as the Big Creek development. The Big Creek is a tributary of the San Joaquin River. There will be eight power houses constructed in this one system. Number eight is now under construction at the junction of the San Joaquin River and Big Creek. Numbers 4, 5, 6 and 7 are yet to be constructed.



Near the Upper Waters of the San Joaquin River

The upper picture shows, up near the skyline and a bit to the left of center, the Big Dome. Almost at the base of that big rock Power House Number 1 is located where a drop of 2,200 feet makes possible the generation of 42,900 horsepower. Note at the bottom of the three insulator lines aluminum "shield rings." These rings are to prevent the loss from high voltage current in transmission. This loss causes a visible glow or "corona" and these rings equalize the current and prevent the formation of an arc. The lower picture shows the Edison party (Huntington Lake in the background) ready for early morning start around the lake and up into the high Sierra not far from the perpetual snows of Mount Lyell and into the tunnel which is to be 13 miles in length, the longest in the world.

In the High Sierra Where Water is Saved and Light and Power are Made

The white building is Power House Number 2 of the Southern California Edison Company's Big Creek system. The penstocks rise on the mountains behind this building almost 2,000 feet. This is the jumbo of the power houses on this system for it is generating 64,300 horsepower. The photo on the right shows the various leaps of the stream at Stevenson Creek Falls. The three cascades near the bottom of the photo are only a small portion of the total drop as may be seen by the upper fall which is shown away up almost to the skyline a bit to the right of the center. At the extreme lower left is shown only the margin of one of the entrances to the six mile tunnel with the Edison party making inspection.

The Big Creek system gives opportunity for the use of the same water in five different power houses. House No. 1 takes the waters from Huntington Lake at an altitude of 7,000 feet, drops it through a penstock with a fall of 2,200 feet, generating 32,000 kwh. These waters are picked up immediately, carried around and through the hills and dropped nearly another 2,000 feet to power house No. 2 where another 48,000 kwh. is developed. Then on to No. 8 with its 800 foot drop, then through six miles of solid granite to No. 3 where the increased amount of water picked up in its trip down the mountains increases its capacity so that the 800 foot drop results in the power of 75,000 horses. At No. 4 this one series will end in a drop of 450 feet. All told less than a dozen miles have been traversed by the water in this series of drops of 6000 feet or of a vertical length of over one mile.

Huntington Lake at an altitude of 7,000 feet impounds about 89,000 acre-feet. This lake is being drawn on at this time of the year for about 200 second-feet to increase the natural stream flow. This storage will be added to later by Florence Lake reservoir and Vermillion Valley reservoir, and to connect these up with Huntington Lake there is being constructed a 13 mile tunnel. The longest tunnel in the world at the present time is Mont Cenis tunnel in the French-Italian Alps which is seven and a half miles long or little more than half the length of the Edison tunnel.

Nor are these dimensions of magnitude confined to length. The tunnel which spills the water into the penstocks above power house No. 3 offers no opportunity for bumping one's head. The tunnel is of such diameter that one may not only walk upright but may stand on a large load of hay and drive it through the tunnel and still not require "Low Bridge" sign. The height of this tunnel is 22 feet in the clear and it is six miles long. Most of the way it is through solid granite and will require no concreting. It will be full of water and will be in a sense of forebay or subterranean storage chamber. At its lower end and built above the entrance to the penstock will be a surge chamber. It is expected that this surge chamber may prevent accidents similar to that which occurred in penstock No. 1.

Generating electricity to increase the comfort and efficiency of others, the Edison people believe in using it to increase their own efficiency, so the gate which admits the waters to the penstock some thousands of feet up the mountainside from power house No. 1 is electrically controlled by a button at the hand of the engineer in charge of the power house. Press the button, the motor up on the mountainside starts, the gate is closed, the big generator stops. At one time before all the engineering problems of hydro-electric development were solved the engineer in charge of the house found all was not well in the generator. It was necessary to immediately

(Continued on Page 435)

# Agricultural News Notes of the Pacific Coast

## Northern California

Sutter Basin fat lambs sold on the ranch last week at $11.

Southern Marin County shows spread of Argentine ant.

The Antioch water case it is said will again be brought before the courts.

Cattlemen report rains have started green feed in Cazadero section of Sonoma County.

Farm bureau meetings will be held in Glenn County at Westside, October 19; Grapevine, 20; Lake, 25.

Sheepmen of Siskiyou County met at Eureka, October 10, to form unit of the California Woolgrowers Association.

The Placer County farm bureau has elected E. E. Burnet of Mt. Pleasant, president, and Miss Maude Elkus, secretary.

Sutter County has harvested a $4,000,000 peach crop. 3800 cars were shipped to canneries in the San Francisco bay region.

Partially dried grapes and prunes caught by recent rains in Sutter County were shipped to evaporating plant at Modesto.

The Poultry Producers of Central California is proposing to build a fattening and packing plant to handle poultry of members.

Sutter County's bean crop is said to be averaging 15 sacks of all varieties to the acre. 13,000 acres are planted to beans in the county.

A large percentage of the potato crop of Marin County will be certified this season. Lack of moisture has resulted in smaller average size.

The Orland chamber of commerce has declared in favor of the addition of a new unit to the Orland project that will bring in 25,000 to 30,000 acres.

A public auction sale of state scrip will be held by Surveyor General W. S. Kingsbury, at the state capitol, Sacramento, Monday, November 6, 1922, at 10 a. m.

A meeting to consider the sheep scabies situation was held at Red Bluff, October 7 by wool growers of Colusa, Glenn, Butte, Shasta and Tehama Counties.

The California Rice Growers Association estimates rice acreage in California this year at 145,000 compared with 126,000 last year. Last season's crop is practically cleaned up.

Professors Ralph H. Smith and T. F. Hunt of the state university, have been investigating tree troubles in Sutter County. Farm Agent C. E. Sullivan has been working with them.

Navigation facilities of the upper Sacramento and of the Feather were discussed at a conference recently held at Sacramento, Major Grant of the California debris commission presiding.

The California Farm Bureau Federation has established the Heileman Memorial Fellowship at the state college of agriculture. Distribution and marketing of dairy products will be taken up January 16.

Rice crop now being harvested in Yuba and Sutter Counties will approximate in value $1,500,000. This is estimate of representative of the California Rice Growers on estimate based on average price of $1.75 paid for last season's crop.

## Central California

Visalia has decided not to hold a citrus fair this fall.

The Vandalis Citrus Club of Porterville made observation tour of Lindsay groves on October 3.

The new goat milk condensary at Salinas is making shipments to Eastern as well as California points.

Canned raisins in eight and twelve ounce tins are the latest according to announcement by the Sun-Maid Raisin Growers.

Monterey County supervisors have leased to vegetable growers 30 acres of bottom lands of the county hospital grounds.

The West San Joaquin Valley highway out of Tracy will follow the present route instead of the proposed direct line along the railroad.

Standiford in Stanislaus County has many bean threshers busy in the fields. Quality of the crop is generally very good, no damage from recent rains.

The horticultural commission of Tulare County has 18 grape inspectors at work and during the peak of the Emperor season will perhaps double its force.

The Oakdale and Southern San Joaquin irrigation districts will increase their applications for storage at Melones reservoir from 90,000 to 108,000 acre feet.

Farm home department meeting will be held in Kern County at Weed Patch, October 17; Inyokern, 19; Edison-Fairfax, 24; Kern Delta, 25; Wasco, 26; Delano, 27.

The Ceres district of Stanislaus County shipped an exceptionally large crop of peaches. Grapes and melons are going out slowly because of difficulty in securing cars.

Farm center meetings of Kern County farm bureau at Indian Wells Valley, October 20; Rosedale, 20; Muroc, 20; Shafter, 23; Arvin, 27; board of directors, 28.

The peach department of the Stanislaus County farm bureau has named October 26 as tentative date for Peach Day when prizes will be awarded in the peach growers contest.

The Lindsay plant of the California Olive Association has sold its entire crop for 1922 to the Grogan plant. Crop will amount to about 600 tons. Price for Missions, $125; Manzanillos, $92.50; oil, $45.

At the recent meeting of the California Olive Growers Association at Fresno Herman T. Miller of Lerdo, Kern County, was elected president and C. E. Weikert, secretary. The company will not process any olives until next season.

Regulations and prizes have been announced for the first annual Turlock Pork Day, to be held October 31. The Pork Day is being conducted jointly under auspices of the swine growers of Merced and Stanislaus County farm bureaus.

Ranchers of the Modesto district meeting October 9, have petitioned for recall of director charged with blocking distribution of Don Pedro power as voted by members of the district. Plans were laid to cooperate with other divisions in recalling directors charged with similar action.

## Southern California

Work has begun on the Palo Verde drainage system.

A new ice plant and cold storage house is being built at Victorville.

Hueneme, Ventura County, has already shipped 28,000 bags of beans.

Calexico is planning for a winter festival which will feature a cotton carnival.

The annual meeting of the Los Angeles County farm bureau will be held October 26.

Bee Inspector Hanson of San Diego says that that county has shipped 2,880,000 pounds of honey.

A cow testing association agreement is being circulated for signing by Imperial County dairymen.

Congressman Phil D. Swing expects to attend the Colorado River conference at Santa Fe, New Mexico, on November 9.

Date growers field day was held at El Centro, October 10. Visits were made to date gardens, including the government garden at Meloland.

Petitions for development of hydroelectric power from Whitewater River have been filed by the Southern Sierras and San Gorgonio Power Companies.

The Palo Verde Valley Creamery will build an ice storage plant at Blythe and will double its shipping sheds to handle the coming year's lettuce crop.

More than 130 citrus growers from Orange County visited the citrus experiment station at Riverside on October 6. Special attention was given to fertilizer plots.

Irrigation canals at Palo Verde, destroyed by spring floods, will be ready for use within another two months. A new settling basin is being built around the old river channel.

Supervisor Crain of San Bernardino County announces that he is working with the state highway commission to secure rights of way for highway from Victorville to Barstow

San Bernardino County supervisors have taken preliminary steps toward formation of water conservation district for Perris Valley. The proposed district will place 35,000 acres under irrigation.

The Chino Business Men's Club will hold the second annual Chino Community Fair on November 1, 2, 3 and 4, to exhibit products of ranchers on the famous old Rancho Santa Ana del Chino.

All bids for drainage work in Imperial Valley were rejected by the irrigation district board. Bids ranged from 15 to 20 cents and as the district has most of the equipment needed it figures it can do the work for at least half the bid price.

Citrus meetings of the Los Angeles County farm bureau will be held at Covina October 23; San Dimas and Charter Oak 30; La Verne, November 6; Claremont and North Pamona Centers, 13; Pomona, 20; Whittier, 27; Rivera, December 11.

At the recent drainage conference of the Los Angeles farm bureau the report of Deputy Surveyor Warren on the preliminary reconnaisance survey of the proposed drainage district was presented and unanimously approved. The county surveyor was requested to prepare petitions.

## The Coast and General

Much of the potato crop of Nebraska is reported undug because of lack of demand.

Date crop of Arizona unusually heavy and of fine quality owing to unusually hot weather.

India is the third largest producer of wheat, United States and Canada exceeding her production.

Salt River Valley of Arizona is having favorable weather for cotton picking, but hot weather has necessitated extra irrigations.

The Yakima Valley (Washington) Dairymen's Association with 125 members has pledged a fund of $20,000 to carry on for the next six months.

First of fall grain is up in Arizona, though most of the crop has not yet been seeded. Hot weather of September has seriously damaged alfalfa.

First sales of "Pima" long staple cotton grown in the Salt River Valley, Arizona, this season brought 32½ to 35 cents for No. 1 and No. 2 grades.

Large shipments of peaches are sent from the Niagara district of Ontario to Great Britain. This year for the first time fresh pears are being shipped to the same market.

Rebuilding of the Apache Trail, between Phoenix and Globe, has been completed except a unit of ten miles at Fish Creek. The entire road will be finished by the end of November.

Officials of the Arizona state fair have decided that this year in place of the usual midway with the objectionable fakers there will be an industrial show participated in by manufacturers and dealers.

It is estimated that about 75,000 sheep will be sent to the Gooding and Twin Falls sections from western Idaho. From Oregon it is expected that about 200,000 sheep will be brought into the Boise Vall y for the winter.

An extra train containing 39 double decked carloads of lambs went from Nampa, Idaho, to the Chicago markets recently. While this is an unusually large shipment, hundreds of carloads of lambs are going from southern Idaho points almost daily.

Fruit shipments from the Wenatchee district of Washington up to September 14 were 136 cars of cherries, 95 cars of apricots, 513 cars of mixed fruits, 159 cars of apples, 351 cars of pears, 9 cars of plums, 125 cars of peaches—making a total of 1188 cars this season.

Reports from all sections of Norway indicate the poorest fruit crop in more than 30 years. Apples have failed, pears are small and in many parts of the country have not ripened. Plums have been so late as to ripen imperfectly. It is estimated that double the usual quantity of American apples and other fruits will be required.

The burning of Smyrna will seriously affect the American import of fruits from that city. The destruction of key bridges, railway equipment and the Smyrna tunnel will result in a loss of approximately 70 per cent of the fig crop. The flight of expert Greek workmen from the invaded territory is also responsible for loss, and it is estimated that the balance of the fig crop will be seriously injured.

# California Water and Power Act: Pro and Con

**On November 7, Californians are to vote on what is known as The California Water and Power Act. In that Act "It is hereby declared to be the policy and purpose of the state to conserve, develop and control the waters of the state for the use and benefit of the people." The Act is vigorously attacked and defended. We give below statements by Dr. James A. B. Scherer, formerly president of California Institute of Technology, and by Leslie B. Henry, an investment broker of Los Angeles.**

By James A. B. Scherer

HYDRO-ELECTRIC energy—who shall posses and control it, the public or private corporations? That is the question that burns in the heart of the storm now centered in California, but momentous for the nation as a whole. Four million horsepower, an amount equivalent to half of all the hydro-electric energy now generated in the United States, is the stake. The importance of this huge national asset becomes stupendous in view of the fact that if the people make a gift of it to a private corporation for the next fifty years, as they seem on the verge of doing, they will have no other comparable power source left. And it should never be forgotten that water power is in the end infinitely more valuable than such exhaustible power-sources as coal, gas, and oil, for it renews itself inexhaustibly.

Planted between the desert and the sea, the rapidly growing city of Los Angeles was compelled to reach out for fresh water. To water its incoming people and irrigate its parched soil, it reached out across desert and mountains to the base of Mount Whitney and brought down melted snows through its now famous 230 mile aqueduct. At the very inception of this undertaking the municipality encountered hostility from far seeing power corporations. In 1906 President Roosevelt gave his decisive assistance to the city as against these private power companies in the following characteristic deliverance:

"I am impressed by the fact that the chief opposition comes from certain private power companies whose object evidently is for their own pecuniary interest. The people at the head of these power companies are doubtless respectable citizens, and if there is no law, they have the right to seek their own pecuniary advantage. Nevertheless, their opposition seems to me to afford one of the strongest arguments for passing the law, inasmuch as it ought not to be within the power of private individuals to control such a necessary of life as against the municipality itself."

A consulting board of distinguished engineers had already pointed out to the city the value of power opportunities along the proposed line of aqueduct construction. This board, comprising Messrs. Freeman, Schuyler and Stearns, said among other things that "the conditions for the economical development and maintenance of power are very favorable, and tend to make the power development feature particularly attractive and valuable." From the beginning, therefore, the aqueduct builders—headed by William Mulholland—planned for developing hydro-electric energy as an immensely valuable by-product for the use of the people, to whom it was proposed thus to offer electricity as "a convenience rather than a luxury."

Success crowned these community hopes with results of astonishing magnitude. Taking advantage of sharp drops in the aqueduct over the edges of mountains in its long journey from the High Sierras to the sea, the city installed at four points of vantage four power plants, which now yield a total energy of 72,000 horsepower. This energy it has produced and distributed with such thrift as not only to fulfill its ambition in behalf of the householder's convenience, but also to attract manufacturing. For herein lies the chief reason why Los Angeles has recently won world wide attention as the tenth American city not only in population, but in manufactures; whereas only a decade ago its manufactures were a negligible quantity, the despair of its most zealous promoters. The whole tale is told in a paragraph by the president of a gigantic industry that has just built a $25,000,000 plant in the city:

"When we came to survey the coast, as we did, for six weeks, with skilled men, we found that Los Angeles had the cheapest fuel on the coast, we found that Los Angeles had the cheapest power on the coast, we found that Los Angeles had the only supply of fresh water sufficient for our needs. We had to come to Los Angeles, if for no other reason than water."

Perhaps the most convincing tribute paid to the city's management of its power assets came from three engineers of international standing, O. H. Ensign and Professors W. F. Durand and Harris J. Ryan, the last two of Stanford University, when summoned by the public service commissioners to give to the people of Los Angeles their impartial opinion as to the efficiency of the municipal power plant, in view of attacks made against it.

"In conclusion," these eminent engineers reported, "your committee considers that the city has a most ex-

(Continued on Page 426)

### VOTE FOR THE WATER AND POWER ACT

The Water and Power amendment is a conservation plan, not merely a power measure; it will make it possible to irrigate 10,000,000 acres of dry land and store winter flood waters which now yearly menace the state.

In the release of stored waters vast quantities of hydro-electric power will be developed, as a by-product, to be sold to the people at cost, without increased taxation. All the costs, including interest charges, will be paid in rates.

There can be no blanket bond issue of $500,000,000 under this measure.

The power companies of California have outstanding securities in excess of $500,000,000. They have announced plans to spend $1,000,000,000 additional in ten years. Under the water and power amendment, therefore, the power companies will not be deprived of their business; they will be relieved of much costly financing.

The state can borrow money at 4 or 5 per cent while the power companies financing will cost 8 or 9 per cent. The saving in interest rates alone would put millions into the people's pockets.

The water and power board is given only the powers necessary to do the people's work. These powers are not greater than those of the directors of any privately owned public utility corporation. The members of the board are subject to removal by the legislature and recall. Corporation directors are under no such restraint.

The act provides that all records of the water and power board must at all times be open to the inspection of the public.

This measure provides a method for retaining in the hands of the people their water and power resources. It will break the grip of monopoly, bring lower rates, and lower taxes because it will increase taxable wealth by the irrigation of dry lands and the development of new industries, with cheap and abundant water and power.

It is not government ownership—It is truest cooperation.

By Leslie B. Henry

THE total state debt of the 48 states of the Union is $1,071,000,000. The water and power amendment to the state constitution to be voted upon by the people of California next month calls for an appropriation of $500,000,000, approximately half the total state debt of all the states of the Union. There, in a nutshell, is the situation which interests me more than any other to confront me at the polls, interests me as an investment banker, and should interest the readers of the California Cultivator as property owners or prospective property owners and taxpayers.

For in this measure is involved the credit of the whole state of California and every municipality and every subdivision of a political character in it; every school district, every irrigation district, every reclamation district, every private corporation, every ranch owner, and every owner of property of any kind. The whole credit of what constitutes the state of California, as well as of the state itself, is involved. And why? If half a billion of dollars is created as a debt, investors throughout the United States, looking to California as an investment field, will consider very closely what effect this new $500,000,000 issue will have upon the market for other securities which we may have to issue.

Can we place the whole credit of the state of California, to the tune of half the total debt of the 48 states of the Union, behind the water and power act alone and still expect the investors of the country to come forward under the same impetus as in the past and also buy what they realize is an increasing debt for purposes of education and road building and harbor improvements and the other branches of state and municipal activity?

If there is proper power development and proper water development, development that is not extortionate or unfair in its rates, and promising to continue to furnish efficient service to all the people of the state, then there is no need to erect this tremendous monument of debt that will make extremely difficult the financing of the other projects that still remain before us in the state of California. It is to that development that I will address myself before discussing the particular terms of the act.

There is within the state of California today a great hydro-electric development, of a more modern character, distributing its product to a larger number of people, to more varied industries, than anywhere else in the world today. We distribute our power over transmission lines that were unthought of in their capacity by the engineering genii of the world outside of California.

The greatest progress made in electrical engineering in the world has been made in this state and it has been made entirely by those known as private power companies. The largest public development of hydro-electricity in the United States, or in the North American continent outside of the Ontario development, is in the city of Los Angeles.

Los Angeles has a potential hydro-electric development on its aqueduct of about 150,000 horsepower. To date it has brought into actual distribution about 75,000 horsepower. Yet, during the period that that 75,000 horsepower, or 50 per cent of its capacity, has been developed under the credit of the city of Los Angeles, representing all the enterprise and genius of its city officials, one private power company has brought into being in the same period 220,000 horsepower.

The total investment of private power companies in California hydro-electric development totals today in excess of $1,000,000,000, and today we are in advance of our immediate requirement for power in this state.

But to call these "private power companies" is a misnomer. For there is not a rate charged for power, nor a kilowatt hour of electricity developed but what every bit of the process of construction, of the production of power, of the distribution and of the price at which it shall be distributed is at the direct command of the railroad commission of California, chosen by you and by me.

There has been a very common idea that the state under this act is to supersede the power companies in the field in which they operate; that the state, with $500,000,000, is to possess all the power in California and distribute it to the people. But the total capital value of the power company properties has been estimated by the engineers of the state railroad commission in excess of $1,000,000,000. Moreover the further development of water rights now held by those power companies will total another $800,000,000 in the next eleven years.

The water and power act appropriates $500,000,000, or less than one-third of the amount necessary to purchase these properties and develop them. That leaves as the only possible field into which this $500,000,000 can be turned the development of new projects.

During the last 20 years the mountains of the Sierras and the Pacific Coast range have been searched from

(Continued on Page 425)

### DANGER POINTS IN WATER AND POWER ACT

Adds $500,000,000 to state debt, making California carry more than 50 per cent of total bonded indebtedness of all 48 states in Union.

Creates board of five members, not elected by people but appointed by governor, to have uncontrolled administration of the $500,000,000.

No projects are outlined or specified. The political board decides when, where and how every dollar shall be spent.

Interest at 6 per cent and sinking fund requirements, amounting to $40,000,000 yearly when the bonds are issued, may be raised by taxing the people. Losses may also be made up by taxation.

This is not public ownership, as the people have no control or voice in the operations of the board. It blocks public ownership by placing such a heavy burden of debt on California that bonds for needed public improvements could not be sold.

It is not the Boulder Canyon dam project. The United States government will build and pay for that undertaking.

It is not like Ontario, Canada. There the people control the power board and its expenditures.

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877 Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, Oct. 21, 1922

OUR ADVERTISING RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest, bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertiser.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## EDITORIALETTES

The present campaign for—and against—the California Water and Power Act is resulting in a liberal education as to one of California's greatest assets. Really it is becoming the very greatest of all assets. The time was when the gold in the mountains added most to our wealth. Then it was the golden grain of our valleys, later the golden fruits, now it is becoming hydro-electric power. We are tramping over mountain ranges looking for new possibilities for hydro-electric development and we are learning of our own state.

* * *

The Cultivator gives this week much of its space to discussion of hydro-electric development and opportunity for proponent and opponent to discuss the Water and Power Act. So it is fitting that one of the plants where hydro-electric power is generated should be given position on our cover. This is plant Number 2 of the Big Creek district owned by the Southern California Edison Company. Other illustrations and items regarding this great installation are given on the third page.

* * *

Both sides are presented in the discussions and in a way which permits Cultivator readers to read and weigh the arguments presented. Less than one-fourth of the potential power of the Sierra Nevadas is now developed. It will take hundreds of millions—possibly billions of dollars to install plants which will turn the God given waters into power, warmth and light, and it is well that California should discuss how best to do it. The question is big enough to call for most thoughtful consideration. We believe it is aided by careful consideration of the present accomplishment, and methods already planned for still further development. Proper settlement of the question is secured more quickly through quiet discussion of facts than by partisanship in which heat is more evident than light.

* * *

Riverside folks are proud of the Southern California fair. Some of the livestock classes were not as full as in former years but other exhibits were declared even better than ever. The "circuit" in Southern California ends at Pomona this week. A more cooperative spirit has prevailed this year between different communities, which has secured finer exhibits for all these fairs than would have been possible otherwise.

* * *

Collector Goodcell of the Los Angeles office of the internal revenue bureau reports that California paid $145,000,000 in revenue taxes during the past year. This is more than a third of the total amount which the new tariff bill is expected to produce in the whole United States. Mr. Goodcell also reports that tax collections on theater admissions in Southern California were only a little over a half million in 1918 but in the year ending July 1, 1922, they aggregated $2,527,621. It is estimated the attendance of theaters in Los Angeles alone will aggregate 108,000,000 for the year 1922. In incomes taxes the 1922 receipts were $35,821,215. This as against a trifle over $1,000,000 in 1915.

* * *

The bureau of markets has recently inaugurated a valuable addition to its work in a series of market reports, of great value to the livestock industry. Nelson R. Crow is in charge of the Los Angeles office and is furnishing for Cultivator readers a weekly review of the market situation.

## COUNTY CONVENTION

Mr. Teagarden, one of Placer County's most enthusiastic fruit growers, brings report from the great county convention closed recently in Auburn. A "county" convention is not exactly new in California but is somewhat along the line of taking up the old "institute" idea or taking the inspiration and enthusiasm directly into the field and amongst the producers. This convention was of particular value to Placer County growers because it was, to an extent at least, an adjourned session of the convention held a year ago. In that convention questions as to local tillage methods were discussed. Some of these questions were answered and some were not. Committees were appointed to bring in the answers at the next convention which is the one just closed. The answers were brought in and

"That's the Stuff, Hercules"

"That's the stuff I want. I've got a lot of trees to set out and there's nothing like

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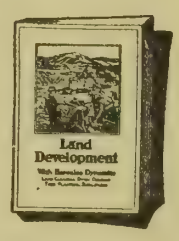
to do it.

"I know it. Used it before and my fruit crop is paying me doubly for it."

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The Suit That Water Can't Harm!

RAINSTORMS can't hurt it—the famous water test proved that. A Clothcraft 5130 Serge was thoroughly soaked in water, dried and re-pressed—and it was absolutely unharmed.

Read about the test—see and feel the actual samples of the wonderful serge—all in this little Clothcraft Serge Folder, which we will gladly send you.

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Please send me, without obligation, folder containing actual swatches of Clothcraft Serge.

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started so many other questions that now the committee is wondering when its duties will end. So the convention is adjourned for one year, and Placer County growers are already jotting down more questions to pass up to the committee and experts to be answered in 1923. Mr. Teagarden says that Placer County is a thorough believer in long pruning and much time was given to Prof. W. P. Tufts of the agricultural college. The Cultivator hopes to give later in full Prof. Tufts' address on long pruning.


# Achievement for PRUNE Growers

At last! A prune that combines both sweetness, largeness and that shrinks less!

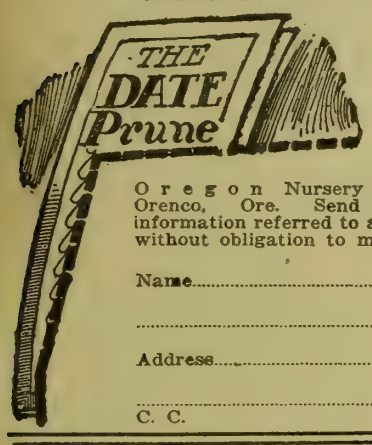
## The DATE PRUNE

Coates 418 "With the Date Flavor"

Trade-Mark Reg.

Investigation of Date Prunes—matured on the trees—by the writer, is convincing evidence of superiority in every way; being over 50% sugar and averaging 30 to lb., dried. Details FREE upon request.

"Nature's Best in Trees and Ornamentals."

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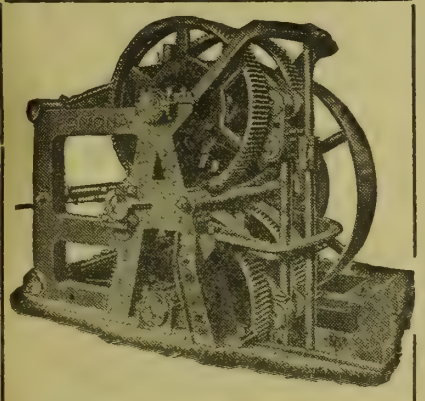

# THE POMONA

## Duplex Plunger Deep Well Pumps

are solving the pumping problems for many users during the period of low water levels. They will lift the water to the surface, and, if desired, deliver it to high elevations above ground and at lower power cost than any other system of pumping water.

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POMONA Irrigation Gates and Valves


### PASS THE LETTUCE

The federal department of agriculture has a press service which is sending out a remarkably valuable fund of information as to productions, supply in the market, estimates of next year's output, in fact such items as are of value to producers. If a producer of cabbage, for instance, wants to know how many cabbages are ready for market or how many will be ready for market a week or a year hence he is given through this press service, or, if he prefers, through a visit to one of the branch offices of the bureau of markets, a fairly close line on the situation. But it is a big country and we off here on the western rim have occasion now and then to kick. The Cultivator recently received statement on the lettuce situation. The productions of New York and some other states were given to the ounce but so far as that one report went, west of the Mississippi produces no lettuce. As a matter of fact the report in question had to do only with the "summer crop" while California and Florida produce "winter" crops. But this fact was not stated and the Cultivator wanted to know why the best state in the Union was ignored. The reply came promptly, the principal information, however, being that: "I am referring your letter to the bureau of agricultural economics in which this particular story was produced." Then the writer adds:

"Though I have never been in California, from all I have been able to learn the state should be proud of her productions. It also appears to me that when the state of California does not get her just dues through some slip or other, some proud son gets up on his hind legs and asks for an explanation."

Californians may not be willing to accept the hind-legged acquisition but, as suggested by Washington, we have enough legs with which to kick.

### CHINO COMMUNITY FAIR

The second annual Chino Community Fair will be held, November 1-4, featuring products of ranches on the famous old Rancho Santa Ana del Chino. The Chino Business Men's Club is putting on the fair.

This was one of the most famous ranches of California in the early days, being composed of two Mexican grants, the original "Rancho Santa Ana del Chino" comprising 22,234 acres and the "Addition to Santa Ana del Chino" 13,336 acres. The former was granted to Antonio M. Lugo, a Mexican alcalde, March 26, 1841, and the latter to Isaac Williams (Lugo's son-in-law) April 1, 1843.

This ranch was purchased in 1881 by Richard Gird, who brought it to a high point of efficiency in raising blooded horses and fine cattle. Gird was a man of exceptional vision and laid the foundation for the successful ranching now found in the valley. He started the city of Chino and brought in many settlers. One of his great accomplishments was the locating of an immense American Beet Sugar Company factory in the city and for many years that company disbursed hundreds of thousands of dollars in the valley.

The fair shows in all its details the advancement made in all departments of agriculture, horticulture and livestock raising. Old timers who have knowledge of the early history of the valley will be particularly interested in visiting Chino during the first four days of the coming month.


# Californians, Awake!

Human comfort and efficiency depend on light, heat and power—and light, heat and power depend on

| | |
|---|---|
| Coal | Wind |
| Oil | Wood |
| Gas | Water |

Wood for commercial purposes is gone. Gas, oil and coal are being exhausted. Wind is inefficient and insufficient.

**As long as the rains fall on the mountains**

## Hydro-Electric Energy

**Will be for us and our children. It will give us heat, light and power for our pumps and mills forever.**

Shall we keep this God-given Heritage, with which California is so wonderfully blessed, or shall we hand it over to Corporations which will exact profits in order that the few may live in luxury while the many pay tribute?

**Municipally owned electric plants in California have served the people at from thirty to fifty per cent lower rates than are exacted by the private power companies.**

The Province of Ontario, Canada, has made reductions as great as from 8 cents to 1½ cents per kilowatt hour.

**Public-spirited men, big men, will work for the people for lower salaries; interest rates are lower to the state than to the corporations—all costs are lower.**

The great power companies say we must make California safe for the Investor by voting down the California Water and Power Act. We say we will make California safe for the Producer (and do no injustice to the Investor) by voting for it.

## Preserve Our Heritage

**Vote "YES" on 19 X**

## Public Power League

716 Delta Building Los Angeles, Calif.

# California Crop Report

IN the report issued by E. E. Kaufman, agricultural statistician, California cooperative crop reporting service, the following comments are made relative to the condition of California field and fruit crops as of October 1, 1922:

The first half of September temperatures were abnormally high in practically all sections, which materially benefited the rice but had a deleterious effect on beans, particularly throughout the Sacramento Valley. Fruit crops generally not affected. As a matter of fact, the warmer weather was welcomed by the dried fruit men as the drying had been held back somewhat by cool weather the latter part of August.

Light rains occurred in the vicinity of San Francisco, north along the Coast and throughout the Sacramento Valley October 3 and again on the 8th but were followed by clear weather and apparently little damage resulted. Harvesting of rice was probably delayed a few days and the drying of prunes and raisins in some districts interfered with to a certain extent. The Santa Clara Valley, the San Joaquin Valley and Southern California escaped without any rain.

### Indian Corn

The condition of Indian corn October 1 was estimated to be 88 per cent of normal as compared with 82 last year and a 10 year average of 88. The forecast of production for this year is 4,083,000 bushels as compared with an estimated production of 4,060,000 bushels last year.

### Oats

The preliminary estimate on the average yield per acre of oats is 35 bushels per acre and the area harvested 140,000 acres, making a total production of 4,900,000 bushels as compared with 3,780,000 bushels in 1921.

### Barley

The preliminary estimate of the production of barley shows the largest crop in the state since 1914. Tabulation of reports received from growers, dealers and warehouse men indicates an average yield of 34.7 bushels per acre. On the basis of 1,200,000 acres—our preliminary estimate of the acreage planted to this crop—the total production of barley in California in 1922 would amount to 41,654,000 bushels as compared with a crop harvested in 1921 of 29,700,000 bushels.

### Rice

The rice crop, which had been held back slightly by cool weather the latter part of August, showed considerable improvement during September; the condition on October 1 being estimated at 93 per cent of a normal. Assuming that the estimated acreage planted will be harvested, the production will be about 3,862,000 bags, 100 pounds each.

### Potatoes

The condition of the potato crop declined 7 points during September and on October 1 was but 86 per cent of a normal as compared with a ten year average of 82. In hardly any of the potato growing districts of the state is the average yield holding up to expectations. The estimated production is about 10,716,000 bushels, compared with 10,064,000 bushels last year.

### Sweet Potatoes

But little change occurred in the condition of the sweet potato crop. An increased acreage indicates a larger production than last year. Forecast of production this year is for a crop of 1,292,000 bushels against an estimated production in 1921 of 960,000 bushels.

### Cotton

The condition of cotton on September 25 was 80 per cent of a normal, showing a decline of 11 points since the August 25 report. Production is forecasted at 120,000 bales or a decrease of over 10,000 bales the past month. The high temperatures the first part of September caused more or less dropping of bolls making up the late crop.

### Hops

In July we estimated the area of hops at 11,000 acres as compared with 12,000 acres last year. Owing to the difficulty of securing pickers and poor market conditions only about 9,000 acres were harvested. The average yield was about 1640 pounds per acre, making the total production 14,760,000 pounds or about 80,000 bales.

### Sugar Beets

A decline of 3 points in the condition of sugar beets is noted as compared with September 1. The condition is now 85 per cent of a normal, compared with 82 last year and a ten-year average of 86. The production for the state is forecasted at 489,000 tons.

### Beans

The bean crop undoubtedly suffered more damage from high temperatures than any other field crop. Lima beans are not holding up to expectations and particularly is this true of the limas planted rather late in the season. The preliminary estimate of the area planted was 125,000 acres and the estimated average yield is placed at 1080 pounds per acre, making a total crop of Limas of 1,350,000 bags "Beans other than Limas" being later were harder hit by the high temperatures and condition of the crop is estimated to be only 75 per cent of a normal, which would indicate on the estimated acreage planted, a total production of about 1,400,000 bags.

### Apples

According to the reports, the condition of apples declined two points during the month. Forecast of production, based upon 85 per cent of a normal on October 1, is for a crop of 7,587,000 boxes compared with 6,500,000 boxes in 1921.

### Peaches

The report this month is on the total production of peaches as compared with a normal. In some counties of the state better than a normal crop of peaches was obtained this year and the final report indicates a total production of 101 per cent compared with a normal production, forecasting a crop of about 425,000 tons.

### Pears

The pear crop this year is turning out much better than expected early in the season. Shipments to date are about 1,200 cars more than for the same period in 1921, while the tonnage turned over to the canneries has been slightly larger than in 1921. The crop was estimated to be 90 per cent of a normal on October 1, which would indicate a total crop of around 110,000 tons.

### Figs

According to reporters, figs improved one point during September, being now 90 per cent of a normal. Last year the condition on October 1 was 83.

### Prunes

The total production of prunes for this year is estimated to be 80 per cent of a normal production. Weather conditions during September were ideal for the prune grower and but a small percentage of the crop is now in danger from rain. While some prune growers are not getting quite as large a tonnage as expected, it is believed that the total production will be well around 100,000 tons.

### Almonds

No particular change is indicated in the condition of the almond crop and the estimated total production will be about 9,000 tons.

### Walnuts

A set-back to the walnut crop of three points was reported from some of the southern counties where slight damage the first part of the month occurred from high temperatures. For the state as a whole, the total production will more than likely equal the record crop of 28,000 tons in 1919.

### Oranges

Oranges are estimated to be 60 per cent of a normal, showing a slight increase over the condition as reported on September 1. The condition last year was 88 as compared with a ten year average of 78. A light crop of oranges will doubtless have the effect of increasing the size of individual fruits which to some extent accounts for the improved condition the past month. Based on a condition of 60 as compared with a normal, the forecast of production would indicate a crop of about 15,000,000 boxes of oranges.

### Grapes

Wine grapes, according to the reporters, declined 3 points during September. The car situation is still serious and it is extremely doubtful if the estimated tonnage of 400,000 tons can be marketed without serious loss.

Table grapes show a slight improvement in condition. Inter-state shipments last year of fresh grapes, both wine and table, amounted to 30,623 cars of which about 13,500 cars or 44 per cent had moved by October 1. This year the movement has been about 15,500 cars or only 35 per cent of the total estimated crop.

Owing to the difficulty of securing cars for the shipment of fresh grapes, it is more than likely that the tonnage

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The most remarkably repair-proof car of its class and price ever built. This is the conclusion of any owner who has driven the good Maxwell ten thousand miles or more.

Cord tires, non-skid front and rear; disc steel wheels, demountable at rim and at hub; drum type lamps; Alemite lubrication; motor-driven electric horn; unusually long springs; deep, wide, roomy seats; real leather upholstery in open cars; broadcloth in closed cars; open car side-curtains open with doors; clutch and brake action, steering and gear shifting, remarkably easy; new type water-tight windshield. Touring Car, $885; Roadster, $885; Club Coupe, $985; Sedan, $1335; Four-Passenger Coupe, $1235. Prices F. O. B. Detroit. Revenue Tax to be added.

MAXWELL MOTOR CORPORATION, DETROIT, MICH.
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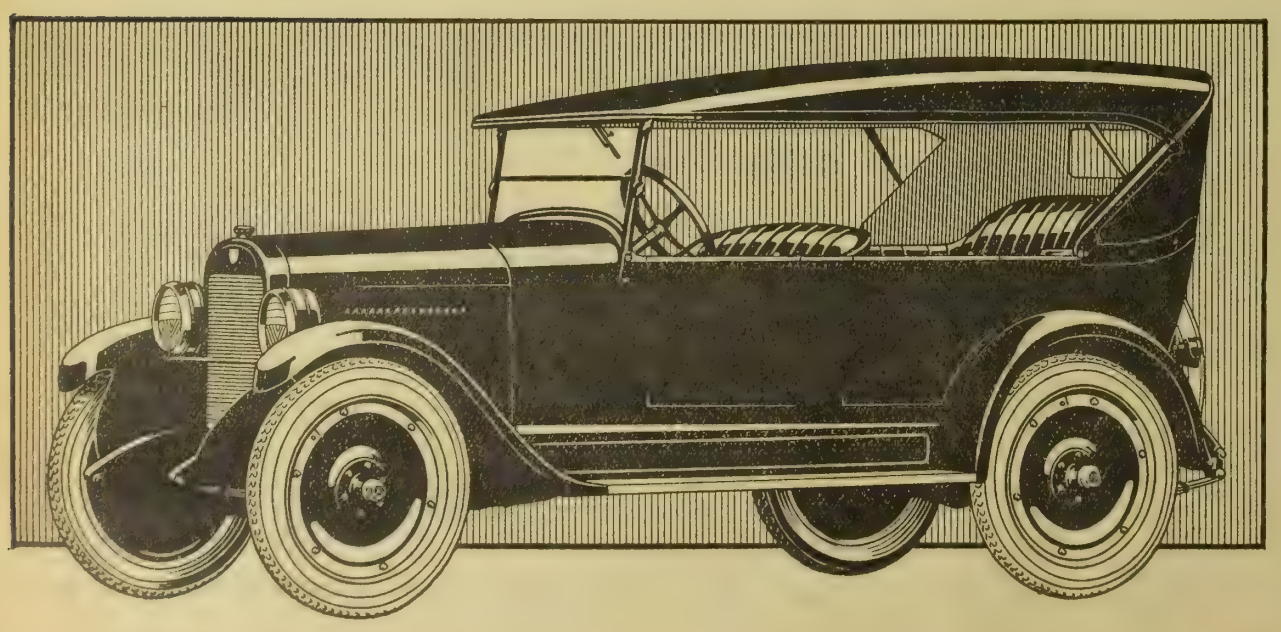


of raisins will be somewhat larger than expected earlier in the season. With the increased bearing acreage of raisin grapes the normal production of raisins would be about 250,000 tons if the entire crop was so utilized. A condition of 96 per cent as compared with a normal would therefore indicate a crop of about 240,000 tons.

## WATER AND POWER ACT—AGAINST

(Continued from Page 421)

Mexico to the Oregon line for every source of water power that could be practically brought to the service of California. Those sources that remain represent the smallest head of hydro-electricity that can be developed, and they can be developed only at a maximum of cost and with the greatest engineering hazard.

The bondholder or stockholder that advances money for an engineering project that turns out a failure in the hands of a company financed to develop that project loses his or her money in that project. But under the water and power act there will be no losses to bondholders when projects fail. The half billion of dollars must be spent in developing the tremendously expensive and hazardous projects undeveloped by the private companies, but there will not be a dollar lost to the investor outside the state who buys the bonds. Still there is left with you and me the eternal obligation of paying every dollar of the principal and interest of the bonds outstanding because they are bonds of the state of California.

The water and power act, if adopted as an amendment to the state constitution at the polls next month, will be administered by a board of five men appointed by the governor. Its acts will not be subject to review. And though those who are supporting this act claim that there is a check on the board through the finance committee of five named by the act, anyone reading the act itself will see that this statement is not true.

The finance committee is to be composed, if formed, of the governor, the chairman of the board of control, the state controller, the state treasurer and the chairman of the water and power board. The committee has no discretion. It is absolutely commanded by the language of the act to issue and sell bonds when ordered to do so by the board. There is no power that can withhold the board from issuing such an order.

If there is one section of this act the bond houses of this country are interested in more than in any other it is the second paragraph of Section 9—"If at any time the moneys in the state treasury applicable to the payment of interest or principal of said bonds shall be insufficient to pay the same as it falls due moneys shall be temporarily advanced from the general fund in the state treasury such sum annually as will be necessary to pay such interest and principal."

The act is not designed as a taxation measure. It is for "water and power at cost" and yet there is specifically provided in the section I have just quoted the right to go out and levy taxes through the general fund. But if at any time during the course of a political election the governor, having power to appoint the board, it should occur that any increase in taxes would be a mighty unsatisfactory argument in the election of a new group of officers to administer the state, it is made possible to escape taxation through withdrawals from the general fund by issuing new bonds to pay the principal and interest. Section 7 says "if at any time the revenue from projects shall be insufficient to pay the interest on principal of outstanding bonds as the same fall due, the committee, with the consent of the governor, in order to avoid appropriations from the general fund and resulting taxation may issue and sell bonds to provide funds to make such payments of interest or principal."

Proponents of this act have made a very specific claim that this act must pass if the municipalities of the state shall ever have the right to own or develop water and power in this state. That is an absolute fraud, that statement. There has existed ever since 1913 one act under which municipalities in California can associate themselves together for the doing of anything they desire in the way of water and power development, as well as in the construction and financing of other public works, as an association of communities. These powers were enlarged in 1916.

Why are those who support municipal ownership and municipal administration standing back from the acts that already exist and centering all their support on a measure which is not, after all, municipal ownership in its nature? I will tell you why.

This act carries $500,000,000. The others do not. This act carries half a billion of dollars to be spent on projects that never have to be submitted to the voters.

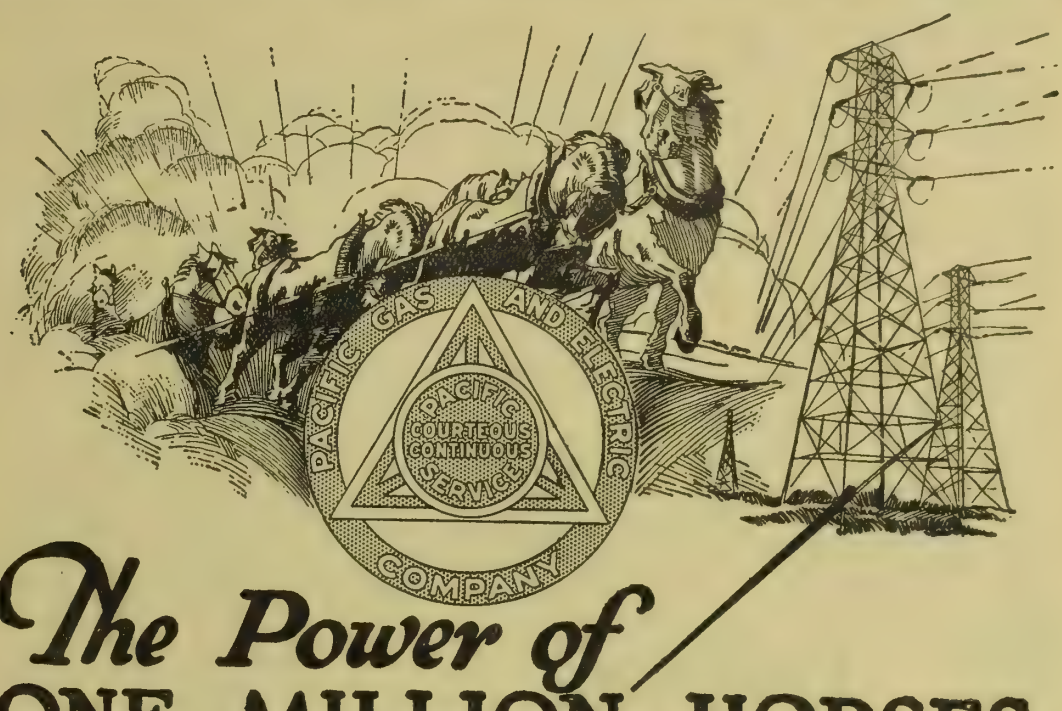
Under this other act, if half a dozen Southern California cities, for instance, decide that in an improvement of the Arrowhead dam and the building of a power house there they could create for themselves a better field for power they would have to come before the taxpayers of the section to be benefited and obtain the money to finance that specific project.

But under the constitutional amendment of which I am writing $500,000,000 is voted with its enactment, and from that time on neither you nor I nor any other taxpayer has one word to say as to how it shall be spent or where it shall be spent. Why, this water and power board is not even subject to civil service and can hire and fire and set salaries as it pleases! Imagine the administration of the fund of 500,000,000 by political organizers—and the type that can be bought for $20 a day!

With tens of thousands of employes the board will control the political destinies of the state. And besides that they will control the development of water and power, the two most vital essentials to human life, in the most rapidly growing state in the American Union. If that is not political power with a whip on it, I don't know power.

Permit me to return to the theme of my introduction. As an investment broker I am interested in maintaining the good credit of the state of California. And as citizens of California, as either farm owners or as progressive farm owners, readers of the California Cultivator are interested in maintaining the state's credit.

Good credit is based, first of all, on good judgment and a sense of responsibility. It does not show a sense of responsibility when $500,000,000 is put in the hands of five men who have the right to appoint their own administrators of those funds—not even deposit the money in the state treasury—to be expended on projects that are not definitely outlined and which are of themselves restricted to the most hazardous engineering feats. It does not show good judgment to expend a stretched credit on the development of water and power when we have other obligations in the shape of a need for more and better schools and roads and a thousand and one other things. It does not show good judgment to turn the development of life's greatest essentials, water and power, over to an untried political board when already the state has the cheapest, most swiftly and efficiently distributed service of its kind in the world; when the development of hydro-electricity, its distribution and price are absolutely within the control of a body controlled by the voters of the state, the state railroad commission.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Today, the Pacific Gas and Electric Company's 32 power plants are equipped to generate 481,836 horsepower.

Its Pit River Power Plant No. 1, just completed, will add 93,000 horsepower to the present capacity.

And as soon as the *demand arises*, additional hydro-electric power plants along the Pit River will be developed by this company to add 350,000 horsepower more.

California ranchers, already provided with more and cheaper power than the farmers of any other state, are assured ample electrical energy for their need —*and at the lowest rates possible to produce it.*

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PACIFIC GAS AND ELECTRIC COMPANY

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**WATER AND POWER ACT—FOR**

(Continued from Page 421)

cellent and adequate equivalent for the money thus far invested,—a power plant capable of delivering horsepower at a cost of generation which will insure a valuable profit to the city; further, for a relatively small additional investment, a total of 105,000 horsepower delivered at the city, and at a cost which we believe to be thus far unrivaled in comparison with other like developments of hydro-electric power.

"As a further subject, and lying somewhat beyond the immediate scope of your request, this committee desires of its own motion to express its high appreciation of and full confidence in the professional ability of the power bureau organization. The officials of this bureau have worked unceasingly with the highest professional zeal and skill for the best interests of the city, as represented by its power projects.

"From our intimate acquaintance with the work of this organization we desire to assure the citizens of Los Angeles that they may have full confidence in the professional skill, untiring zeal and unquestioned integrity of the officials of this bureau, and they may rest assured that the interests of the city are in the very best of hands in all matters dealing with the subject of power development and distribution.

"These remarks are dictated by a feeling of duty on our part to the citizens of Los Angeles, in view of the malicious and unjustified attacks which have been made, seeking to undermine the confidence of the citizens in the work of these public officials."

An initial investment of $10,000,000 was authorized by the taxpayers for this municipal power system. Of the authorized bonds $8,851,000 were sold and used for construction of plants and the system. At the present date the investment stands at $13,283,000, with an indebtedness against it of $7,689,000. For the fourth fiscal year of operation ending June 30, 1921, the plants have made a surplus earning, or true profit, of $1,046,357. This is a genuine surplus. Although not required to do so, the city keeps the books of its power system after the exact methods prescribed by the California state railroad commission for power corporations. So this surplus of $1,046,357 represents a year's earnings in excess of the total expense of operation and maintenance, together with interest and bond amortization allowances on all outstanding power bonds. Instead of increased taxation, a recent reduction of 15 cents in the tax rate was made possible by the earnings from the Bureau of Power and Light. Approximately $3,272,000 in revenues derived from four years and three months of power operation has been invested in expansion of the plant. Most important of all, rates to the people for power and light have been reduced an average of 30 to 40 per cent. Power for industrial use is sold to large consumers at 1 cent a kilowatt hour or at even less cost, depending on the quantity consumed. Los Angeles stands unique among the larger cities of the world as giving, first hand, decisive aid and encouragement to the development of manufactures, and this with a profit to herself.

The chief reasons why the city can undersell private corporations in production and delivery of power are the following: the city pays from 2½ to 3 per cent less interest on bonds, due to superior credit of public over private securities; the city pays no dividends to stockholders, but produces for use at cost; the city has no large staff of exorbitantly paid officials; the city pays no taxes; the city maintains no expensive lobby, and no high priced publicity bureau.

It was in spite of united antagonism from all private power companies serving electricity in Southern California that Los Angeles completed an initial municipal power plant early in 1917 and began the distribution of energy. Not long afterward the friends of community enterprise had the satisfaction of seeing the city score heavily. For the chief of the private corporations, making a virtue out of business expediency, not only entered into a distributing arrangement with the city, but declared a conditional surrender. This truce—which, as hereinafter appears, was but temporary—took the form of an option maturing in March, 1922, by which the city might take over at fair valuation all the distributing lines and business of the Southern California Edison Company within the city limits. The progress of this undertaking was so bitterly opposed by one of the more obdurate companies doing business in Los Angeles that it was not until June, 1919, that citizens were able to say at the polls whether they were willing to provide funds for accepting the Edison option. By a two-thirds vote they said, Yes; voting a bond issue of $13,500,000, of which $11,000,000 is for purchase purposes, the balance being for additional power construction. Meanwhile—and this is most important—manufactures have grown so amazingly in consequence of


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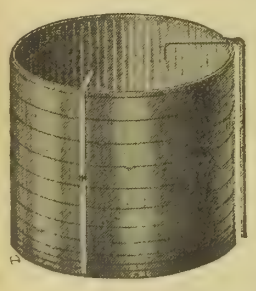

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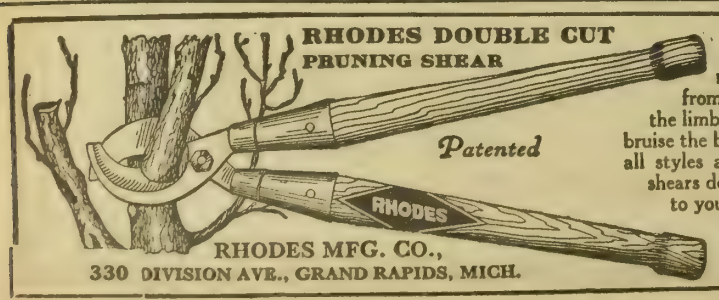


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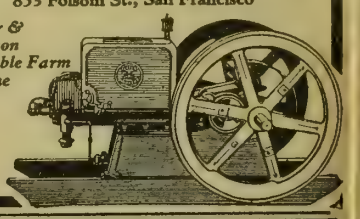



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low cost power supplied by the municipal plant that the closing of the option in question will not begin to meet the demand. As William Mulholland, "the man who built the aqueduct," has put it, "in less than ten years all the power we can develop will be in use and we shall have no surplus left for future growth. We are in the electrical production business by the mandate of the people expressed over and over again in elections. There can be no withdrawal. Who has a better right to the gifts of God, the people of a great community, or private individuals?"

Driven therefore by urgent necessity, the city looks about for more power. Its attention is finally attracted by the Boulder Canyon project. At this juncture all truce is called off, and conflict reopens — with a difference. The struggle is no longer local, but becomes of national importance. For it is true, as a distinguished publicist says, (in a letter to the writer) regarding this power situation as it now stands, that "it is the greatest problem that confronts the West, and one of the greatest domestic problems of the United States." * * *

Pasadena also keeps its books as prescribed by the state railroad commission, so as to justify comparisons with private corporations. These books show a surplus of $410,805 at the close of the fiscal year 1920, in spite of the fact that light and power are now furnished to citizens at one-third the rates formerly charged by the Edison Company, and at five-eighths the rates still charged by this company to neighboring towns. * * *

Community construction and control under federal or state authority is distinctly a different matter from government ownership and management as commonly conceived. The mismanagement of our railways by a Washington bureaucracy has left such a hot spot in the popular memory that one's mind has to be consciously cooled to discern this important distinction. As a matter of fact, a citizen may be very much the friend of community enterprise and at the same time the enemy of centralized authority in political bureaus at Washington. Reduce the unit of management; get a public utility close enough to its consumers to enable the people themselves to safeguard their interests; keep the ownership vested in the people; then use the overhead government, state or federal, to dispense equal justice to all. Along some such line must move any effective immediate reform in behalf of the popular interests.

Such reform is being attempted in California. The last legislature paved the way for it with an act enabling any number of towns to pool their financial resources for community enterprise in handling electric power. Encouraged by this act, but not satisfied, a league of municipalities has evolved out of local conditions. Alarmed by the eagerness with which private corporations are now hurrying up the seizure of remaining power sites throughout the state, and emboldened by such notable achievements as those of Los Angeles, Pasadena, and Palo Alto, these 250 banded municipalities are now supporting an act of much wider scope than that passed by the last legislature. * * *

The five hundred millions investment can hardly be considered a menace to the future of a great state when one corporation announces it can secure twice that amount and will use it in hydro-electric development if given permission.

Neither will the issuance of bonds affect the credit of California. It will require years to make sale of the various issues as needed and complete the storage, power plants and distribution lines. Every new plant installed will add to the state's assets. Every new plant installed will make possible more attractive cities and more productive farms and lands not now under cultivation will secure water from storage which will be possible because of this act, if passed. Bear in mind it is the "California Water and Power Bill" with the emphasis on the Water. Water will increase wealth and may even lower taxes. It has done so in the city of Los Angeles.

"Dishonorable men, partisans, selfish politicians will misappropriate funds, enrich themselves and ruin the credit of the state and dispoil the people" it is claimed. But no instance is given where such action has resulted. Innumerable instances have been given, and more can be, where highly honorable and efficient men have served their community without pay or for a nominal compensation and built up an institution which will perpetually increase in value to the state or community. Besides the people are served at a fraction of the charges which a corporation is compelled to make if it pays the high interest rates which they demand.

### PALESTINE FARMER HERE

David Yosphe, a farmer and agricultural expert of Haifa, Palestine, is wintering in Los Angeles to study our crops and ways of growing them. Mr. Yosphe was a fellow worker with and an understudy of the late famous Aaron Aaronsohn. The climate of Palestine, especially in ranges of temperature, is closely similar to that of California and "nowhere else in the world," said Mr. Yosphe, "could I learn so much that we of Palestine need, as in California."

The railroad commission has ordered G. H. Richardson, a rancher living near Fullerton, Orange County, to continue to serve water from his pumping plant to certain adjoining farmers. Richardson shut off the water supply because his consumers refused to sign an agreement waiving their rights to water except at his discretion. The commission held that the acts of the defendant had dedicated his pumping plant to public service.


## The 1922 Modesto Fall Sale

**50 Registered Holsteins 50**

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Later announcements will outline the animals to be sold and names of consignors, also exact place of sale which will be right close to Modesto.

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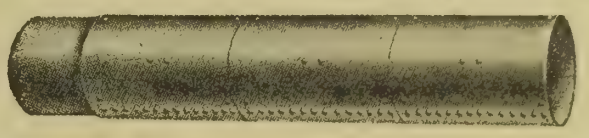

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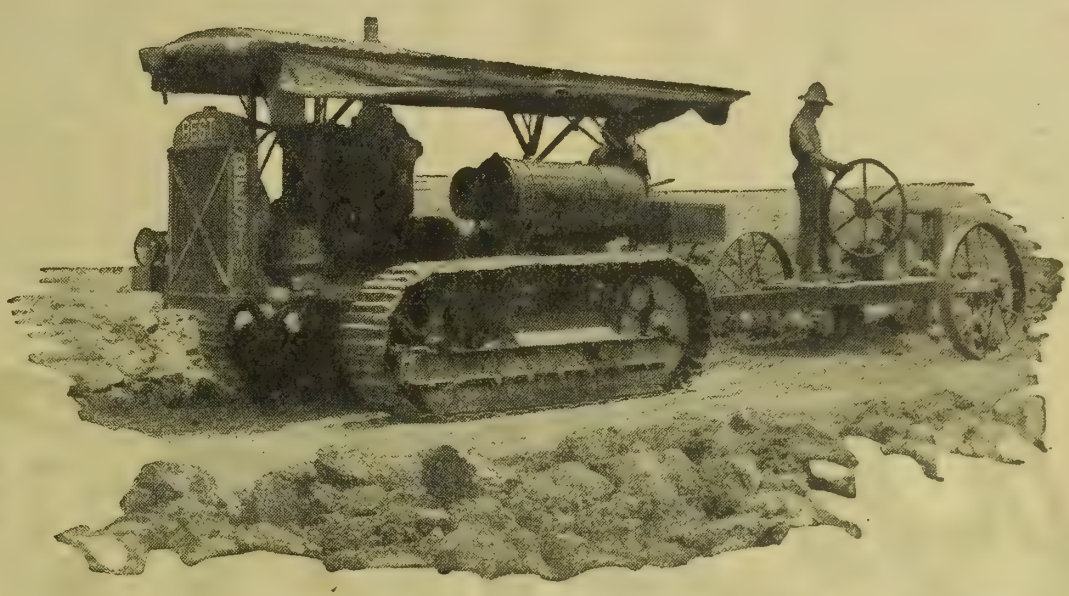

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Through clouds of dust I see the iron horse
Panting progress up and down the course,
Turning over soil and stone and sand,
Obedient to the driver's hand.
Man's conquest seems almost complete:
Nature's God and man together working,
With no fearing, doubting, shirking,
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Great emancipator, the chugging tractor.
In every line of husbandry, a factor.
Tireless thing to twenty horses equal,
Plowing, planting, harvesting,
Hauling, digging, sowing,
All these, and more, the sequel.
Man has more leisure for good desired;
More brain and less of brawn required.—
Walter M. Boston, San Dimas.

### THE THREE GIFTS

By Clara Peterson

THERE was no one so lovely as Aurelia, the Sun Princess.

Everything about her was like the sunlight. Her hair was threads of dancing gold. Her eyes were deep and bright. Her white skin was pure and radiant.

At her birth the fairies and the wise women had promised that wherever Aurelia dwelt, there sunshine should linger too.

It happened that Aurelia's city had always been sunshiny and fair but over the mountains was the mighty city of Tralgar where half the days began and ended in gloom and there was scarcely sunshine enough to ripen the grapes and apples. It is not strange that the old ruler, Marco, thought, as he watched his three sons return from the hunt.

"It is time that one of them was wed and there could be no more fitting bride than the Sun Princess, Aurelia. I shall send her a message tomorrow and upon its heels shall follow Christopher, my eldest.

Christopher was the handsomest of the three. He was darker than his brothers, and taller and his black eyes sparkled more alertly. Not only that, but he could compose for the harp, songs which were so sweet or so tempestuous that no one could listen without tears.

Claudius, the second son, had eyes that were brown instead of black, and the pictures he painted were like live woods and flowers hung upon the walls.

Constant, the third son, had just reached manhood and he could neither compose nor paint. In fact, anyone looking from the castle window was sure to see Constant's blonde head bending over a new plant in the garden.

That night after the three and their father had dined in the gloomy hall, Christopher nodded his head proudly at mention of Aurelia's name. He had always felt secretly that the Sun Princess belonged in the gloomy city of Tralgar and who was better fitted to bring her there than Christopher himself!

As for Aurelia, the message was brought to her on a golden tray, a painted parchment tied with purple ribbons. She had been feeding the doves on the roof of the palace and their grey wings fluttered around her rose pink gown as the pearly sky surrounds a tinted cloud.

Her lovely eyes grew very wide and grave as she read the message. She had known that sometime it would come but she did not smile as she descended to her room and stood before the mirror. She looked long at her reflection until her cheeks grew pinker than her dress.

"At last he comes! What will he say—that I am his sunlight, his princess!"

Her shining head drooped.

"Will he forget to woo me as a girl, to let me know that he loves me for myself alone—"

Aurelia drew her crimson footstool up before the window which looked out over the mountains and until the sun sank behind the peaks she sat there dreaming, her golden head bowed upon the sill.

Three days later with trumpets sounding and banners streaming in the wind, Christopher and his train arrived at the palace. But instead of a blushing princess waiting to receive them, surrounded by her maids and lords and guests, a little maid came running into the courtyard. She courtsied daintily and stood looking up at the haughty Christopher on his prancing white horse. Her voice was frightened, yet she spoke bravely.

"Welcome, son of Marco! The princess has sent me to bid you enter."

For a moment Christopher frowned but she was such an unoffending, pretty little maid in her white cap and short black dress that at last he smiled upon her and descended from his horse.

Christopher and his retinue were fed splendidly on roast beef and mounds of jellied tongue and suet puddings, and though the princess did not appear the palace was so wonderful with its floods of sunlight and its gleaming decorations that no one missed her. At last, however, when his friends had departed and Christopher was left alone to wander through the halls, the strangeness of his welcome smote him and he began to frown darkly.

It was then that the little maid darted through the tapestry hangings and handed Christopher a note from the princess. He read it frowning. Then his forehead became smooth and he tossed his black head and laughed.

"Your mistress is indeed wise, little one. It is not enough that I bring her jewels from the coffers of Tralgar. She demands a gift from me. Let me read again—dainty note! For one week the princess will not appear; one week to prepare my gift, yet it is simple, little one.

Christopher ended his musing and smiled at the maid. He strode with pride to the harp which stood lighted gloriously by the setting sun. Close to its strings he drew a golden chair and then his questioning fingers began to play. With closed eyes Christopher sought his gift to the princess, a new melody so wonderful that at the very sound of it she would belong to him.

The small maid lingered in the hall and listened breathlessly.

Each day Christopher's fingers caressed the harp strings with a surer touch. The gracious sunlight which enfolded the city from morning till night seemed to lighten the soul and the fingers of the musician so that he felt himself composing as never before and the song grew like a gentle, laughing, widening river under his touch.

But most of all the little maid inspired him. While he played she left her duster or her broom and sat with hands clasped and her little feet on the first round of the great carved chair beside the window, and whenever Christopher looked at her, her eyes were wide and starlike or wet with tears.

Then when the day's work was over they would light the candes in the room which held the coziest fireplace and the little maid would bring in muffins she had baked. They would laugh while she stuffed yellow pats of butter into the smoking centers and while she made tea over the fire and set out jam and cold meats and frosted cakes, all on the loveliest dishes.

Each night while they ate, Christopher told of his city, Tralgar, of the wars his people had won, of the riches they possessed and even of the wolves and the deer he and his brothers had shot in the mountains.

The little maid listened and smiled or was sad as each story wound to its ending, and Christopher watching her in the candle light sighed often for surely she was as gentle and as charming and as beautiful as any girl could be.

But at last the week ended and Christopher's gift was finished. The maid listened with downcast head to the song which came from the harp. It had become a part of the sunlight, so sweet and pure and radiant that at last the little maid could bear it no longer and she turned to leave the room.

Christopher caught her hands in his and looked into her face.

"I shall never forget this week," he said softly. "I am afraid that—I love you. But now, heigho, we must think of other things! When and where is your mistress to receive my gift?"

It was long before the maiden answered. When she raised her head, her face was calm and white.

"It is indeed time for you to play before the princess. She has said that at the sunset hour she will sit upon the balcony in the upper room. She will listen to your gift. If it pleases her she will descend to you. If her heart is not touched she will not move, and you have failed."

The maid's voice sank lower and lower so that Christopher scarce could hear the last few words, but when he had bent his handsome head and caught them he flushed with triumph and the sweetest chords of his gift seemed to sound again in his ears. Well he knew that the heart of the princess would melt as she listened, that she would descend as though carried on the wings of the pleading song which floated up to her.

He was still flushed with triumph as the sunset hour descended and he entered the great dim room where the harp had been placed. A mellow, golden light came from the painted vases which swung from the balcony's pillars. The form of the princess seated there was lighted, yet was dim. In one look Christopher saw that she was all in snowy white. He seated himself before the harp and began to play.

When the wondrous melody had laughed and sobbed to its quiet ending Christopher opened his eyes slowly and gazed to either side for the princess. He started to his feet in surprise and anger and gazed incredulous toward the balcony. The princess had not moved. The dim and lovely face

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For the Woman Who Drives Her Own Car

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in its mist of white was as unmoved as a quiet pool. The gift had failed. Christopher strode from the room.

Later when his anger had subsided he searched the palace for the little maid who had been so kind to him but she had disappeared. At sunrise he rode over the mountains alone.

When the second brother, Claudius, had arrived to take his brother's place, and with his retinue had banqueted on stuffed fowls and vegetables and juicy pies, he too was handed a note from the princess.

He tossed his brown head and laughed down at the pretty little maid who handed it to him.

"So the princess does not desire as my gifts laces and silks from the looms of Tralgar! I have a week, it seems, in which to produce a gift of my own. That is well indeed, little maid!"

In fact, Claudius was pleased with the words of the princess' note for he loved nothing so well as to paint upon canvas, and in this country where the glorious sunlight gilded everything there were a thousand beauties calling for his brush. He knew that the painting he would have ready at the end of the week could not help but move the heart of the Sun Princess.

And to put into eternal colors as his gift, he chose the home of Aurelia, the charming palace itself set like a spreading white flower in the green and sunlit valley.

(Continued Next Week)

## FILLING THE LUNCH BOX

By Mrs. Mack A. Haney

THOSE of us who put up lunches five times a week know how puzzled we feel sometimes as we ask ourselves the question, "What will I put in the lunch box today?"

I have found that it helps if an outline like this is kept in mind: sandwiches, beverage, fresh fruit, cookies or gem cakes.

Some mother has already said, "But you can't send a beverage with a cold lunch! But it is surprisingly easy—just use a pint bottle or make a permanent investment in the pint thermos bottles which cost less than a dollar. Then steaming hot cocoa can be sent as well as milk, and a lunch is ten times better when there is something to drink—don't you remember how dry our school lunches used to taste?

In packing sandwiches I have found the rolls of oiled paper to be bought at any grocery store invaluable. They keep the sandwich moist and prevent the filling from running out over the rest of the lunch. Then I always keep a store of white paper napkins on hand and fold one neatly ready for use at noon when the lunch box is opened.

Sandwiches may be appetizers or they may be unattractive depending entirely on how they are made. Thin slices of bread spread to the very corners with butter which has been stirred until it is creamy form the basis of all good sandwiches, and how different they look from hunks of bread spread with chunks of cold butter—no wonder some children throw their sandwiches away instead of eating them.

Then there are so many different kinds of fillings to use—these are some of my favorites: Cold beef, sliced thin, cheese, peanut butter with lettuce, dried beef, mashed and seasoned hard-boiled egg, nuts and cheese and salad dressing, raisins and nuts moistened with grape juice, lettuce, cold chicken, thick cream with white or maple sugar, jelly, jam, marmalade or preserves.

How we all love surprises! A surprise in the lunch box brings appreciation which more than repays the effort. Some day bake brown bread in round baking powder tins or cut the ordinary white bread into triangles or stars. Perhaps it is the same bread but Johnny will assure you that it doesn't taste the same.

Then slip in a piece of sweet chocolate or some candy the children didn't know you had made or fill the vacuum bottle with ice cream if it is a real red letter day like Mary Alice's birthday!

We Californians have stored away plenty of fresh fruit so that part of the lunch solves itself especially when we remember that "An apple a day keeps the doctor away."

Little need be said regarding what kind of cookies or cake to put in the lunch box for many lunches contain

Ready

No stopping "in the middle of everything" to make some chocolate sauce! Up there on your pantry ledge is the jar of Ghirardelli's Chocolate Sauce you made yourself. And how handy you've found it—as a last-minute "topping" for puddings and pastries, for iced drinks and sundaes and what not. Say "*Gear-ar-delly*" to your grocer and send for our recipe booklet.

**Easy to make:** Mix 1 cup sugar with 1 cup Ghirardelli's Ground Chocolate. Add ½ cup boiling water, ⅛ teaspoon salt, and cook 10 minutes or until thick. When cold, add 1 teaspoon vanilla. Store in tightly covered jar. This makes 1 pint of chocolate sauce.

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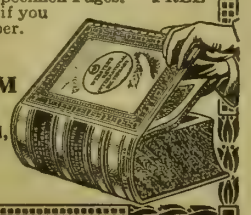

G. & C. MERRIAM CO., Springfield, Mass., U. S. A.

# What Farm Boys Want in Food

**There are several ways to keep boys satisfied to stay on the farm. One way is to give them flavory, energizing food.**

The automobile, moving pictures, the telephone, and now the radio—all make farm life more enjoyable to the boy.

Add the foods he likes each day and you've made the attraction just about complete.

But that food must be more than merely tasty. It must be energizing, too. For those who work hard must have the sapped energy replaced.

### Rare Food Value in This Pie

No other dessert equals a luscious raisin pie made with big, plump, tender Sun-Maid Seeded Raisins.

Raisins furnish 1560 calories of energizing nutriment per pound—more of this kind of nourishment than eggs, meat or fish.

**Raisin Pie**

Two cups Sun-Main Seeded Raisins, 1½ cups boiling water, ½ cup sugar, 2 tablespoonfuls corn starch, 2 tablespoonfuls lemon juice, 1 tablespoonful grated lemon rind, juice of 1 orange, 1 tablespoonful grated orange rind, 1 cup chopped walnuts.

Cook raisins in boiling water for 5 minutes, pour into it sugar and corn starch which have been mixed. Cook until thick, remove from fire and add other ingredients. Bake between two crusts. Walnuts may be omitted if desired.

*All measurements for this recipe are level.*

*Blue Package (seeded) best for pie and bread.*

That's due to fruit sugar in the raisin. This sugar is practically predigested by the sun, so it revives a tired man almost immediately after eating.

Raisins furnish food-iron also—fine food for the blood. So these delicious Seeded raisins are both good and good *for* you.

Try the recipe for raisin pie printed on this page. Make it with your own delicious pie crust. The juice of the raisins forms a lucious sauce. You've never tasted better pie, nor has that boy of yours.

He wants delicious food like this that *energizes*.

Let him try it. See what he has to say. Add this touch to the other home attractions.

## Sun-Maid *Seeded* Raisins

Get delicious Sun-Maid Seeded Raisins. Big, plump, tender, juicy raisins. Made from finest California table grapes. Full of flavor, energy and iron.

Mail coupon for valuable free book of recipes.

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Please send me copy of your free book, "Recipes with Raisins."

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# Every Housewife
## Should Know These Facts About Baking Powder

—that a big can at a low cost many times results in bakings that are unfit for food.

—that lack of proper leavening strength means failure and disappointment on bake-day.

—that one cent's worth of inferior Baking Powder many times ruins one dollar's worth of other ingredients.

—that millions depend on

# CALUMET
**The Economy BAKING POWDER**

not because of quantity but on account of quality—not because of price but by reason of results.

**That is why the sale of Calumet is 2½ times as much as that of any other baking powder.**

Buy it—try it—never fail to use it.

***A pound can of Calumet contains full 16 ounces. Some baking powders come in 12 ounce instead of 16 ounce cans. Be sure you get a pound when you want it.***

**BEST BY TEST**

**THE WORLD'S GREATEST BAKING POWDER**



# *A "Gas" Stove for the Farm Home!*

How often have you sighed as you waited and waited for your oil stove to produce enough heat to cook and have things ready at meal time? How you have wished for a stove that would give you the comfort and conveniences of a city gas range! You can, now, have *that* stove—for the Coleman Cooker is a real gas stove for the farm home—or for any home not enjoying connections with good quality natural, or artificial gas.

**BOILS IN 4 MINUTES!**

Coleman Cookers will boil a kettle of water in 4 minutes. The heat is intense—a clear blue flame. It is clean heat—without smoke to crawl and dirty your utensils.

**BAKES IN 6 MINUTES!**

Cut your biscuits—put them in the pan, then into the oven. In six minutes they will be ready for serving—light, flaky and crispy-brown. No soggy, half baked bread or biscuits. Housewives everywhere who are using Coleman Cookers are enthusiastic in praising these wonderful stoves.

***Write for Name of Dealer Near You:*** Coleman Cookers are sold through exclusive representatives in each locality. If your nearest hardware dealer hasn't Coleman Cookers on sale as yet, write us and mention his name. We will arrange so that you may have a FREE DEMONSTRATION. The Coleman Cooker is easy to use. The generator lights with ordinary matches; then you light the burners as needed—"just like a city gas stove." Coleman Cookers make their own gas from common motor gasoline—the cleanest fuel of all. Made in several styles—High Cooker and Bungalow Cooker (gas plate). Write for full particulars. Address Dept. CA2

**The Coleman Lamp Co.**
120 So. Los Angeles Street
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# Coleman Cookers




too much sweets and not enough of substantial food. Many teachers have told me that some children bring a greasy mixture of bread and butter with cold pork and doughnuts or pie for their dessert. No wonder these are listless, with dull eyes, for who of us would find such a cold lunch stimulating to the appetite? And energetic little bodies must have food for fuel just as an engine cannot run without coal.

Perhaps you would like the cake recipe which I use:

Plain Cake—Four level tablespoons butter, ½ cup sugar, pinch salt, 1 egg, ½ cup milk, 1 and ½ cups flour, 3 level teaspoons baking powder, 1 teaspoon flavoring (lemon or vanilla).

Gem cakes are most satisfactory for the lunch box because they are not so crumbly. But from this recipe, I do not always make just plain little yellow cakes. Sometimes I add chocolate; sometimes I use three egg whites in place of the egg and have white cake; the addition of spices makes spice cake; nuts for nut cake; or raisins, currants and citron for fruit cake. Even greater variety is possible for the frosting for we all have recipes for boiled icing, chocolate icing, caramel frosting, banana frosting, coconut frosting, brown sugar frosting, milk frosting and marshmallow frosting.

My favorite cooky recipe:

Sugar Cookies—One cup sugar, ½ cup butter, 1 egg, 4 tablespoons milk, 2 cups flour, pinch salt, 3 tablespoons baking powder, 1 teaspoon vanilla. Sprinkle sugar on top and place raisin in center of each cooky. Children also like rocks, peanut cookies, chocolate cookies and oatmeal cookies.

Occasionally it is nice to fill a cup or small screw top glass jar with some food and send it in the lunch box, but children usually object to carrying dishes of this sort. Some foods which may be sent in cups for a change include baked beans, canned fruits (pears, peaches, etc.), boiled rice, puddings, custard.

This is an excellent recipe for Queen's Pudding—Two cups stale bread crumbs, 1 quart scalded milk, ½ cup sugar, 4 tablespoons melted butter, ½ cup raisins, 2 eggs, pinch salt, ¼ teaspoon spice, 1¼ cups currants. Bake in moderate oven one hour; spread with jelly and cover with a meringue. Brown in oven.

Meringue—One egg white, 1 tablespoon powdered sugar, vanilla. Beat egg white until stiff, add sugar and flavoring.

An occasional cup custard will help to keep Mary Alice plump and rosy. Cup Custard—One egg, 1 cup milk, nutmeg, 2 tablespoons sugar, pinch salt. Bake in custard cups which are set in pan of hot water.

### THE SLEEPING ROOM

By A. M. H.

In view of the fact that the average person spends about one-third of his or her lifetime in sleep, we should be extremely careful as to the place in which we spend this time, and if cleanliness be next to godliness, in no place should its precepts be more rigidly observed than in the sleeping apartments of our homes. Some persons are so afraid of fresh air that they prefer to sleep in close and poorly ventilated rooms where the atmosphere is certain to be more or less pregnant with foul matter than to allow the fresh air to enter the apartment. They believe that night air is injurious, but fresh night air is never hurtful; on the contrary it is purer and more helpful to the lungs than the air of the day. To lose sight of the fact that we breathe as much while we sleep as while we are awake, and to exclude from the sleeping rooms the necessary air for the proper working and strengthening of the lungs is to fall into a most grievous error. We must never forget the fact that while the mind is dormant and the muscles of the body inactive during the period of sleep, the lungs are not so, and therefore we should always sleep in a pure atmosphere.

Everything in the sleeping room should be washable and easily kept clean and there is nothing better for keeping all things purely clean than borax water or hot borax suds as this not only cleans well but is a fine disinfectant. This suds is excellent for washing all kinds of bed coverings, pillows, curtains and floor coverings, for rinsing out slop jars and for keeping all things needed on and around the washstand in a sanitary condition.

After sickness in the family the bed,


# New Lamp Burns 94% Air
## Beats Electric or Gas

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal-oil).

The inventor, W. V. Johnson, 31 N. Fifth St., Portland, Ore., is offering to send a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help him introduce it. Write him today for full particulars. Also ask him to explain how you can get the agency, and without experience or money make $250 to $500 per month.



# Marvel Ant Exterminator
## I guarantee to rid your premises of ants

The time to permanently rid your premises of ants is in the fall and winter. My Exterminator is a slow acting poison that the worker ants eat and carry to the nests where the producing queens and males stay. A can on each ant trail does the work. Absolutely safe—the cans are always sealed, never opened. The ants crawl through small holes to reach the poison. 60c per can; 6 cans $3.00.

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just because paint or varnish has dried in the bristles.

## Clean Them With SAVABRUSH
Cleans Old Brushes

No matter how hard and dry the brush, if the bristles are sound, SAVABRUSH will restore it to usefulness.

**SAFE**
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Just soak a few hours and wash in usual way—a 35c package will clean half a dozen of average size.

Get a package from your paint or hardware dealer.

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pillows and all covers used by the patient should be washed in the borax suds to make sure all disease germs are destroyed, for germ life may exist for months in places not properly cleaned. Many a person visiting a friend has had a serious spell of sickness and large doctor bills to pay because the guest room, the bed and bedding had not been well aired and there was not sufficient covering for the bed. Spare beds require thorough airing before being used as they collect dampness and there is no surer way of catching cold than by sleeping in a damp bed.

## HOUSEHOLD QUERIES

### Macaroni Salad—Spanish Beans

Please print a recipe for making macaroni salad, also some good recipes for cooking Spanish beans.—Subscriber, Bakersfield.

Macaroni Salad.—Break one-half pound macaroni into half-inch pieces. Boil about 20 minutes or until tender. Pour into sieve, rinse with cold water and put into mixing bowl. Add three hard boiled eggs, sliced, and half cup celery cut into short pieces. Cover with any preferred salad dressing and serve very cold. Here is an appropriate salad dressing: Mix together ½ teaspoon mustard, ¼ teaspoon salt, 1½ tablespoons sugar; add enough vinegar to make one-half cup. Pour this mixture slowly on well beaten yolks of 3 eggs, stirring constantly until thick. When ready to use thin with cream or evaporated milk to desired consistency.

Spanish Beans.—Soak one quart Spanish beans over night. Pour off water and wash clean; put on fire with enough water t cover, add pinch soda. Let come to boil and cook slowly 20 minutes. Pour off water and add 1 can tomatoes and enough water to cover. Add 1 bay leaf, 1 clove garlic, 1 onion with 7 cloves stuck in it, pinch sweet herbs, 1 tablespoon salt, 1 teaspoon sugar, 1 tablespoon butter and 1 tablespoon lard. Cook slowly 2½ hours then thicken with 1 teaspoon flour rubbed to thin smooth paste. Let cook 10 minutes longer.

Another.—One quart beans (dry). Cook till half done or more; one large onion, one red pepper, 1 slice bacon, ½ cup salad oil or olive oil, pinch black pepper, salt, ½ can tomatoes, large pinch Spanish herbs (oregano and comino) tied in cloth. Add everything named except salt, which add when about done.

## FRUIT BY-PRODUCTS

**By W. V. Cruess Before Placer County Fruit Growers at Auburn**

(Continued from Last Week)

THE bottlers of soda water are becoming interested in the production of real fruit beverages to replace the synthetic products which have "fruity" names but little fruit. Undoubtedly the time is ripe for placing on the market carbonated beverages (carbonated bottled soda waters) made from real fruit juices and at a price that is within the reach of the average consumer. Three years ago the university began experiments upon the preparation of such beverages. From the beginning the results were very promising in regard to quality of the beverages. The first experiments were made on a small scale and no data were obtained on costs of manufacture.

During the past and the present year machinery has been installed in our experimental factory for the production of the beverages on a semi-commercial scale and we now have data on the probable cost of the commercial production of the fruit drinks. We find that the cost of the fruit and the sugar for a bottle of loganberry or strawberry beverage is less than one cent. Orange syrup would be less expensive than the berry syrups used for the preparation of the new drinks.

We, therefore, believe that it is possible to make carbonated fruit beverages containing no artificial color or flavor and retailing for not in excess of 10 cents per bottle.

### Preparing the Syrups

In preparing carbonated beverages from fruits, syrups are first made and a measured quantity of the syrup is added to each bottle. The bottle is then filled with carbonated water as in regular soda water bottling practice. The manufacture of the syrup is, therefore, an essential part of the process.

In preparing berry syrups the fruit is carefully sorted and washed. It is then crushed and heated to 150 degrees Fahrenheit. It is then pressed and the juice is filtered. Heating extracts the color and increases the yield of juice. The filtered juice is sweetened with cane sugar until it will test about 50 degrees Balling by hydrometer. It is then pasteurized in bottles at 175 degrees Fahrenheit for 35 to 40 minutes and stored until it is to be used. We have found that strawberries do not have sufficient color of their own and that they should be mixed with one-half to one-third their weight of blackberries or that the syrups from these fruits should be blended in the same proportion as the above. We have prepared syrups from citrus fruits, pomegranates, grapes, strawberries, loganberries, raspberries, blackberries and raisins and have also prepared number of blends such as red grape syrup with orange and lemon, or with strawberry or raspberry, etc. An excellent punch syrup for carbonated bottled fruit punch is made by blending orange syrup, blackberry or loganberry syrup and lemon syrup. In the writer's estimation, this is one of the best beverages that we have produced.

### Bottling and Pasteurizing

You, as fruit growers, would perhaps be interested in manufacturing strawberry syrup for bottler's use, but would not, I imagine, desire to enter the bottling business for the wholesale production of soda water. You would manufacture the syrup and would sell it to the bottler, who would bottle it with carbonated water as he would any of the bottling syrups that he now uses.

Most of the fruit syrups that we have prepared are what is known as single strength syrups; that is, they are ready to use and are not to be diluted with sugar syrup before use.

One and one-half fluid ounces of the syrup is used to each bottle of eight ounce size. Water carbonated with carbonic acid gas to 40-50 pounds pressure is added to fill the bottle and the bottle is sealed. Automatic machinery is used in bottling, carbonating and sealing.

Fruit beverages will not keep unless they are pasteurized by heat or are preserved with sodium benzoate. We are opposed to the use of chemical preservatives and, therefore, advise pasteurizing as a means of preservation rather than using the chemical preservative sodium benzoate.

The bottles are sealed with the ordinary soda water bottle caps. They are then placed in water to completely cover the bottles and the water is heated to 150 degrees Fahrenheit for 30 minutes. This temperature does not injure the flavor of the juice and is high enough to kill the yeast cells that would otherwise cause spoilage of the beverage by fermentation.

### Sale of the Beverages

We offered 500 bottles of the beverage for sale at the last farm school picnic at Davis last April. These were


**Practical Eastern Farm and Estate Manager**

desires to settle in California or Pacific Coast. Has built and operated successfully four of the largest farms in this country. Thoroughly experienced in the handling of large herds of either Hereford or Holstein cattle. Well versed in all phases of herd sanitation, farm efficiency, soil conditions, etc. An expert poultryman, not afraid of work. Looking only for permanent location. Might consider operating large farm on shares, or on salary and commission basis. At liberty December first. Box 209, California Cultivator, Los Angeles, Cal.

## Protect Your Precious Teeth

In stormy weather your family is protected by rubber clothes and boots to prevent colds and other diseases.

In good weather or bad, the enamel of your teeth (the protective outer covering) needs to be cared for against the constant attack of decay. Mothers and school teachers should see that the teeth are brushed at least twice a day with a safe dental cream, to remove food particles in which the harmful decay germs breed.

The U. S. Public Health Service says that a dental cream should not contain grit. Harsh grit in a dentifrice may damage the precious protective enamel. You can be sure of a *safe* and sensible, non-gritty, drugless dental cream, suitable for *all* the family, when you buy Colgate's Ribbon Dental Cream.

## COLGATE'S

**Cleans Teeth the Right Way**

*"Washes"* and Polishes—
Doesn't Scratch or Scour

Colgate's contains a specially prepared fine chalk. It has no harsh grit, no strong drugs or chemicals. The refreshing, delicious flavor makes tooth brushing a pleasure.

More dentists recommend Colgate's Ribbon Dental Cream than any other dentifrice. Since 1806 Colgate has made reliable products which every farm family likes.

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sold in less than three hours and the customers came back for more. It was a distinct hit with the visitors and the students.

We have had the beverages on sale at the university at Berkeley and at Sill's grocery, and at the East Bay Market in Berkeley and Oakland. The Faculty Club at the university is also serving the beverages. In all the sales have been satisfactory and are made up largely of repeat orders. The beverages are sold at the rate of 10 cents per bottle of 8 ounce size. The price is not objected to and is high enough to give a good profit to all concerned.

### New Drinks Healthful

These new drinks are especially healthful because of their large proportion of fruit juice and their freedom from chemical preservatives and artificial color and flavor. Fruit acids are beneficial and it is probable that the beverages are high in vitamins; particularly vitamin C, one of the very important substances found in orange and other fruit juices. Vitamin C will serve as an excellent talking point for the fruit beverages. Children may drink as much of these beverages as they desire without fear of discomfort or illness.

### Fruit Butters and Jams

Pears and plums can be made into excellent butters and spreads, jams, etc., by equipment in use in jelly and jam factories. We have found that Bartlett pears yield a very pleasing product which we have called "Pear Spread."

Pear spread is made by crushing the fruit; boiling it in water until tender; pulping and finishing in a tomato pulper until all of the seeds and most of the stone cells have been removed, followed by cooking the pulp to a buttery consistency with sugar, spices, and lemon juice. Undoubtedly pears and plums could be blended to good advantage. The tart flavor of the plum would be a desirable addition to the flat sweet taste of the pear.

During the past season Mr. Irish, of our laboratory, converted two tons of cull Sacramento River pears into pear spread, according to the following formula: Pear pulp, 1,000 pounds; sugar, 500 pounds; lemon juice, 6 gallons; cloves, 1 pound; cinnamon, 1 pound; ginger, 1 pound.

The sugar was added to the pulp and the mixture was boiled to 218 degrees Fahrenheit. Lemon juice was then added and the mixture boiled to 219 degrees Fahrenheit. Spices were then added and the mixture was boiled to 220 degrees Fahrenheit. The resulting product was sealed scalding hot in jars and cans.

The spread is of rather thick consistency and of spicy flavor. It is an excellent spread for hot bread; biscuits, hot cakes and is suitable for filling in certain kinds of cake. It is now on sale at the university and has created a favorable impression.

In my estimation, a considerable quantity of this and similar fruit spreads made from pears, plums, peaches could be made at your cannery in Lincoln, or at other suitable point, and sold to advantage. It must be realized, however, that the market for fruit jams, jellies, preserves and butters is limited, and that it would probably be impossible to find a market for all of the product, if the entire available supply of cull fruit were converted into spreads and butters.

### Fruit Candies

It is said that the American public consumes over 500,000 tons of candy annually. Most of this is made up of sugar. Most of it is very rich and a small amount suffices for the average consumer; i. e. one's candy appetite becomes saturated quickly. If it were possible to substitute in candy a large proportion of fruit for the sugar now used, it would not only provide an outlet for our fruit, but would also make candy more healthful and make it possible for us to eat more candy without discomfort.

With these purposes in mind, we have developed at the university a line of fruit candies consisting principally of fruit. The fruit pulp is concentrated to a jelly like consistency and is then moulded or cut into pieces of suitable size for dipping in chocolate. Peach centers, plum centers and plum pear centers have been very satisfactory and those who have eaten them pronounce them superior in flavor and texture to the usual cream centered chocolates.

We have also made these candies in commercial quantity and have placed them on sale. They have been well received.

Dried and dehydrated fruits lend themselves well to use in fruit candies.

We are convinced that the use of fruit in candy is destined to become a very important outlet for California fruits.

### Other Products

Denatured Alcohol—Denatured alcohol will not pay; the yield from fruit is too small; the gross return would be less than $5 per ton.

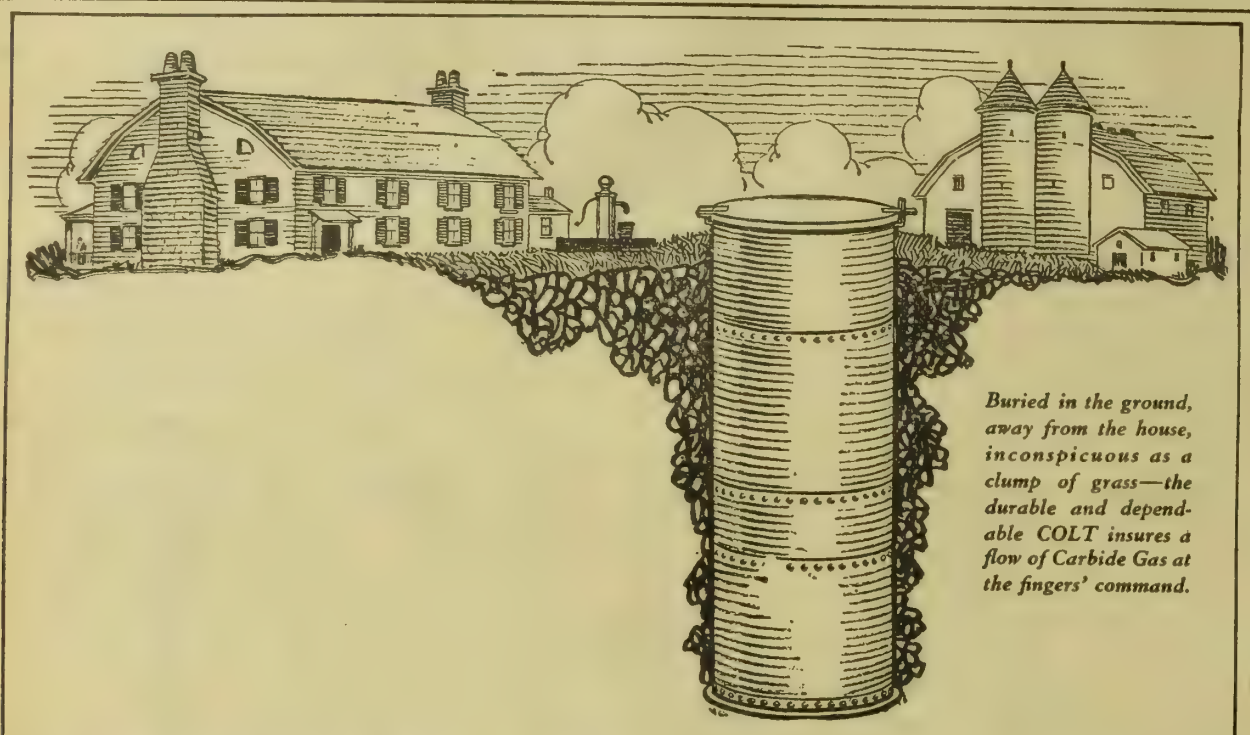
Vinegar—Vinegar is a cheap by-product for which the peels and cores and fruit unsuitable for dehydration or other purposes could be used. A ton of pear cores and peelings will yield about 125 gallons of vinegar, worth about 15 to 20 cents per gallon.

Pit Products—Fruit pits are now used in limited quantity at San Jose for the manufacture of carbon. Apricot and plum pits are suitable for the manufacture of bitter almond oil used as a flavoring and for sweet oil for table and cooking use, or for use in face creams, etc. Macaroon paste is a by-product from the oil manufacture.

Fruit Wafer Filling—We have found that fruit pulp can be converted by suitable means into a jelly-like product and canned for the use of housewives in the garnishing of salads, for the preparation of candies and for sandwich fillings.

Study Your Problem—Other products will suggest themselves to anyone who may give earnest thought to the problem. It is my belief that it is high time that the growers of this district should study the utilization of their cull fruit and make immediate plans for development of a by-products industry.

Try Dehydration First—It is my advice, however, that you go slowly and do not attempt to cover too many products at first. I would recommend first for your study and attention the dehydration of your surplus fruits. This is probably the most profitable field for your consideration, insofar as we are able to judge with our present insufficient data.

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# Plant a COLT "Gas Well" on your farm NOW!

The months of short days and long nights are on their way.

Six months of evenings to be passed indoors await you!

Will they be lighted by the dim, eye-straining flame of a lamp—or the soft, friendly brilliance of *real* light—CARBIDE GAS LIGHT?

Act *NOW* for *real* light! Get a COLT Lighting and Cooking Plant—generate this wonderful Carbide Gas.

Hundreds of farmers are preparing this month for bright, cheery evenings by installing COLTS. This is the great planting season for COLTS. More are being installed this Autumn than in any other season. Don't risk disappointment—order your COLT *now,* before Winter closes in.

## The Health Light for Reading

Carbide Gas Light is *pure white* in color—not *yellow*. Looks exactly like sunlight—restful and soothing to the eyes. Read or sew under it for hours—no eye weariness. The most beautiful as well as the most healthful of artificial lights.

Comes to you at the twist of fingers. Turn a little igniter. . . . . on goes the light! You use no matches.

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Easy to install—within reach of all. No continual replacement of parts, no adjusting or tinkering necessary, no service required—simplicity itself. The most economical system all the way thru. Comes from Factory to Farm. Sold direct by COLT solicitors—no distributors or dealers to take a profit.

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31ST SUCCESSFUL YEAR

# Livestock at Riverside

By Jack Klein

LIVESTOCK at the Southern California Fair was slightly shorter in numbers than last year, but the quality was generally very high. Stock which at the state fair had not been in the money showed the results of care and training since that time and often upset the dope.

As is usual, this year's show was generally as strong or stronger than the state fair in dairy cattle and some breeds of hogs.

On account of the approaching show at San Francisco no beef cattle of importance were present, a small herd of Shorthorns shown by the Palomar Ranch being the only entry. These were all range animals and did not bring out the superior qualities of the beef animals as the regularly fitted show herds do.

The rigid enforcement of the rule against showing reacting or non-tested animals may have had some effect on the numbers of all breeds shown, but everyone who was there was anxious to produce his certificate of health and was high in his praise of the show for enforcing his rule. Many of these men have applied for federal accredited herds and they cannot afford to take chances on having their best animals infected by contact with reactors.

The Holsteins were most numerous and many fine animals faced John B. Irvin of Minneapolis who tied the ribbons. Mr. Irvin was loud in his praise of the type and quality of the showing in most of the classes.

The bulls were placed as at the previous fairs, and the Berylwood senior yearling, Prince Aaggie of Berylwood, was made grand champion only after the most grueling test. Hartsook's Major Korndyke Pontiac Fobes was made senior champion over his two year old full brother, King Korndyke Pontiac Mona, shown by Frampton Brothers.

Thirteen of the finest aged cows ever shown in the south competed in that class. Practically all had high 7 day records and many also had big yearly records. Bessie Snowball De Kol showing dry was choice for first place with Iris De Kol Canary, one of the high cows of the Maxwell sale second.

Parthenia Paul Segis 2d, a grand champion last year, was third, and Ava Model Hengerveld 2d, the grand champion of every other big show this year, was fourth. This cow is carrying considerable age and the end of the show season finds her a little shy of the wonderful quality with which she started. All of the first cows have excellent records and all belong to Fred Hartsook.

In the two year olds the Sierra Vista Stock Farm produced a wonderful heifer who was head and shoulders above the rest of the class.

An outstanding class in the show was the junior yearlings which was finally won by Hartsook's heifer Carolina Wayne Fayne. This heifer was a sensation last year but has not quite suited the judges this season although she has always been in the money.

A new member of the show fraternity, W. R. Elliott, brought out some dandy heifers and won first and second in the senior yearlings with daughters of K. P. O. P. Jr. who is siring fine calves.

The Jersey show was notable for the consistency with which F. W. Atkeson of the University of Idaho followed and demanded breed type. The Waterloo Jersey Farm bull who was grand champion of the state fair was again the top male.

The aged cows brought out some wonderful animals but the interest was all between Salome of Mossdale owned by Jim Thorp and Imp. Golden Lustre owned by F. R. Bain. Salome is practically undefeated after a long life of showing but age is causing her to be a little rough and the wonderful four year old was put over her after much deliberation. The judge was kind enough to explain fully why he did this and every one seemed to see his point. Both are high record cows.

Thorp and Bain split the ribbons pretty evenly.

The Guernsey show numbered over fifty and all were good ones. The Italian Vineyard Company's great two year old defeated the heifer owned by Humphrey which was champion of the state fair. The Humphrey's heifer which was a wonder at the previous meeting has lost some of her bloom while the Vineyard Company entry has been getting better all the time. She was made grand champion over the aged cow and a fine three year old. Nobleman of Maple Hill owned by Humphrey was again grand champion and two entries sired by him were 1-2 in the get of sire.

A calf sired by Masterpiece of Edgemoor was junior champion bull and was favored by the crowd for grand champion.

Ayrshire competition was keen between well balanced herds shown by Alex MacMinn of Corona and the H G Ranch of Santa Barbara County. The MacMinn herd has been somewhat depleted by sales of show animals and the H G herd won most of the blues. Two entries of get of sire by one bull brought first and second to MacMinn.

The hog show was of high quality in all breeds though the numbers were lower than before.

The Berkshire show numbered nearly 150 head and the fight for honors was keen. Escalon Big Joe, owned by Humphrey could not be stopped for the championship of the boars and Violets Festline the unbeaten aged sow of the Italian Vineyard was in her usual form. Guasti's Rival, the great junior yearling, was again reserve grand champion.

Riverside is very close to the center of Berkshire activities in this state and the interest in the showing was keen. Mr. Wyman Lovejoy who is nationally famous as a hog judge made the placings and was much gratified over the show in all classes and breeds.

In the Duroc show the Charnock Ranch of Hemet and J. E. Thorp divided most of the firsts. Charnock had champion boar and Thorp champion sow. Sierra Vista Ranch of Perris won many ribbons with a small herd. In the futurity J. E. Thorp won the blue on both boar and sow pigs and on litter.

**Guernseys**

Bull, 3 years—1, Nobleman of Maple Hill Farm, A. B. Humphrey, Escalon; 2, Itchen's Daisy's Butter Boy of Revada, W. H. Rapson, Corona; 3, Reliance of Edgemoor, Russell S. Cox, San Marcos; 4, Cherubs Sunny Jim of Kirta, Italian Vineyard Co., Guasti.

Bull, 2 years—1, Carl E. King of H. H. F., Italian Vineyard; 2, Brilliant May Secret of Edgemoor, Cox; 3, Caesar of Frankland's Royal Lad, E. O. Tucker, Saticoy; 4, Lone Tree Actor, Rapson.

Bull, senior yearling—1, Escalon Princess White Face; 2, Escalon Favorite, Humphrey.

Bull, senior calf—1, Escalon Archer; 2, Escalon Golden Noble; 3, Escalon Archer, Humphrey; 4, Ruben L. King of H. H. F., Italian Vineyard.

Junior bull calf—1, Unnamed, A. O. Dinsmoor, El Monte; 2, Escalon Senator, Humphrey; 3, Rosona's Royal Sycamore Ranch, Cox; 4, Guasti Dorothias Jim, Italian Vineyard.

Cow, 3 years—1, Revada Princess Pat; 2, Rosie E. King of H. H. F.; 3, Imp. Fan of Richleigh, Italian Vineyard, 4, Phillys of Mayhews, Humphrey.

Two years—1, Caroline E. Langdon of H. H. F., Italian Vineyard; 2, Mayhew's Bonnie Lassie, Humphrey; 3, Lilla of Navarino, Italian Vineyard Co.; 4, Brittania E. King of H. H. F., Italian Vineyard.

Cow, senior yearling heifer—1, Escalon Nancy; 2, Escalon Pearl, Humphrey; 3, Carmeleta of Climont, Italian Vineyard; 4, Rosomea of Twin Oaks, Cox.

Cow, junior yearling heifer—1, Escalon Joan, Humphrey; 2, Cherubs Daisy of Castleview, Italian Vineyard; 3, Laura of Claremont, Rapson; 4, Escalon Naomi, Humphrey.

Cow, senior heifer calf—1, Guasti's Violet, Italian Vineyard; 2, Glen Bell of Sycamor Nancy, Cox; 3, Escalon Pollyanna; 4, Escalon Lottie, Humphrey.

Cow, junior heifer calf—1, Escalon Beauty; 2, Escalon Valentine, Humphrey; 3, Pearl of Sycamore Ranch; 4, Nell of Sycamore Ranch, Cox.

Aged herd—1, Italian Vineyard; 2, Humphrey.

Breeder's young herd—1, Humphrey.

Calf herd—1, Humphrey; 2, Cox.

Dairy herd—1, Italian Vineyard; 2, Humphrey.

Get of sire—1, get of Nobleman of Maple Hill; 2, get of Nobleman of Maple Hill, Humphrey; 3, get of Effie's King of Hollow Hill Farm, Italian Vineyard.


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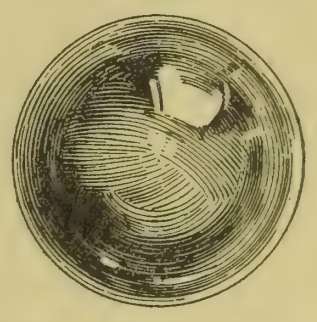

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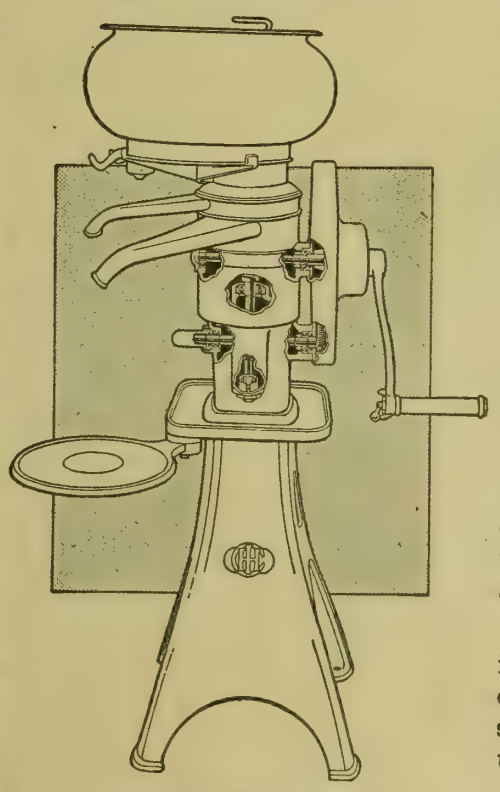

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**For Sale**—Registered Percheron Stallion, "Avelene 11" Kentucky bred saddle stallion "Jack Rogers" and three saddle horses (two geldings and one mare). Also three registered Jersey bulls by "Merry King Pogis" and five young Hereford bulls (Repeater strain) all ready for use. These can be seen at the ranch which is seventeen miles north of Santa Barbara on the main highway or particulars can be had through the mail on application to the Secretary. DOS PUEBLOS RANCHO, Naples, Santa Barbara County, California.

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**Los Angeles County Farm, Hondo, California**
**Three miles from Downey on Downey-Long Beach Boulevard**


(Continued from Page 433)

Produce of dam—1, produce of Grape Wild Jewel; 2, produce of Imp. Daisy II, Humphrey; 3, produce of Revada of Princess Dorthea, Italian Vineyard.

Senior champion bull—1, Nobleman of Maple Hill Farm, Humphrey.

Junior champion bull—Unnamed, H. O. Dinsmoor.

Senior champion cow—1, Caroline E. Langdon of H. H., Italian Vineyard.

Junior champion cow—Escalon Joan, Humphrey.

Grand champion bull—Nobleman of Maple Hill, Humphrey.

Grand champion cow—1, Caroline E. Langdon of H. H., Italian Vineyard.

Reserve grand champion bull—Carl E. King of H. H. Farm, Italian Vineyard.

Reserve grand champion cow—Revada Princess Pat, Italian Vineyard.

## LIGHT AND POWER

(Continued from Page 419)

top the flow of water. He pressed the button which started the motor which closed the gate at the top. The waters, however, continued their downward course leaving a complete vacuum at the upper end of the pentock where the steel construction is lighter than at the bottom, in fact it was not equal to resist the air pressure and instantly collapsed.

The Southern California Edison Company not only has this development in charge but has other plants in other systems located on the Kern River, Kaweah River on Mill Creek, Santa Ana River, Lytle Creek, at Azusa, at Fontana—all told a capacity of 249,600 horsepower. Steam plants are located at Long Beach, Redondo, Visalia, Santa Barbara. These steam plants have a capacity of 127,100 horsepower. As developments are finished on the Big Creek system the total capacity will be increased to far above a million horsepower.

Besides the Southern California Edison Company, other corporations in California developing and distributing hydro-electric energy are Pacific Gas and Electric Company, one of whose plants was shown in last week's Cultivator and fully described by Mr. Boyd, the Great Western Light and Power Company, the San Joaquin Light and Power Company, the Southern Sierras Power Company, the California and Oregon Company. These companies are observing a cooperative spirit in the matter of interchange of current. That is, in case of shortage or accident calling for a new source of supply the lines have been so connected that one company delivers to another sufficient to meet immediate requirements. Besides, some municipalities like Los Angeles, Alameda, Palo Alto and Redding have made developments, and still others, as in the case of San Francisco, have them under way. This all has resulted in Californians enjoying greater hydro-electric development than any section in the world. Distribution lines have been carried to most remote sections of the state, especially have rural homes been given the advantage of light and power.

California is wonderfully blessed in its opportunities for hydro-electric development, and while the value of this source of power is appreciated to an extent by us all a trip into the heart of the Sierra and seeing electricity in the making is necessary to give one a correct idea of the wealth which has been going to waste since time began. Such a view of the work now being done to conserve and make available this great force also gives adequate idea of its permanence as has been expressed by Vice-President and General Manager Ballard of the Edison Company: "Here is a force ready for the service of mankind as long as nature functions."

Already this state produces 21 per cent of the hydro-electric power generated in the United States. It is said that this state and Oregon and Utah are the only states conducting their manufacturing and transportation without a single ounce of coal. In 1921 California produced 3,227,261,000 kwh. of hydro-electric power, thus passing New York which prior to that had been the first state.

A number of Californians recently made a tour of inspection of the Big Creek power houses. The party was in direct charge of Manager Ballard of the Southern California Edison Company. Mr. Ballard was assisted by Fred B. Lewis, assistant manager of operation; Clifton Peters, secretary of the company; All Around General Helper and Assistant Charles Pierson, all from the home office. At Big Creek, or Cascada, were Dave Redinger, resident engineer; E. R. Davis, manager of construction; R. B. Lawton, local superintendent in charge of operation, and Mark Gunderson.

## ANNUAL MEETING OF NATIONAL GRANGE

The annual meeting of the National Grange for 1922 to be held at Wichita, Kansas, opening on November 14, will be devoted largely to the consideration of great national questions affecting agriculture and to a few questions of policy, affecting the National Grange ittself.

Prominent on this list will be necessity for reducing taxation, ship subsidy, does agriculture need a new credit system, the problem of surplus production, radicalism and how to curb it, better and cheaper transportation, and stricter prohibition enforcement.

Among the Grange policies to be taken up will be the proposed addition of a mutual life insurance to the Grange organization, necessity for cheaper automobile insurance, Grange extension into new territory and the increase of its educational and publication activities.

At the last census there were 4,291,000 acres of irrigated land in California, 22 per cent of the irrigated land in the United States. Invested in irrigation enterprises in California is the sum of $194,000,000, a most substantial fraction of the nation's total, $697,000,000.


# Mammoth Dispersal

## 300 Holstein Cows and Heifers

## October 26-27

## Minor & Thornton Herd, Fresno, California

About 90 of the cows in this sale are registered Holsteins, the balance will be sold as grades, although in fact about 90% of them are purebreds.

**100 Milk Cows**
**100 Bred Heifers**
**100 Open Heifers**

Among the 100 cows are many fresh cows and heavy springers, and the 100 bred heifers also include many heavy springers.

ALL OF THE MILK COWS SELL TUBERCULIN TESTED

This is a wonderful opportunity to buy real Holsteins. The Minor & Thornton farm has been sold, and the cattle must be off the place by November 1.

PLACE OF SALE: The Minor & Thornton Farm is 14 miles southwest of Fresno on Muscat Avenue, 2 miles west of Coalinga Road.

TERMS OF SALE: Responsible parties may arrange terms of one-third cash balance in three, six and nine months, if arrangements are made before sale with California Breeders' Sales and Pedigree Co.

Remember the Date and Be There to Get Your Share of the Bargains There Will Surely Be in This Big Sale.

Management

**California Breeders Sales & Pedigree Company**

C. L. Hughes, Sales Manager, Sacramento, Calif.

Auctioneer: COL. BEN A. RHOADES, Los Angeles, Calif.

# Absolute Dispersal

## Arthur & Maxfield Holstein Co. Herd

## 70 Registered Holsteins 70

## at Public Auction, Wednesday, November 15, 1922

Kings County Fair Grounds,
Hanford, California

To terminate the existing partnership between J. W. Arthur and Wm. G. Maxfield their splendid herd of registered Holsteins will be sold to the highest bidder at public auction.

This is an unusually attractive herd of cattle, among some of their accomplishments the following are noted:

HIGHEST PRODUCING purebred herd in Kings County Cow Testing Association, with an average of 439.23 lbs. butterfat from 13,595 lbs. milk on 21 head, in a ten months' test.

HIGHEST 7 DAY RECORD in Kings County, over 33 lbs. butter on official test.

HIGHEST 365 DAY SEMI-OFFICIAL RECORD in Kings County, with over 1,100 lbs. butter.

HIGHEST PRODUCING COW in Kings County Association, with 702.6 lbs. butterfat from 20,375 lbs. milk in ten months.

THIS ENTIRE HERD HAS PASSED TWO CONSECUTIVE TUBERCULIN TESTS WITHOUT A SINGLE REACTOR.

If you want high producing cows, or heifers and bulls from such cows, make your plans now to attend this sale. It is a choice herd of cattle in excellent physical condition.

TERMS OF SALE: One-third cash, balance in 3, 6 and 9 months to responsible parties who arrange for terms prior to sale with California Breeders Sales and Pedigree Co.

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**California Breeders Sales and Pedigree Company**

C. L. Hughes, Sales Manager, Sacramento, Calif.

Auctioneers: RHOADES & RHOADES, Los Angeles, Calif.

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will clean it off without laying up the horse. No blister, no hair gone. Concentrated—only a few drops required at an application. $2.50 per bottle delivered. Describe your case for special instructions, and Book 8 R free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; allays Pain and Inflammation. Price $1.25 a bottle at druggists or delivered. Liberal trial bottle postpaid for 10c.

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Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

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BERKSHIRE HOGS
Stock of Both Breeds For Sale
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### SHEEP ARE COMING BACK

Lamb shortage has arrived and with it new interest in sheep. Last September a bunch of 4,000 sheep sold with difficulty after $1 freight expense and $4 feed bill, for the munificent sum of $2 per ewe, $2.50 per lamb and $3.25 per yearling, and they were good ones. Their wool brought less than shearing cost.

This bunch was shipped to Southern California from Phoenix one year ago during the drouth. A year before they sold the ewes were on a $15 basis, lambs on an $8 basis and yearlings on a $10 basis with wool at 60 cents.

Today those identical ewes would bring from $7.50 to $11 f. o. b. range, the lambs $7, the yearlings $8 and still better in the east. Lamb receipts have been below par.

Sheep have been decreasnig though sheep slaughter has been increasing even during the past year of 1921. Wool is on a 40 cent price base.

The sheep men have hopes and while not yet out of the woods, in districts have had good lambing and are sure of plentiful grass. Day has apparently dawned for them at last. Their hard period lasted about a third of the time cattle have been down, for the drop hit them a year later and they have recovered first. Many are broke, more from expense and drouth loss than low price, but those who are still in the business have a chance for a rapid recovery.

While the sheep business does not yet offer finance the same attraction as foreign investment, with the U. S. dollar and exchange making possible the purchase of a $20,000 Berlin building for $2,000, it may yet prove attractive. Europe offers tremendous values for a small sum as we know it, but after all there is nothing like investment in home staples for safety.

### HOW BUTTER IS RATED

If you are a producer or manufacturer of butter were you disappointed in the price you received for that last shipment? Quality is the chief factor in determining butter prices, and according to United States department of Agriculture Circular 236, Defects in Quality of Butter just issued, even small defects in quality may result in the loss of a sale or the cut in price. The circular may be had by writing Department of Agriculture, Washington, D. C.

Several million dollars annually are lost to producers and manufacturers because of imperfect conditions and methods in the production, manufacture and marketing of dairy products, the circular states. During 1920 the marginal difference in the prices of high and low quality butter amounted at times to as much as 15 cents between 87 score and 92 score. Lack of proper attention or care in the creamery in grading the cream, or in churning, working, salting or packing the butter are stated to be mainly responsible for this condition.

The circular enumerates and describes the various factors such as flavor, body, color, salt and package that influence price. These factors are given specific ratings by local and federal butter inspectors, and receivers, in determining the final score of the product, and the ratings are governed by the absence or presence of certain defects described in the circular.

It is stated that there has never before been a time in the history of American butter making when it paid so well to produce high quality butter as during recent years. But to secure an active demand and the largest net return not only high quality and uniformity of the product are necessary, but a knowledge of market requirements and good marketing methods are required.

---

More than half of the milk of the 27 counties of the Chicago zone will be marketed cooperatively, as the result of the success of the marketing plan of the reorganized Chicago Milk Producers Cooperative Marketing Company. The new contract had 6,347 signers on September 9.

---

Colts, calves, lambs and pigs, all should have special feed set apart for them as soon as they can be coaxed to eat. Oats are very good.


MONEY MAKING MACHINERY

Compressors—Transmission—Pipe—Fittings—Supplies

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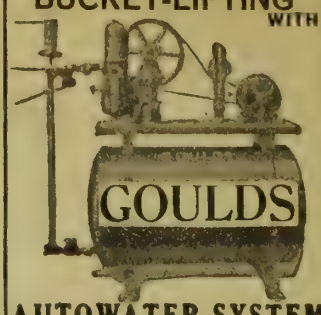


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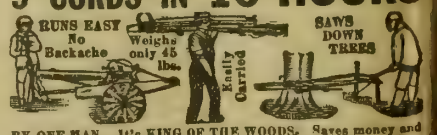


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# Poultry Queries

(Conducted by Jean A. Koethen)

### Corning System

What is the average floor space per hen required by the Corning system for flocks of 100 or more? When concrete floors are used is a dust box provided?—Subscriber, Arcadia.

There seems to be no fixed rule for floor space per hen, but it ought to be at least 3 square feet per hen when hens are kept confined to the house. A house 16x20 is a good size for 100 hens. When concrete floors are used, they should be covered with sand, in which hens can dust themselves fairly well, but it is better to provide a dust box also. The regulation way of treating concrete floors is to cover first with sand, then with straw or other litter, which makes a scratching shed of the house. I am told that concrete floors are not proving satisfactory as was at first expected. They are clean and rat proof, but it takes a great deal of sand and straw to cover them so they will not be cold and hard to the feet of the hens.

### Enlarged Crops

My Bourbon Red Turkeys are dying from enlarged crops. I have tried draining out the crop, but it only prolongs their illness. Can you give me any cure or preventive?—Subscriber, Los Molinos.

Enlarged or pendulous crop is believed to be due to errors in feeding. Either the little turkey has been allowed at some time to stuff its crop till the tissues were stretched too far to return to their normal condition, or feeding has been irregular or the feed too bulky. You may be able to help this condition with a snug bandage which will support and yet allow the turkey to eat all it needs, but the only certain way to cure it is to cut out a piece of the tissue. Clean off the feathers and wash the skin, then with a sharp knife cut out of the crop a diamond or oval shaped piece of tissue about 2 inches long and 1 inch wide. Then sew up with 3 or 4 stitches of white silk or No. 100 white cotton, sewing the inner and outer membranes separately. This is a rather delicate operation for the amateur and should not be undertaken except as a last resort.

### Liver Trouble

My White Leghorns get droopy, their combs become yellow, their legs and necks weak several days before they die. What can I do for them?—Subscriber, Riverside

These yellow combs nearly always indicate liver trouble due to an unbalanced or too heavy ration. Keep green feed before them constantly, and make the ration lighter by adding bran. If many of the flock are affected it would be well to drop the laying mash for a time and give bran alone. Once or twice a week, for a couple of weeks, feed a moist mash into which Epsom salts, ½ teaspoon for each bird, has been mixed.

### Tape Worms

Our Plymouth Rock chicks, eight weeks old, are drooping and dying. Examination shows the intestines full of flat tape worms. They have had chick scratch, growing mash, sour milk and lots of worms in a patch of moist soil, but not sufficient green feed. Can lack of greens be the cause of the tape worms?—Subscriber, Fallbrook.

There is a certain kind of tape worm which is produced in chickens by eating earth worms. Doubtless those that infest your chicks are of this kind. Lack of green alone would not produce them, but lack of green, in connection with the great number of earthworms eaten would be a contributing cause. The first thing you have to do is to keep the earth worms away from the chicks. The easiest treatment is pumpkin seed, chopped or ground to the size of cracked corn or smaller if the chicks do not eat them readily. Let the chicks go without supper and breakfast, and about 9 o'clock set the pumpkin seed before them. Let them eat all the forenoon, and at noon give a small quantity of moist mash in which ¼ teaspoon of Epsom salts for each bird has been mixed. If this does not have the desired effect, repeat after a few days. If the pumpkin seed does not do the work you may have to try male fern in 30 grain doses or areca nut powder in 30 grain doses made into pills with butter, but the pumpkin seed treatment is much more simple and likely to be just as effective. You will probably have to move the birds to fresh ground to prevent reinfection.

### Breeding Males

How old should cocks and cockerels be to secure best results? Is it best to put old roosters with pullets and young roosters with old hens? Will fertility be good while hens are molting?—Subscriber, Claremont.

The general practice, except when line breeding demands other matings is to mate as you say. A cockerel nine months old is generally ready for breeding, and sometimes a younger bird may be used with good results. I cannot say just how many years a male may be used. It depends on the bird. Very few poultrymen use a male more than two or at the most three seasons, but some might be used considerably longer. The only way to be sure about fertility is to test the eggs yourself. As a rule fertility is not very good while the hens are molting.

### Extensive Turkey Raising

Please send me any information you can on extensive turkey raising.—Subscriber, Los Angeles.

This question has been taken up in several articles. The main difference between extensive and intensive turkey raising is, that turkeys on range require less feed than those which are confined, the amount of green and grains required depending on the character of range. Birds that are on alfalfa all day need only a meal of wheat and barley at night until near fattening time, when corn and a little mash of some kind should be added. This does not apply to the poults which are hand fed three or four times a day for two or three weeks. Turkeys that are on range only part of the day should have bran before them part of the time. Oyster shell and milk are a valuable part of the ration of all turkeys.

### NATIONAL EGG LAYING CONTEST

Mountain Grove, Missouri: The 300 hens in the eleventh national egg laying contest laid 3,711 eggs during September, an average of 12.37 eggs per hen. Pen White Wyandottes, owned by Warwick Rogers, Market Drayton, Salop, England, won cup for September by laying 104 eggs.

Number of eggs laid by breeds for month and to date are: Plymouth Rocks, 762, 9820; Wyandottes, 702, 9692; Leghorns, 512, 9431; miscellaneous varieties, 604, 9285; Anconas, 644, 9273; Rhode Island Reds, 487, 8072.

Ten leading pens for September: White Wyandottes, England, 104; S. C. White Leghorns, Washington, 101; Barred Rocks, New Jersey, 99; Barred Rocks, Michigan, 96; White Wyandottes, Missouri, 93; White Wyandottes, England, 92; Barred Rocks, Indiana, 91; S. C. Anconas, Michigan, 89; R. C. Rhode Island Whites, Illinois, 89; R. C. Rhode Island Whites, Missouri, 86.

Ten leading pens to date: S. C. White Leghorns, Washington, 1229; White Wyandottes, England, 1196; White Wyandottes, England, 1182; R. C. Rhode Island Whites, Missouri, 1133; Barred Rocks, Missouri, 1131; Barred Rocks, New Jersey, 1105; S. C. Anconas, Missouri, 1078; R. C. Rhode Island Whites, Missouri, 1076; S. C. White Leghorns, England, 1073; Barred Rocks, Indiana, 1070.

### CALIFORNIA EGGS IN NEW YORK

"Approximately one-half of the eggs sold to the most select markets of New York are shipped from the Pacific coast," said Earl W. Benjamin, manager of the New York branch of the Pacific Egg Producers, in speaking before a large audience of Stanislaus County poultrymen last week.

"About 15 per cent of the eggs placed on the New York markets are

(Continued on Page 439)


## We Guarantee 100% Fertility in All Hatching Eggs

By Replacement of Infertile Eggs

We are now booking orders for hatching eggs and baby chicks from Emerson & Martin exhibition W. Leghorns, also the heaviest egg-laying strains in America and England. It will pay you to arrange for yours now. Make a 10% payment and know that you will have them when you want them.

Our heavy commercial egg-laying hens are mated up to males from Emerson, Martin, Tancred, Hanson of Oregon, Hollywood Farms of Washington, Barron, Fergiss and Hillview Farms of Illinois. Why don't you arrange for some of each. Let us toe punch the chicks and see which produces the type of hen you like best?

HATCHING EGGS—From Nov. 1st to April 1st, 15 for $2.00. In 100 lots, 12c each. In 500 lots, 11c each. In 1000 lots, 10c each. BABY CHICKS—January, February, March. In lots of 100, 25c each. In lots of 500, 24c each. In lots of 1000 or over, 23c each.

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**Get Ready to Trap Now**

Furs are higher. **Coyotes, Muskrats, Skunks and Wildcats,** and all other Western Furs, will bring you **More Money** this year. Get your supplies from **Stephens** and be ready to trap early.

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**Stephens** sells Traps, Animal Baits, and all Trappers' Supplies at **Rock Bottom Prices.** Western Trappers save Many Dollars and **3 to 14 Days Time** by buying from **Stephens** of Denver.

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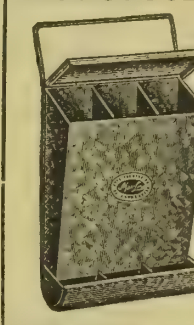

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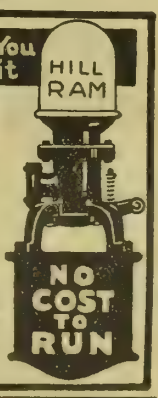


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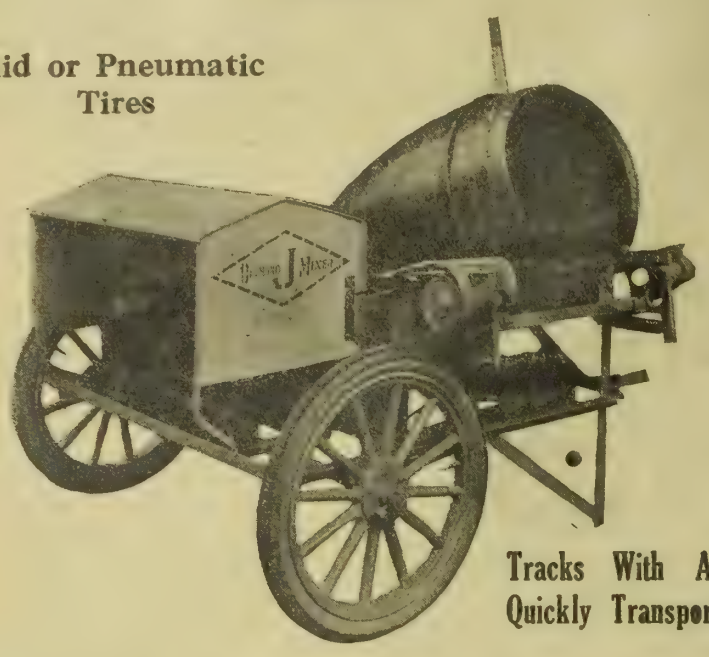

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## 60 Registered Holsteins

## Friday, November 10, 1922

## Meadhart Breeding Farm

## Fred Hartsook, Lankershim, Cal.

Unbiased authorities concede that Mr. Hartsook has assembled what is possibly the greatest herd of registered Holstein females in America ever secured by a single breeder as foundation material.

Every animal that has gone into this herd has gone in strictly upon the basis of individual merit, and price has been a secondary consideration in securing such animals.

That being true there has never arisen a need to cull the herd because of ill advised purchases, and the present offering is the first of a regular series of draft sales through which the surplus breeding animals will be offered to the public.

It may be noted here that the herd now contains over 300 head of registered females, a larger number than the plans of Mr. Hartsook contemplate, and from now on the size of the herd will be regulated by regular public sale offerings of high class cattle.

THE PRESENT OFFERING WILL INCLUDE COWS WITH LARGE 7 DAY AND YEARLY RECORDS, DAUGHTERS OF SUCH COWS, AND EVERY BRED FEMALE IN THE SALE IS BRED TO SIR AAGGIE DE KOL MEAD, THE $30,000 SON OF MISS VALLEY MEAD DE KOL WALKER.

Think of the wonderful opportunity presented in this offering to secure such females bred to such a bull!

Detailed announcements will appear later. Write for catalog now.

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# Los Angeles Markets

Los Angeles, October 18, 1922.

### POULTRY

Price to producers L. A. produce exchange: Hens, 24; colored, 30; broilers, 36; roasters, 28; old roosters, 14; fryers, 30; ducks, old, 15; ducklings Pekin, 3½ up, 20; others, 20; geese, 20; turkeys, live, young toms, 35; dr. 40; old, live, 33; dr., 38; hens, live, 34; dr., 39; small hen and tom, 15; squabs, 45@50; capons, 43.

Belgian hares, 11@16; old, 8.

### LIVESTOCK

(Quotations furnished by Federal-State Livestock Market News Service, 1014 Pacific Finance Building, based on prices off cars at Los Angeles.)

Cattle: Fat cattle mostly coming from outside state. Good hay fed steers averaging 1130 pounds, brought 7.00 f. o. b. Kern County, with medium 1030 pound grass steers 6.50. Carload 1075 pound cows, 5.25. Best fat steers, 7.75@8.00, delivered off cars Los Angeles, common Arizonas as low as 6.00. Good feeders purchased for Imperial Valley, 5.75 f. o .b. shipping point Utah and 5.50 El Paso. Bulk Arizona yearlings, two and three year olds selling around 5.00, some 5.25. 58 two year olds sold in San Luis Obispo County at 5.50 thin cows 4.50. Indications are that between 30,000 and 35,000 will be fed in Imperial Valley. Fat heavy cows, 5.00 to 5.25 country points, 5.75 and 6.00, off cars here. Medium and light weight cows sold at Los Angeles around 5.00 to 5.50 and common kinds as low as 4.00.

Calves: Majority from Texas and Arizona, generally above 250 pounds, 7.00 to 7.50, common weighing over 300 pounds low as 5.00 to 5.50. Good and choice 150 to 200 pounds, 7.50 to 7.75.

Hogs: Packers short on hogs. Grain fed California 160 to 200 pounds 10.75@11.00 off cars here. Heavy hogs usual discounts. Heavy cows low as 6.00.

Sheep and Lambs: Market for fat lambs firm. Good and choice Utah, 12.75@13.00, delivered here with some bands in Cal. less desirable 10.50@11.00. Feeder lambs sold about in line with fat stock. Fat light ewes 6.00@6.50 here, heavies, 4.00@4.50. Good inquiry for breeding ewes.—Nelson R. Crow, Livestock Market Reporter.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, October 17 by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement moderate, market steady. New Stock: Locals, best, sacked 1.35@1.65; mostly, 1.50@1.65; poorer, low as 1.00 cwt. Northerns: Rivers, 2@2.25; poorer low as 1.75 cwt. Idahos: Russets, 2.25@2.35. Sweet Potatoes: Locals: Nancy Halls, 2@3 lb. Northerns; Nancy Halls, 3 lb.

Onions: Demand and movement slow, market steady. Stocktons: Yellow and White, 2.00 per cwt. Locals: Whites, 60@75; Spanish, 75@90 lug. Garlic: Mex. and Northern, best, 6; poorer, 5.

### FRESH FRUIT

These are actual prices obtained October 10 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Bellefleurs, fancy, 3½ and 4 tier, 1.15@1.35; loose, 2½@3 lb. Locals: loose, Jonathans, 3@4. Delicious, 5@6 lb. Utahs: Jonathans, loose, 4@4½ lb. Washingtons: Jonathans packed, extra fancy, 2.50; fancy, 2.25 per box.

Grapes: Demand slow, market steady. Northerns and Locals: Muscats, 4@5; Malagas, 4@4½; Black Prince, 6; Tokays and Cornichons, 5@6; Black Morocco, Missions and Zinfandels, 6@7 lb.

Peaches: Market steady. Locals and Northerns: Freestone and Clings, all varieties, best 4; poorer, 2@3 lb.

Pears: Demand good, market firm. Northerns and Locals: Bartletts, mostly 6@7; ripe, 4@5.

Persimmons: Lb., 8.

Pomegranates: Lb., 6@7.

Watermelons: Demand moderate, market dull. Locals: Klondikes, medium size, 75@1.25; mostly, 1.00; No. Black Diamond, large, 1.50; casabas, mostly 1.50 mostly 1.50; casabas, mostly 1.50@1.75 ewt.

### CITRUS FRUIT

(Same as last week.)

### HONEY

(Same as last week.)

### WALNUTS

(Same as last week.)

### BEANS

California Lima Bean Growers Association, October 7:

Market continued upward trend and Friday, October 13, buyers were paying growers in the neighborhood of $7.00 for rgular Limas and as high as $7.65 for Baby Limas. This means shipping prices f. o. b. common shipping points, $7.25@7.45 on Limas, around $8.00 on Baby Limas, although whhen this is written the selling market on Baby Limas had not yet become established on this basis. Another week of favorable weather will see practically all Limas and Baby Limas threshed and delivered to warehouses, when it will then be possible to check total production. Shipments going forward rapidly, heavy shipments must continue to care for business booked and coming in daily.

### HAY

(Same as last week.)

### GRAIN

L. A. Grain Exchange prices:

Barley: October delivery, 100 ton lots, 1.45.

Milo: December delivery, 100 ton lots, 1.75.

# San Francisco Markets

San Francisco, October 17, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 1¢ per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras (Oct. 18) | 54 |
| Prime Firsts | 47 |

Prices Extras past week:

| October | 12 | 13 | 14 | 16 | 17 |
|---|---|---|---|---|---|
| '22 | 58 | 57 | .... | 55 | 54 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats, fancy (Oct. 18) | 28 |
| Oregon Trips | 26 |
| Oregon Young America | 27 |
| Cal. Y. A. fy | 28½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras (Oct. 18) | 61½ |
| Extra Pullets | 45 |
| Undersized Pullets No. 1 | 3¢ |

Prices California Extras past week:

| October | 12 | 13 | 14 | 16 | 17 |
|---|---|---|---|---|---|
| '22 | 60 | 59½ | .... | 60½ | 61½ |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of October 16 by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers, 1 to 1¼ lbs. 36@40 per lb.; 1½ to 1¾ lbs., 30 to 33c lb. Colored, 28 to 30c per lb. 2 to 2¼ lbs., 28 to 30c per lb. Colored 28@30 per lb. Fryers: Leghorns and colored, 3½ lbs. and up, 28@30 per lb.; do, colored, 21@23 lb. Young Roosters: Colored, 3½ bs. and up, 28@30 per lb.; staggy, showing spurs, 21@23 per lb. Colored Old Roosters: 16@18 lb. Leghorn Hens: 2½ to 3 lbs., 18@20 lb.; 3 lbs. and over, 22@24 per lb. Old Leghorn Roosters: 14@16 lb. Large Colored Hens: 23@29 per lb.; off grades, 26@27 per lb.

Ducks: Young, 18 to 20c per lb. Off stock, 10 to 15c per lb.

Geese: Young, 20 to 22c per lb. according to quality.

Live Turkeys: Old, 32 to 35c per lb. Spring 36@38 per lb. Dressed turkeys nominal.

Belgian Hare: Live, 15 to 18c per lb. Dressed 18 to 23c per lb.

Jack Rabbits: $2 to $2.50 per doz.

Squabs: Live, fancy, 50 to 52c per lb. Common, $3 to $3.50 per doz. Old pigeons, 2.50 to 3.00 per doz.

Guinea Fowls: Young, 9 to 10 per doz.

### LIVESTOCK

Quotations furnished by the Federal-State Livestock Market News Service:

Cattle prices per cwt. (delivered off cars from San Francisco)—Beef steers, good grade, $7.75@8; medium grade, $7@7.50; common grade, $6@6.75; beef cows, good grade, $5.75@6; medium grade, $5.25@5.50; common grade, $4@5; canners and cutters, $2@3.50; bologna bulls, $2.50@4.

Calves: 150 to 200 pounds, good and choice 7.75@8; 200 to 250 pounds, good and choice, 7@7.50; 250 to 300 pounds, good and choice, 6.50@7; over 300 pounds, 5.50@6.50.

Hogs: Good and choice, grain fed Californias, 150 to 200 pounds, 10.75@11; 200 to 250 pounds, 10.40@10.75; 250 to 300 pounds, 9.25@9.75; 300 pounds up 8.50@9; smooth sows, 250 to 300 pounds, 7@7.50; rough sows, 250 to 300 pounds, 6@6.50; rough sows, over 300 pounds, 5@6.

Sheep and Lambs—Lambs, good and choice grades, 12.00@12.50; medium grades, 11.50@12.00; ewes, medium and good, 5.00@6.00; wethers medium and good, 7@8.50.

### FAT HOG AUCTIONS

Cal. Farm Bureau Marketing Assoc. reports:

| No Hogs | Av. Wt | Dock | Price |
|---|---|---|---|
| **Corcoran, October 9** | | | |
| 78 | 180 | .... | 10.00 |
| 1 | 470 | 20 | 10.00 |
| 15 | 229 | .... | 9.00 |
| 97 hogs | | | |
| 1 car, 9 consignors, $1,739.10. | | | |
| **Tulare, October 10** | | | |
| 9 | 148 | .... | 11.35 |
| 60 | 102 | .... | 11.25 |
| 84 | 181 | .... | 10.00 |
| 90 | 175 | .... | 9.35 |
| 87 | 185 | .... | 9.30 |
| 92 | 174 | .... | 9.75 |
| 81 | 201 | .... | 9.55 |
| 72 | 246 | .... | 8.30 |
| 6 | 308 | 50 | 7.00 |
| 1 | 130 | .... | Cash 3.00 |
| 582 hogs | | | |
| 7 cars, 36 consignors, $10,318.56. | | | |
| **Visalia, October 11** | | | |
| 21 | 127 | .... | 10.30 |
| 72 | 182 | .... | 9.90 |
| 91 | 169 | .... | 9.35 |
| 27 | 194 | .... | 9.75 |
| 25 | 230 | .... | 9.25 |
| 10 | 275 | .... | 8.75 |
| 5 | 300 | 90 | 7.25 |
| 1 | 100 | .... | 6.00 |
| 252 hogs | | | |
| 3 cars, 17 consignors, $4,484.32. | | | |
| **Hanford, October 12** | | | |
| 40 | 109½ | .... | 11.15 |
| 92 | 158 | .... | 10.00 |
| 84 | 189 | .... | 10.00 |
| 87 | 189 | .... | 9.00 |
| 85 | 159 | .... | 9.85 |
| 57 | 215 | .... | 9.85 |
| 3 | 383 | .... | 9.00 |
| 15 | 266 | .... | 8.85 |
| 12 | 286 | 90 | 7.20 |
| 1 | 220 | .... | 7.00 |
| 476 hogs | | | |
| 5½ cars, 43 consignors, $,584.90. | | | |

Totals: 1,407 hogs, 16½ cars, 106 consignors, $25,176.88.

Fat hog auctions scheduled for next week are as follows: Tulare, October 24; Visalia, Wednesday, 25; Hanford, 26; McFarland, 27.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Rivers, 1.10@1.25 at wharf. Salinas, 2@2.25 cwt. Idaho Gems, 2@2.25 cwt. Bakers, 2.75 on track. Jobbing, Rivers, 1.25@1.50 cwt. Sweet Potatoes: Merced 1¾@2 lb. Nancy Halls, 2¼.

Onions: Green onions, 1.25@1.50 box. Stockton Browns and Yellows, 1.40@1.50 cwt. at wharf, jobbing price, 25@35 higher. Garlic: 3½@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, October 16, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per lug, 12.00@15.00.

Beans: Kentucky Wonder, Blue Lake 7@10 per lb.; Italian, 10@12; Lima, 8@10 per lb.

Brussels Sprouts: 6½@7½ lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: River, 2 per lb.

Cauliflower: Doz., 75@1.00.

Celery: Local, 2.00@3.00 cr.; 15@25 per half doz. bunches.

Corn: Green, 1.50@3.00 sack.

Cucumbers: Lug, 1.25@1.75; pickling, 2@3; small, 3½@5 lb.

Eggplant: Lug, 75@1.00.

Lettuce: Local, best, 1.50@2.00 cr.

Peas: Lb. 7@13.

Peppers, Cal. Bells, 75@1.00 lug; Chili, 75@1.00.

Rhubarb: 1.00@1.50 box.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 75@1.00; beets, 1.00@1.25; pumpkin and squash, 1.25@1.75. sk.

Spinach: Lb., 5@7.

Squash: Summer, lug, 1.50@2.00; Italian, 1.50@1.75.

Tomatoes: Bay and Peninsula, 50@1.00 lug; few higher. Plum tomatoes, 15@20, a berry drawer for best.

### DRIED FRUITS

(Figs, Raisins, Prunes, Peaches, Pears same as last week.)

Apples, 1922 Packers' Quotations f. o. b. Cal.:

| | In 50s |
|---|---|
| Choice | @9¾ |
| Extra choice | @10 |
| Fancy | 11@11¼ |

Apricots, 1922, Packers' prices f. o. b. Cal.:

| | —In 25s— |
|---|---|
| Standard | 18@20 |
| Slabs | 18@19 |
| Choice | 23@24 |
| Extra choice | 24½@25½ |
| Fancy | 27@29 |

### HONEY

(Same as last week.)

### BEANS

California Bean Growers Association selling prices, 100 pounds, for choice recleaned California beans (1922 crop) in carloads, f. o. b. California common shipping points on October 9, 1922:

| | |
|---|---|
| Large Whites | 5.25 |
| Small Whites | 5.25 |
| Pinks | 5.10 |
| Mexican Reds | 4.75 |
| Red Kidney | 6.25 |
| Bayos | 5.25 |
| Henderson Bush Limas | 7.25 |
| Cranberry | 5.75 |
| Blackeye | 5.40 |

### HAY AND FEEDSTUFF

Under date of October 14, A. W. Scott Co. says:

(Hay same as last week.)

| | |
|---|---|
| Barley, Ground | 32.00@34.00 |
| Rolled | 30.00@32.00 |
| Oats, Rolled Feed | 40.00@42.00 |
| Bran | 31.00@34.00 |
| Millrun | 33.00@36.00 |
| Middlings | 44.00@46.00 |
| Linseed Meal | 58.00@60.00 |
| Coconut | 33.00@36.00 |
| Alfalfa Meal | 25.00@27.00 |
| Cottonseed Meal | 50.00@56.00 |
| Molasses Beet Pulp | 37.00@39.00 |
| Milo Maize | 38.00@40.00 |
| Corn Meal or Cr. Corn | 39.00@41.00 |
| Scratch Feed | 45.00@47.00 |

### GRAIN

Prices S. F. Grain Exchange, October 9, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 1.95@2.00; feed, 1.85@1.95.

Barley Feed, 1.37½@1.42½; shipping 1.45@1.55.

Oats: 1.60@1.85.

Corn: Colored Milo, 1.80@1.95; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.65@1.67.

## Snappy Notes on Livestock

By A. L. Spellmeyer

Any error herein is unintentional and subject to correction the following week. This summary is assembled from the best sources obtainable, and both producers and packers can assist by reporting actual sales or buys, giving names, dates and facts, and we will, if requested, withhold names. All we want is fact and a fair deal and correct information for the producers. Address A. L. Spellmeyer, care California Cultivator, 317 Central Avenue, Los Angeles. The Cultivator reaches over 40,000 producing farmers and livestock men.

The regular fall range cleanup is on. Every year just before the winter snows come to the range districts, the cattle and sheep prices show weakness, and later after the cleanup is over there always comes an advance. This will continue until producers and middle marketers have identical instead of divergent interests.

Lambs have sold as low as ten cents in Arizona, and this in the face of previous 11 cent feeder lamb sales that mean a winter lamb price of 15 or 16 cents. The fat lamb quotations are supposed to be around 13 cents, Los Angeles, but some of these lambs are not costing killers that much.

On cattle there is no actual change in prices as top steers run $7.50 to 8 delivered Los Angeles, with grass cattle bringing for steers 6.50 f. o. b. Flagstaff and Kingman, Arizona, and cows 4 cents in the country for ordinary grass fat 900 pound cows. However, cattle show an apparent weakness that neither supply in sight nor future conditions warrant and this can be due to nothing but the usual fall coyness of buyers with cattle that have to come in.

Some 20,000 head are reported to have reached the Imperial Valley alfafa fields with 10,000 more en route. Phoenix has taken up quite a number also. Feed charges are up to $3 per month in the alfalfa districts, and hay is high all over the southwest comparatively. In Los Angeles some afalfa was quoted at $26 per ton and some barley hay at $12 per ton. In former years a bonus of $5 per ton was paid for barley hay over alfalfa, instead of it being $14 per ton less.

No feeder steers of any quality can be bought to land here from outside districts under 6 cents and a lot will cost 7.

The stockyards open November 1. It will be a last opportunity for the California stock cattle and feeder buyers before winter snows shut down the bulk of range shipments. Thousands of feeder and stock cattle are coming into the stockyards from Arizona, New Mexico and Utah for the opening week of the yards, as well as thousands of fat cattle. This will be an opportunity for the men who want cattle to get lots to suit. As soon as these range shipments are stopped by snows and storm, California will have rains, and men want cattle they can't get at the present low prices.—A. L. Spellmeyer.

### CALIFORNIA EGGS IN NEW YORK

(Continued from Page 437)

of the best quality and of that 15 per cent about half are from the West coast.

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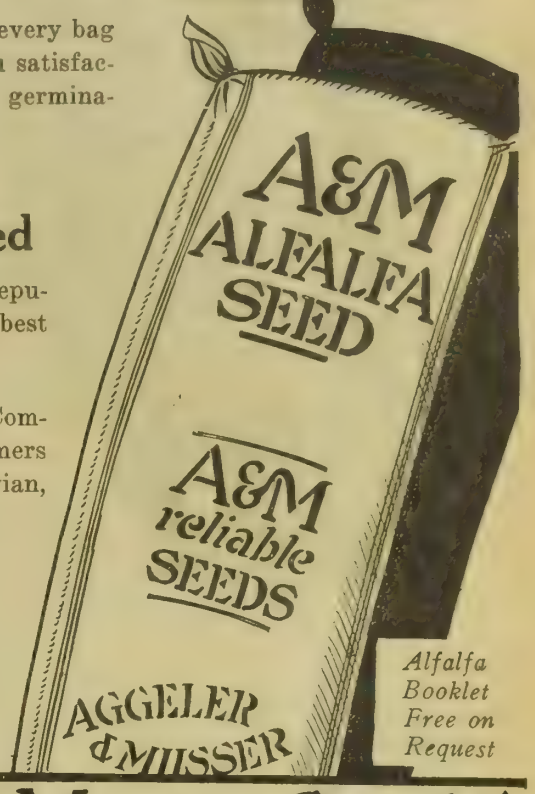


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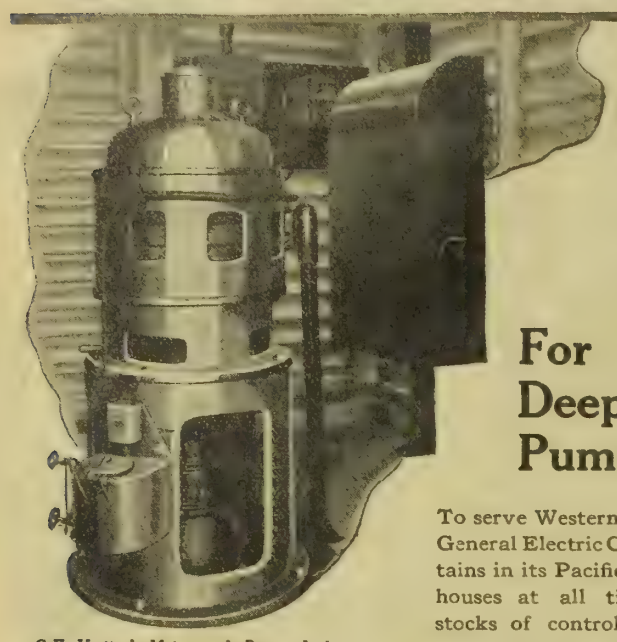

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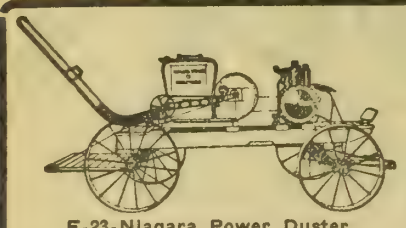

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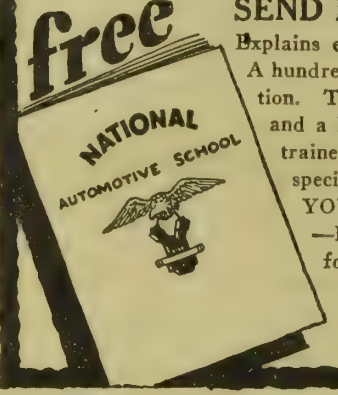


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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — October 28, 1922 — No. 18


# Los Angeles County Fair at Pomona

Photo by Frasher.

Pomona reigned on the Ganesha hills and a wonderful exhibit of earth's products was brought together in the Los Angeles County fair in her namesake city. The airplane view above gives but faintest intimation of the success of the exposition. For this first fair in the community the city of Pomona has purchased a tract of land on which the plan has been worked out as shown so plainly in the reproduction. The race track is in the background while the various exhibit tents and cattle barns are within a moment's reach of the entrance. The arrangement is remarkably effective, aiding the visitor in getting a general idea of all exhibits in a few minutes inspection.

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# CALIFORNIA CULTIVATOR

and LIVE STOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877, Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, Oct. 28, 1922

OUR ADVERTISING RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest, bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertisers.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## EDITORIALETTES

It is not as satisfactory as attending the fair, but a look at the cover will give one a remarkably clear idea of the fair held in Pomona last week. The tract of land purchased by the city for fair purposes lies nearby Ganesha Park, one of the prettiest little sections of California. The soil is wonderfully responsive, and Park Superintendent Paige will have entire supervision over the grounds, and by another year it is presumed it will make a showing of the beauty of growing plants.

* * *

We suppose the stuff which is now burdening the mails from the oil regions of Texas is within the law but certainly it seems to us that the post office department might well take cognizance of the appeals to the gambling instinct in some of these circulars. We all want to get rich quick, but lots of these "options" and "units" being offered by oil promoters to "investors" will make them get poor quick.

* * *

The time will soon be here for making purchases of the Christmas stamps offered for many years by the Red Cross during the months of November and December. The organization has need of funds in its fight to control tuberculosis, or, as it claims, "to eradicate the white plague from America." It will be a long, long time before this is accomplished, but speed the day! And perhaps the best way of speeding the day is to supply the funds necessary to the organization which is conducting the fight.

## SHINGLE ROOFS

Measure Number Three on the ballot on which we are to vote on November 7 seems to have been devised by certain trade interests to use the law making machinery of the state to advance their commercial success at the expense of others. It appears that the state housing commission is itself endeavoring to secure defeat of the measure. If it is passed it will prevent the use of California redwood shingles or any other wooden shingles in certain circumstances. It appears to us that this is a question which each city may settle for itself.

## UNCONSTITUTIONAL

The California Fruit and Vegetable Standardization Act is constitutional. We erred in the issue of October 14 in stating that the entire act had been declared unconstitutional. F. W. Read, chief of the bureau of standardization writes:

"It is not a fact that the California Fruit and Vegetable Standardization Act of 1921 has been declared unconstitutional by the state supreme court. The only portion of the act under consideration was that section of the law providing 'oranges shall be considered unfit for shipment when frosted to the extent of endangering the reputation of the citrus industry, if shipped.' (See Section 10). Also Section 15 in which it is provided that the director of agriculture is empowered to define, promulgate and enforce such rules and regulations as may be deemed necessary to carry out the provisions of this act. The section to the effect that oranges are unfit for shipment when frosted to the extent of endangering the reputation of the industry was held invalid on the ground that it was vague and indefinite. It was also held by the court that such indefinite language did not form a sufficiently clear basis for a definition under the language of Section 15. This decision, however, does not in any way affect the validity of the remaining portion of the act. You will notice that in Section 17 it is stated that the legislature hereby declares that it would have passed this act, and each section, subsection, sentence, clause, or phrase thereof irrespective of the fact that any one or more sections, etc. be declared unconstitutional."

## PYRAMIDING COSTS

The wool growers are up in arms over the attitude of the manufacturers of woolens. The manufacturers put up the strongest kind of a fight against the protection of wool in the tariff discussion and predicted greatly increased cost of clothing to the poor. Now they are proceeding to fulfill that prediction by doing the pyramiding act. If the entire increase in tariff were placed on each suit of clothes it would add but a few cents. The manufacturers, however, propose to add several dollars and proceed to collect them. The National Sheep and Wool Bureau makes statement regarding the situation.

"The extraordinary spread between price the producer of raw material receives and price the consumer is forced to pay the final distributor, and the method and capacity for pyramiding profits which clothing distributors have disclosed, place a tremendous burden on the consuming public and it so restricts or wipes out the profits of the producers of raw material as to seriously threaten the very foundation of our economic structure. Without regard to whether or not there is a protective tariff, there must be relief from this pyramiding of profits disclosed by the clothing distributors' threat to raise clothing prices several dollars per suit."

## STANDARDIZE IN ORCHARD

New York state is backing up and beginning at the beginning with standardization. Regarding her effort in this line the agricultural experiment station at Geneva remarks:

"Entomologists at the experiment station at Geneva have prepared a rather simple guide for identifying the cause of different defects appearing on mature apples at picking time. This guide has proved of much value to fruit growers and inspectors, particularly where fruit is being graded under the New York apple grading law. It is useful also in revealing defects in his spraying practices by showing to the orchardist which insects are not under adequate control in his orchard. With this information the spray practice can be so modified as to insure more efficient control and consequently higher grade fruit.

"The guide also describes injuries other than those produced by insects, such as spray deposits, hail and frost injury, sunburn, scab, etc. A routine system of spraying is described which has proved most effective in controling the insect pests and diseases that figure most prominently in the malformation of mature apples."

## FARMERS MUST PROSPER

Sometimes it's an uphill job to say something worth while, and this page must have worth while things on it. It appeals to us that this week we have something from Secretary of Agriculture Wallace which is better than anything we can say so we quote from his recent address at Frankfort, Indiana:

"The present administration believes we have got to have a prosperous agriculture as well as a productive agriculture. Prices for farm products which are below the actual cost of production may for a time seem to be a good thing for the people in the cities. In the end the result is bad for everybody. Unless agriculture is prosperous it can not continue to be productive. Farmers can not and will not continue to produce at a loss. The young men will leave the farm and go to the cities. Just now the people of the United States seem willing to pay more for work in the cities and industrial centers than on the farms. Almost the lowest paid laborers are getting higher wages than skilled farm hands, and more than many men who own their farms. If this continues more and more farmers will go to the towns and cities. No one can blame them for this, but it will result in reduced agricultural production. After a time prices of farm products will be so high that people in the cities will suffer. It is just as bad for the nation to have prices too high as to have prices too low. There must be a fair relationship between prices of things the farmer has to sell and prices of things he has to buy. There must be a fair relationship between wages on the farm and wages in the city. That is the only way we can have a balanced national life.

"The administration, from the president down, realizes the danger of the present situation. Congress realizes it. Congress has passed a number of laws designed to help the farmer improve his condition. Government administrative agencies are working along the same line We have been reorganizing the work of the department of agriculture to some extent. Heretofore the emphasis has been put on showing farmers how to produce more. That is right and proper. But we propose to put the same emphasis on helping farmers get fair prices for their crops by adjusting their production to the probable demand and by better methods of marketing. We have reorganized the economic work of the department. We have men in Europe seeking for new outlets and larger outlets for our surplus crops. We are studying changing business conditions as they are likely to influence the demand for farm crops, so that we can tell farmers about what they may expect. We are carefully noting production in agricultural countries which compete with us. We are improving our methods of estimating our own crops and livestock production. We hope to be able to report more accurately the number of hogs and cattle and sheep that are grown each year, so that there can be a better balance between our grain crops and our livestock, and in this way help our people avoid both overproduction and underproduction."

## FROST PROTECTION

As the season of the year approaches when we may expect cooler weather and frosty mornings we hear all sorts of predictions as to what variety of weather the coming winter holds in store for us. A mild open winter is predicted by some while others say all signs point to a long cold one.

Those of us who have spent the better part of our lives in California know that weather conditions here are about the most uncertain of any place in the universe and, while we oftentimes look back and remark that the fall of some year away back yonder started off just as this is doing and was followed by a very mild or very cold winter, as the case may be, we know it by no means follows that the next winter will be anything like any other winter we ever had.

With the memory of last winter fresh in our minds we can not help but be somewhat concerned as to what to expect in the way of weather during the next three or four months. In any event it is well to be prepared for the worst even though you may half way feel that there is no cause for worry.

We are glad to see that the citrus growers in some of the sections where the cold was most severe are going ahead in a systematic way to prepare for any cold snap that might come and we can not help but feel that such precaution is good insurance. In the Pomona valley many of the growers are discarding their old frost fighting equipment and installing new fire pots. Arrangements for the keeping of records and reporting of temperatures throughout the district are being made and on all dangerous nights members of the association will be kept informed by telephone as to the temperature in their locality and so be prepared to light their pots whenever the danger point is reached. With the experience of last winter, together with the better equipment, the growers should be in much better shape to fight the cold if it comes, and the results will no doubt be more uniformly satisfactory.

If the growers in all the citrus districts would join together and adopt some uniform plan of frost protection such as has been done at Pomona, we are sure that should another severe freeze come this winter the damage to the citrus industry would be very much less than last season.

## MANHOOD—WOMANHOOD

Manhood, womanhood, character were the outstanding words in nearly every address at the dedication of the dairy and horticultural buildings at the University Farm at Davis, October 25. Regent Foster in his talk emphasized the fact that this institution teaches agriculture, but more, it protects character and builds men. Dean Hunt declared that manhood was the essential foundation, learning secondary. Prof. Chandler: "Truth breeds new truth." Dr. Wickson: "California horticulture within the span of one man's life has shown the most wonderful development in the world's history." James Mills, Jr.: "Greater accomplishment is due to high character efficiency." President Barrows: "This institution shall stand for character, health and knowledge; character is the essential." Prof. Roadhouse: "Mental friction develops ideas." Prof. Hutchinson: "Better boys, better girls, better animals, better plants."—C. B. M.

California Cultivator

Vol. LIX, No. 18 Los Angeles, October 28, 1922 One Dollar Yearly

# Los Angeles County Fair at Pomona

By Cultivator Staff

POMONA asked to be made the permanent site of the Los Angeles County Fair. She got it. The board of supervisors and the Los Angeles Chamber of Commerce united in the endorsement. The city council of Pomona cooperated by purchasing a 44 acre tract of the old Vejar rancho. It lies near the famous Ganesha Park and will be in a measure an extension of that park, though it is being fitted with permanent buildings and race track for fair grounds. The secretary of the chamber of commerce is Park Superintendent Paige, and his well known landscaping ability will be used to bring beauty out of the rich soil which has been chosen for the permanent fair site. This is mentioned to show that Pomona is really in earnest in its making of a fair worthy of the highest producing agricultural county of the United States. This fair was the first ever held in Pomona and it is a wonderfully close competitor to the state fair and perhaps carried the most extended line of exhibits of any fair held in the state excepting the state fair.

Before the gates were opened plans were already in the making for the fair of 1923 and assurance is given that it will be bigger and better.

### Horticultural Exhibits

The horticultural exhibits consisted of 17 community booths, two school booths, two county exhibits and scores of fruit and floral exhibits by individuals. Then, too, there were three booths of walnuts and one of apples.

Chino, though in San Bernardino County, had three booths filled to overflowing, one of apples, one of walnuts, and one of general farm produce. The latter was chiefly a huge horn of plenty from which flowed all the Chino Valley horticultural products. It was the most striking display in the big tent and all three of the judges thought it would score highest. But it wouldn't. East Pomona had 40 or 50 more varieties shown, and two other booths scored higher on quality. So Chino received third though the most generally attractive.

East Pomona won first on the list of 16. This booth contained the greatest number of varieties, which on the fair's schedule carried the highest number of points. In quality it was second, fairly well up on educational value and execution and of some originality of design. Incidentally, a horn of plenty is not original, but a very common design in displaying products of the soil.

The El Monte booth was second and won in total per cent merely by rating fairly high on all five points: variety, quality, educational value, originality and execution of display. It did not need to stand first on any one of the five. Chino, as before stated, was third, with a fine, well arranged display. La Verne and Baldwin Park stood high in the markings. The Los Angeles Chamber of Commerce booth did not compete, as Charles P. Bayer, in charge, thought it unfair to draw on the chamber's supply to compete against the various districts from which the exhibits originally came.

### County Exhibits

The largest, most finished, most spectacular horticultural displays were made by Fresno and Kings Counties. It is safe to say that nothing finer was every shown in the state and even the loser may well feel proud of his effort, for out of a possible 100 the two were judged to be but five points apart, with Fresno County the winner. This display has won first in all parts of the state. In some fairs Kings County has come within two points of the winner.

There were two exhibits from educational institutions where the producers were required to be boys or girls under 20 years of age. The contestants were the George Junior Republic and Chaffey Junior College of Agriculture. Here again the judges traveled back and forth between booths many times, finally declaring Chaffey winner by the narrow margin of eight points.

The individual entries in fruits and flowers were many and of varied value. Some were highly commended by the judges, while others were so poor as not to be considered, so that in some lines no awards were made. The judges particularly recommended more labeling of varieties, for without labels a display has very litttle educational value.

## LIVESTOCK AT THE LOS ANGELES COUNTY FAIR

THE last show of the season brought together one of the choicest displays of livestock seen this season. After a busy season of exhibiting the owners had a good line on their chances and only the ones with the best stayed. The classes were not as large as at some of the other shows but the quality was of the very best.

The big herd of Holsteins shown by Fred Hartsook of Lankershim was not like the prophet, it won honors galore in its own county. Most of the opposition was brought out by the California Junior Republic of Chino. Dichter Spofford Korndyke Lad 5th, the great bull which heads the Junior Republic herd, again came to his own. The old bull was never in better condition than when he beat the Hartsook bull who had beaten him in Sacramento and at Riverside. Ava Model Hengerveld 2d was again grand champion cow.

The Guernsey classes were well filled and Judge Scribner found a wonderful lot of animals to look over. The Italian Vineyard Company of Guasti and Russell Cox of San Marcos had the most animals and won most of the money. The junior bull shown by A. O. Dinsmoor of El Monte was too good for the aged bulls and was made grand champion. He is sired by the great bull Masterpiece of Edgemoor and is a worthy son of a great sire. Caroline E. Langdon of Hollow-Hill Farm was grand champion cow, repeating her Riverside winning. She is a grand heifer and had she been in shape at state fair time she undoubtedly would have been undefeated for the season. This heifer combines a lineage of high testing dams with wonderful show type and quality. W. H. Rapson of Chino also showed four animals and won many ribbons. Pomona is the center of a large number of small Guernsey farms as well as a number of big ones, and the Guernsey show in time to come will be a big one.

There was considerable competition in the Jersey classes between F. R. Bain of Los Angeles and Harry Cook of Chino with D. E. Huff of Orange, George Thomas of Riverside and others appearing often in the prize list. Both championships went to Bain on his young bull, Gamboge's Majesty Falcon, and his dam, Imp. Golden Lustre. The Jersey show was exceptionally strong and the quality excellent.

The Ayrshire classes were made up of individuals from the H. G. and MacMinn herds. Judge Smith of Spokane complimented the owners very highly on the type and quality of their animals. The grand champion heifer, Heather Belle of Phoenix, belonging to MacMinn, particularly caught his eye, and she was slated for grand champion from the time she first entered the ring. H. G. won three championships and won grand champion bull on Lady King Repeater.

The Berkshire hog show brought together the herds of the Italian Vineyard Company, Chester Johns and A. B. Humphrey as in former shows and the results were much the same as before. Humphrey's aged boar, Escalon Big Joe, repeated and Violet's Festline owned by the Italian Vineyard was again grand champion sow. This sow has never been defeated for championship honors and will probably not be shown again.

The Duroc classes were dominated by the big herd from the Charnock Ranch which was of wonderful quality. The only blue which this herd lost was won by a sow pig by Mammoth Sensation shown by G. A. Goodell of Spadra.

The Poland China show was one of the best seen in Southern California in some time. The big herds of A. Buckland and Son of Fresno and Johnson Brothers of San Diego won most of the ribbons but they ran into a snag in a sow named Fashion Bobbie owned by G. H. Goodrich of Los Angeles and her four pigs. The sow was first in the senior yearling class and the pigs won first, third and fourth in the junior sow pig class, and four firsts in the groups. Judge Jenkins of Indiana pronounced them the best litter he had seen this year and he has judged a number of state fairs in the Middle West and East. A number of smaller breeders showed and won in the various classes.

The Hampshire show consisted of the big herd owned by Francis T. Underhill of Santa Barbara and was shown to prove Mr. Underhill's theories in line breeding. Judge Jenkins was greatly impressed with the great improvement Mr. Underhill has made in the breed and predicted that if it keeps on all roads in Hampshiredom will lead to his door. He was so much impressed with the young pigs that he made a junior pig grand champion sow which is something he has seldom done in his long period of judging.

Following are livestock awards:

### Holsteins

Exhibitors: Fred Hartsook, Lankershim; California Jr. Republic, Chino; D. L. Wright, Pasadena; Frampton Bros., Artesia; M. B. Christiansen, Norwalk; A. MacMinn, Corona; Ted Farney, Pomona; G. E. Curtis, Chino; Earl Allen, Pomona.

Aged bull—1, Dichter Spofford Korndyke Lad 5th, California Junior; 2, Major Korndyke Pontiac Fobes, Hartsook .

Two year old—1, Korndyke Pontiac Fobes Mona, Frampton Bros.

Senior yearling—1, Republic Spofford Ida Lyons, California Jr.

Junior yearling—1, Tritomia Panzie Ormsby, Hartsook.

Senior calf—1, Meadhart Aaggie Mead Ophelia, Hartsook; 2, Sir Veeman DeKol Acle, Christiansen; 3, unnamed, California Jr.; 4, unnamed, MacMinn.

Junior calf—1, Meadhart Aaggie Mead De Kol, Hartsook; 2, Meadhart Aaggie Mead Ormsby, Hartsook; 3, unnamed, California Jr.; 4, Korndyke Pietertje Clement, Hartsook; 5, Meadhart Aaggie Mead, Hartsook.

Aged cow—1, Ava Model Hengerveld 2d, Hartsook; 2, Bessie Snowball De Kol, Hartsook; 3, Parthenia Paul Segis 2d, Hartsook; 4, Iris De Kol Canary, Hartsook; 5, Ida De Kol Pearl Lyons, Cal. Jr.

Two year old—1, Lily McKinley Ormsby, Hartsook; 2, Handsome Tuebie Spofford, California Jr.

Senior yearling—1, unnamed, California Jr.; 2, Rag Apple Tritomia Ormsby Segis, Hartsook; 3, Cornucopia Paul Segis Fayne, Hartsook; 4, Doris Nephele Pontiac, California Jr.

Junior yearling—1, Caroline Wayne, Hartsook; 2, Flush Ormsby Trito Segis, Harstook; 3, Cornucopia Paul Ormsby, Hartsook; 4, unnamed, California Jr.; 5, Pearl Pride Dione, Forney.

Senior calf—1, Meadhart Mary, Hartsook, 2, Nancy Calamo Korndyke 2d, Hartsook; 3, Meadhart Pietje, Hartsook; 4, Queen, California Jr.; 5, Burr Farm Hengerveld Lady, Allen.

Junior calf—1, Meadhart Eva Bona, Hartsook; 2, Meadhart Jacoba Pontiac, Hartsook; 3, Meadhart Tuebie Segis, Hartsook; 4, Meadhart Home; 5, Burr Farm Hengerveld Lady, California Jr.

Senior and grand champion bull—Dichtor Spofford Korndyke Lad 5th, California Jr.

Junior champion bull—Tritomia, Panzie Ormsby, Hartsook.

Senior and grand champion cow—Ava Model Hengerveld 2d, Hartsook.

Junior champion cow—Caroline Wayne Fayne, Hartsook.

Aged herd—1, Hartsook; 2, California Jr.

Calf herd, 1 and 3—Hartsook; 2, California Jr.

Dairy herd, 1 and 3—Hartsook; 2, California Jr.

Get of sire—1, get of Tritomia Piertje Ormsby, Hartsook; 2, get of Dichter Spofford Korndyke Lad 5th, California Jr.; 3, get of Sir Aaggie De Kol Mead, Hartsook; 4, get of Hazelwood Finderne Fayne, Hartsook.

Produce of dam—1, produce of Mona Fobes, Hartsook; 2, California Jr.; 3, produce of Beauty De Kol Rika Ormsby, Hartsook; 4, produce of K. S. P. Lily McKinley, Hartsook.

### Guernseys

Exhibitors: Italian Vineyard Company, Guasti; Russel S. Cox, San Marcos; W. H. Rapson, Corona; I. J. Scott, Pomona; E. O. Tucker, Saticoy; Ernest Wobig, Chino; G. T. Drinkwater, Lakeside; A. O. Dinsmoor, El Monte; A. A. Cook, Pomona.

Aged bull—1, Itchen Daisy's Butterboy of Revada, Rapson; 2, Cherub's Sunny Jim of Revada, Italian Vineyard; 3, Reliance of Edgemoor, Cox.

Two year old—1, Carl E King of Hollow Hill Farm, Italian Vineyard; 2, May Day of the Rancho, Scott; 3, Brilliant's May Secret of Edgemoor, Cox; 4, Lone Tree Actor, Rapson.

Senior yearing—1, Escalon Princess White Face, Wobig.

Senior calf—1, Reuben L. King of Hollow Hill Farm, Italian Vineyard; 2, Guasti's Twilight Topper, Italian Vineyard.

Junior calf—1, unnamed, Dinsmoor; 2, Rosana's Boy of Sycamore Ranch, Cox; 3, Marchie Boy of Sycamore Ranch, Cox; 4, Golden Rose's Butterboy of Corona, Rapson; 5, Guasti's Dorthie Jim, Italian Vineyard.

Aged cow—1, Rosie E. King of Hollow Hill Farm, Italian Vineyard; 2, Revada's Princess Pat, Italian Vineyard; 3, Im-

(Continued on Page 456)

# Agricultural News Notes of the Pacific Coast

## Northern California

San Francisco receives nearly a thousand tons of hay each week.

County Agent Goatley of Glenn reports citrus survey being made in that county.

More than 20,000 cars of fresh grapes have been shipped from California this season.

Two fine buildings, one devoted to horticulture and one to dairying, were dedicated at the university farm at Davis last Tuesday.

A suit of the reclamation service to settle water rights on Stony Creek in Glenn County has been postponed until November 13.

November 13 will be California Pear Day. The second annual meeting of California Pear Growers will be held at Berkeley on that day.

Rains falling in the rice fields the middle of October are declared by the growers to have been no handicap in general harvesting work.

The university farm at Davis is distributing seed of various varieties of wheat, barley and oats at prices not far above those paid for ordinary seed.

Sonoma County grape growers estimate losses to the industry in that county because of the transportation situation will aggregate at least a million dollars.

The California Orchard Companies Inc. of Sacramento has changed its name to California Deciduous Fruit Companies to avoid confusion with another concern of similar name.

County Horticultural Commissioner Redmayne of Marin County, reports greatly increased acreage of potatoes The potatoes are however under size because of insufficient irrigation.

President Sheehan of the Grape Growers Exchange predicts that half of California's 250,000 tons of wine grapes will never reach market because of lack of shipping facilities.

Some roads are refusing to accept shipments of grapes in box cars because of feared losses and claims against the transportation company. More than one-fourth of shipments have been in box cars.

Construction of a reservoir lake district back of the Brownwell or Julian Rocks and the forming of a new unit to the Orland irrigation project of 25,000 to 30,000 acres, is a major propject of the Orland chamber of commerce.

The California Prune and Apricot Growers has notified the trade that it can book no more orders at present for prunes as the crop has fallen below estimate. Apricots can be supplied only in limited quantites of certain grades.

H. A. Walton and Sons have just built a dehydrator on their ranch near Tudor, Sutter County, to handle raisins and prunes. Many Sutter County orchardists have been sending their partially dried fruits to the dehydrator at Modesto.

The State Farm Bureau Federation has just received a large shipment of posters, window cards, windshield stickers and general advertising material to be used in connection with the farm bureau membership campaign which are starting in the various counties.

## Central California

Raisin Day will be celebrated in 1923 on April 30.

Stanislaus County recently celebrated its first annual Peach Day.

A home department has been organized in the Pajaro farm center.

Fruit dryers have been content with one of the best years ever experienced.

The Tanforan race track near San Francisco will not open till some time in February.

Hollister, San Benito County, reports grape picking very slow because of car shortage.

San Benito County grain growers are refusing to sell Chevalier barley at present prices.

The Boys Agricultural Club of Pajaro Valley will have display at the Santa Cruz County fair.

Green Lima beans are being canned at the plant of the Pacific Pea Packing Company at Oakdale.

Emperors are shipping freely. Over 72 packing houses of the San Joaquin Valley are now shipping Emperors.

Salinas, Monterey County, reports plans for liberal planting of apricots and pears during the coming season.

Tulare County is endeavoring to make truck drivers conform to regulations in the matter of weight limit.

The South San Joaquin and Oakdale irrigation districts continued irrigation much later than any preceding year.

Don Pedro dam it is now announced is ready to start storing waters of the Tuolumne. The district will save the entire winter run off.

The California Bean Growers has begun suit against several Salinas bean growers for failure to deliver beans under contract.

For the season just closed the Sequoia and General Grant national parks, showed registration of 19,896 autos and 77,980 people.

Officially the Sequoia and General Grant national parks closed October 10. Unofficially both will be accessible to tourists till snow flies.

The fiftieth annual session of the California State Grange Patrons of Husbandry was held in Pacific Grove, Monterey County last week.

The Madera irrigation district proposes a storage district which will contain 883,000 acres. The storage and the natural flow of the San Joaquin River will provide 1,800,000 acre-feet.

Stanislaus County's farm bureau cow testing department reports 477 cows in the last month's test. The highest cow produced 90.3 pounds of fat from 2382 pounds of milk. It's the dry month of the year.

Pork Day at Turlock, October 31, will be observed by Stanislaus and Merced Counties swine growers. Seventy owners have listed 700 hogs to be shown on this day, then auctioned through the farm bureau marketing association.

Extermination of noxious weeds through cooperative action was discussed at Turlock chamber of commerce luncheon. It was voted to communicate with Stanislaus and Merced County supervisors, also with directors of Turlock irrigation district and other organizations.

## Southern California

The large exhibit of goats at Riverside fair last week attracted much attention.

A 500 acre pecan orchard is said to be planned for some location in Imperial Valley

Annual Ventura Company apricot growers institute, October 27 at Ventura high school.

The Sperry mill at Riverside is being extensively enlarged and equipped with new machinery.

The annual meeting of the Water Conservation Association was held at Riverside, October 13.

The Brawley high school is giving a five weeks course in intensive agriculture. It began October 16.

Work on the Corona-Elsinore road is soon to begin. Contracts have been awarded by Riverside supervisors.

A purebred calf contest will again be conducted this year by junior members of the Los Angeles County farm bureau.

Home center meetings will be held in Imperial County at Spruce-Trifolium, October 24; North End Calipatria, 27.

The Goleta warehouse of the Santa Barbara Walnut Growers shipped out three carloads of nuts in the second week of the season.

Experimental plantings of varieties of peas for Imperial Valley have been made for three years at the United States experiment farm at Bard.

The citrus growers department of the Los Angeles County farm bureau will spend the rest of the year in investigation of fertilizer problems.

Work will begin immediately on the Salton Sea highway from Westmoreland to Imperial. This announcement is made by the highway commission.

A bunch of 1200 steers was received in Oxnard last week from Seligman, Arizona. The feeders are distributed through the beet fields to fatten on the tops.

Walnut packing houses find a percentage of nuts with no outward evidence of burn show up shriveled meats. These are sucked out of the regular pack.

Calipatria is planning a cotton festival the week of November 4-11. There is talk of advancing the Imperial Valley auto show from December to become a feature of the festival.

A great convention of the farmers of the Imperial Valley on plans to build up the soils of the Imperial Valley is being pushed by the Associated Chambers of Commerce of the county.

Victorville in particular and San Bernardino County in general celebrated on October 12 the dedication of the state highway recently completed from Victorville to the summit.

A deciduous fruit growers institute will be held at San Fernando, November 10. At this meeting the deciduous fruit growers department of the Los Angeles County farm bureau will formulate plans for the season's work.

Outline of the proposed method by which lettuce is to be marketed during the coming season was given at the recent meeting of the Spruce farm center, Imperial County, by Charles Hunt, of Hunt, Hatch & Company.

## The Coast and General

Some Arizona grapefruit is already on the market.

Many new drying plants are being built in Oregon to handle the prune crop.

Forty-five per cent of the farmers of Arizona own autos; 3.6 per cent own tractors.

The German distillers are now using imported corn for the alcohol industry in place of potatoes.

Some fall plowing has been done in Yuma section of Arizona but most activity is centered on the cotton picking.

Portland, Oregon, is now the second largest wheat shipping port in the United States. Galveston, Texas, ranks first.

August shipments of grapefruit to the United States from the Isle of Pines totaled 41,135 crates bringing $6 to $8 per crate.

There is a big surplus of potatoes in Canada and Norway. Norway is shipping to Cuba and endeavoring to find markets in South America.

An irrigation district of 25,000 acres has been formed near Maricopa, Arizona. Electric power will be furnished from the Salt River project.

Fat steers from the range, or finished in the Salt River Valley, in central Arizona, have sold for 6½ cents per pound f. o. b. shipping points.

Dairymen of the Salt River Valley, Arizona, will receive 72 cents a pound for butter fat in Grade A milk, 70 in Grade B, and 60 for Grade C for the month of October.

Regular daily apple trains are now the rule out of the Wenatchee, Washington, terminals and these will soon be increased to from two to three solid trainloads every 24 hours.

Plans to raise $100,000 from citizens of Washington to be loaned to farmers in the crop failure districts in the Big Bend country for winter seed have been begun by the directors of the Spokane Chamber of Commerce.

Portland exporters of apples believe that one effect of the low prices this season will be an increasing movement in stock for the orient. They say the Chinese trade takes readily to the sweeter Northwestern apples.

The Walla Walla, Washington, seed potato association at a recent meeting decided to market its potatoes in the county this fall as much as possible, instead of shipping out. The reason given is that many potatoes coming in are diseased and it is feared the disease will spread.

Grain warehouse men have been notified by the department of public works in Olympia that the practice of deducting a full pound for the weight of the sack when weighing grain must be stopped at once or immediate prosecution will result. The department's weighing rule provides for the deduction of three-quarters of a pound.

Hood River, Oregon, growers will pay from 4 to 5 cents a box for picking apples, depending upon efficiency, orchard conditions and permanency of workers, while 4½ to 5 cents a box will be paid for packing. Sorters will receive $2.50 to $3 a day and day wages for men will range from 30 to 75 cents an hour and for women from 25 to 30 cents per hour.

# Peach Scab in Southern California

By H. R. Stanford, Plant Pathologist,
Chaffey Junior College

CALIFORNIA deciduous fruits have as a rule been characterized by a freedom from fungous diseases much greater than that enjoyed by the same fruits grown east of the Rocky Mountains. Partly because of climatic differences and partly because of the fact that California fruit growing is a younger industry and also somewhat isolated and therefore there has not been the chance for disease to enter and spread, we have been immune or practically so to several of the diseases which threaten the crops of the eastern grower. If due to the first reason, climatic differences, we would expect a permanent freedom; if on the other hand it is because the diseases have not obtained a foothold here, then unless quarantine keeps them out, we may expect sooner or later to find them coming in.

Peach Scab As it Affects the Twigs
Twigs showing the winter "holdover" cankers, indicated by arrows.

One peach disease which has been serious in eastern peach growing sections for years, and which has been the cause of losses of as high as 80 to 90 per cent of the value of the crop in some cases, is peach scab, also sometimes known as black spot or black mildew. It is occasionally locally called shot-hole, thus confusing it with the Caifornia peach blight, an entirely different trouble. In recent years, and especially in the past two or three, this disease has appeared to be becoming more and more common in several peach growing districts of California. In the district served by Chaffey Junior College of Agriculture there have been at least two centers of infection from which this disease has spread rather rapidly and where the losses have become so serious that growers are inquiring as to methods of control.

Before answering questions regarding control it is necessary to know how to recognize the disease and something of its life history. The evident symptoms are found on the fruit, on one year twigs and to a slight extent on the leaf. On the fruit it first eppears as olive colored spots, separated or running together according to their number and size. Usually these occur on one side or near the stem end of the fruit. They gradually become larger, and if the fruit is a medium or late maturing variety, there is a corky layer of cells formed which cracks and from the appearance of which the name scab comes. These spots do not penetrate into the flesh of the fruit, neither do they in themselves cause a rotting though scabby fruits are known to be more susceptible to rots than are fruits which are perfectly sound. The damage to the fruit is largely in the lowering of the grade and consequently the price, both from its appearance if sold green and its value for canning. The worse spots on the fruits are not removed with the skins in the lye bath of the cannery, but persist as blemishes on the halves. As a consequence the fruit thus rendered imperfect is thrown into a lower grade and commands a much lower price. In one lot from a badly infected orchard followed through the cannery, over 50 per cent of the fruit was thrown from "B" grade into "C" and "D" on account of various imperfections. Since the difference in price between the grades was something like $30 per ton it is evident that the disease can cause serious loss. Then, also, the infection not only lowers the grade but hinders full deveopment in size. A badly infected fruit is frequently lop-sided, under-developed under the scab, and does not ripen uniformly, remaining green under the scab infection for a longer time than the rest of the peach.

On the twigs the fungus causes brownish cankers, perhaps one-eighth to one-quarter inch long, usually rather oval. These form on the young twigs and are caused by the threads of the fungus growing just beneath the outer bark of the twig. While it does no serious damage to the twig, this stage is important because it is the winter hold-over of the disease.

On the leaves the fungus also causes olive colored spots on the under side but rarely if ever causes defoliation or serious injury. Spores are produced in abundance on the infected leaves and these probably increase the amount of twig infection.

A knowledge of the life history of the causal organism throughout the year is essential to an intelligent understanding either of infection or of control of any disease. As stated above, the scab organism, Cladosporium carpophilum winters over as mycelium beneath the epidermis of the twig. This explains why a dormant spray such as is effective on peach leaf curl is of no value in controlling scab. The fungus is then beyond the reach of the fungicide. In the spring as the growth of the tree is renewed the fungus also resumes its growth and very soon begins to produce the spores or reproductive bodies which spread the disease. These are in themselves capable of infecting the newly set fruits immediately if it were not for the fact that the dense mass of hairs or pubescence then covering the fruit affords them a temporary protection. After about four weeks the growth of the peach has so spread the hairs that the tiny spores can drop between them, reach the fruit and, germinating there, enter and infect. Like the spores of all fungi, however, a certain amount of moisture is essential for germination and it is only when this is furnished by late rains, fogs, or perhaps heavy dews that serious infection occurs. With proper conditions of moisture there will be continuous infection of the fruits from twig lesions all during the summer. As new twig growth comes on, it will be infected by these spores, new lesions form and these wintering over complete the life cycle. After the fruit is infected there is a rather long period of incubation or time before the spots become visible. This is usually from six to seven weeks, after which the spots continue to enlarge as long as the peach remains on the tree.

Peach Scab As it Affects the Fruit
Young Muir peaches badly infected with fully developed scab.

Based on our knowledge of life history, given above, it is evident that control will consist of protecting the young peach from the falling spores during the period beginning about a month after bloom and lasting till five or six weeks before the date of ripening. Eastern spray schedules call for one, two or three sprays, depending upon the lateness of the variety to be protected. Our results indicate that under California conditions, where rains are not likely to wash the material off, one or at most two applications are all that are likely to be needed for our usual canning varieties.

The only material so far in common use for the control of peach scab, is self boiled lime-sulphur, a mechanical mixture of sulphur and water, the sulphur rendered finer and therefore more effective by a slight boiling from the slaking of the lime. This boiling must not progress far enough so that soluble sulphides such as constitute the commercial liquid lime-sulphur, are formed. In other words, boiling must be stopped before any great quantity of the orange colored liquid forms on the surface of the cooking material. The propositions recommended and used here are, 32 pounds quick lime, 32 pounds ground sulphur or flowers of sulphur to 200 gallons water. It is not difficult to make up the spray, though not especialy agreeable. The lime and sulphur may be placed in a barrel or lime box, mixed slightly and the slaking started with a small amount of water. Care must be taken that the material does not burn, neither should it be drowned with too much water. After cooking by its own heat for 20 to 25 minutes, it should be ready for further dilution with cold water and straining into the spray tank, where the final dilution to 200 gallons can take place.

Our experiments at Chaffey this year have shown this material to be as efficient in the control of peach scab in southern California as in the east. In one orchard, variety Ontario or Southern Tuscan, the amount of infected fruit was reduced from 14.7 per cent where not sprayed to one-tenth of one per cent with two sprays and to sixth-tenths of one per cent with but one application. In a Muir orchard, the unsprayed trees carried 29 per cent of scabby fruit, one spray reduced it to 9.2 per cent and two to 1.7 per cent. In all the sprayed trees, the scab remaining after spraying was only a few scattered spots and not commercially important.

In both cases the first spray was applied the latter part of May and the second about one month later.

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# The Peach as a Root Stock

By Leonard Coates

PREJUDICE often acts prejudicially to one's best interests. The objections to the peach root have been both illogical and unwarranted, in most cases. In the first place the peach root is called short lived; in the second it is generally presumed that it will not succeed in heavy land; again, it is supposed to be more susceptible to attacks of peach root borer.

Most commercial planters believe in one or more of these claims, which however, do not seem to be borne out by the facts.

The bark of the peach tree is thin, and for that reason liable to injury when exposed to the direct rays of the sun. Hence sunburn, flat-headed borers, decay, death, all of which may easily be avoided by shading the trunk.

But this does not necessarily mean the death of the root which will usually continue for years to throw up suckers. The peach root will thrive in any well drained land, and, being a great surface feeder, will do well in shallow soils or where hard pan or clay is nearer the surface than might be desired. There is a lower percentage of loss with trees on peach root than with almost any other, owing to its ability to throw out fibrous roots or feeders.

When what is known as "peach root borer" has access equally to plum, almond, apricot or peach, it does not appear to be in any way partial, but attacks any or all without preference.

The main difficulty, which applies also to other fruit tree stocks, is the ability to obtain good seed. Prof. W. L. Howard has recently returned from a year's travel in European countries where his special mission was the investigation of the supply and quality of fruit tree seed and stock for export and the possible discovery of some that might be useful in California but which had not so far been introduced. Professor Howard was not favorably impressed with the quality of much of the stock grown for export, owing chiefly to the mixture of seed, and, in any case, there was not nearly enough of either seed or seedling in sight to be of much use even for California's requirements.

Nurserymen experience increasingly greater difficulty in getting good peach seed. The demand for Myrobolan seedlings, or for prune, plum, and apricot on Myrobolan root, has stimulated the planting and cultivating of Myrobolan trees for the production of seed, so much so that California is independent of this stock formerly imported from France.

A great point in favor of the peach root for the apricot, prune and almond, as well as for many varieties of plum, is that such trees in many localities are much less liable to "gum" or "sour-sap" than when on Myrobolan root. Since having more time for observation I am convinced that the facts will bear out the statement. Where the Myrobolan root succeeds, and the variety growing on it is satisfactory both as to tree and fruit, doubtless it is safe to "let well enough alone," but this is no proof that the peach root would not have done better.

Split pits and pits with poor or shrivelled kernels prevail, and many tons of seed have to be tested at the canneries and drying yards before any may be obtained having but a fair percentage of good kernels. It is for the nurserymen to lay aside trees in their own orchards or test grounds solely for the production of seed. Peach seed is rapidly deteriorating under cultivation. This can be remedied gradually, but not at once, or on a large scale, where millions of trees are called for.

Just a word as to tap root, and this applies to any fruit or nut tree—— forget it! The properties in the soil which go to make fruit are within a very few feet of the surface, therefore do all that is possible to encourage a well branched root system. If it is the nature of any tree, such as the almond or black walnut, to send its roots down more vertically, you can't prevent it. To cut the original tap root simply causes several to go down instead of one.

**Corn Shredding—and Goodyear Belts**

*Alex Woelffer, of Watertown,* Wisconsin, says the only belt he ever used that really held the pulleys and ran trouble-free is the Goodyear Klingtite Belt. "Even during and after rains, it delivers without a miss," he says. "There is never any tension to endanger the engine through overheating; never any re-setting. It does not stretch, shrink or stiffen.

*"It is so powerful* and so efficient that I have not only got my own work done with it easily and quickly, but have found time to use it many extra hours for my neighbors, in their threshing, silo-filling, corn-shredding and wood-cutting. I have made $3 an hour in that way, and counting these earnings with my own savings, the belt paid for itself long ago."

*Goodyear Klingtite Belts* put an end to farm belt troubles. They need no breaking in. They require no belt dressing. They do not separate at the plies. Goodyear means good wear.

*They come in endless type* for all heavy duty and in suitable lengths for water pumping, cream separating, electric lighting plant, washing machine and other light drives. For further information about them write to Goodyear, Akron, Ohio, or Los Angeles, California.

GOODYEAR

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Fresno, California


# Why Should the Farmers Organize? Why Join the Farm Bureau?

By J. A. Teagarden

**Why Organize?**

The farmers should all be organized under one big organization for the promotion, development and protection of their agricultural interests which they hold in common.

Special interests should be organized and controlled by those interested in the specialty.

Commodity interests should be organized and controlled by those interested in the commodity.

Local interests should be organized and developed by those living in the locality.

In every successful organization the membership must have a common interest.

Therefore the one big farmer organization must not be founded upon special or commodity interests but it must be founded upon the social, educational and economic interests, common to all, such as legislation, taxation, transportation, public improvements, public institutions and other general interests.

**Why Join the Farm Bureau?**

Because it represents common interests of all.

Because it has already a local, county, state and national organization.

Because it is organized in every state in the Union except one.

Because it has the largest membership of farmers of any organization in the United States.

Because it has local or center organizations to meet local or community conditions.

Because it has a county organization composed of federated center organizations for the purpose of handling problems that cannot be handled by the center alone.

Because it has a state organization composed of federated county organizations for the purpose of handling problems that cannot be handled by the county alone.

Because it has a national organization composed of federated state organizations for the handling of problems that the state cannot handle alone.

The farmers by organizing under one big organization can have the vision of all to promote, the constructiveness of all to develop and the strength of all to protect.

The farm bureaus of the various states have a combined membership of over 1,600,000. A national membership drive is now being waged in every county and local center to double this membership. The drive is on —join the farm bureau.

## AUSTRALASIAN ANNUAL

The Australasia Fruit Grower published at Melbourne, Victoria, Australia, issues an annual and trade record for 1922. It is a volume of 120 pages with stiff board covers and contains extended articles on fruit culture as carried on in Victoria. In the article on the marketing of fruit crops conditions as they exist in New South Wales, Queensland, South Australia, West Australia and Tasmania are also given. Regarding export:

"Our big future developments in marketing must take place overseas, but our production must increase sufficiently to enable us to maintain steady supplies, so as to promote a large trade. Up to the present the overseas business has been more or less spasmodic in nature and some of our markets have been lost owing to lack of suitable shipping space.

"With a view to illustrating the possibilities of development of markets we have published a map of the world, showing the markets which have already had our fruits and which are continually asking for more.

"Australia and New Zealand are in a unique position with regard to the markets of the old world, as by the time it is possible for Australasian apples to arrive on the English markets, there is a shortage of fruit there, the American season having practically ended, and the English early summer fruits being not then available. The export trade in Australasian fruits has developed on sound lines, and it would appear there is room for a considerable expanse in this business."

Nearly half the book is given up to the record pages. These pages make up a very satisfactory blank book for keeping account of stock on hand, purchasing accounts, sales accounts, and in fact a complete bookkeeping system.

## BANK CREDIT AND AGRICULTURE

"Bank Credit and Agriculture Under the National and Federal Reserve Banking System," by Ivan Wright, assistant professor of economics, college of commerce, University of Illinois, published by McGraw-Hill Book Company, 370 Seventh Avenue, New York.

Before banks were agriculture was, so we wish the title of this book might have been reversed and could have stood "Agriculture and Bank Credit." However, that may be only a personal idiosyncrasy. It is a wonderfully informing book. The author says in its preface:

"The object of this book is to outline the conditions of the bank credit situation in relation to American agriculture under the national and federal reserve banking systems. It seems necessary to set forth briefly in Part I some of the short term credit needs of agriculture, without special regard to any particular banking system or institution, except for the purposes of explanation and illustration. Part II will consist of a brief history and analysis of the short term agricultural credit conditions under the national banking system with special consideration of the legal and economic restrictions, and the seasonal movements of currency. Part III will take up an investigation of the federal reserve system in relation to short term agricultural credit. Consideration will be given to the provisions for short term agricultural credit, and the ways in which the system has functioned in relation to agriculture, and the livestock industry.

"It is not the purpose of this book to argue the case either for or against agriculture, but rather to analyze the needs for and conditions of short term agricultural credit under the existing banking systems.

"This volume is a simplified and condensed presentation of the bank credit section of research investigations conducted by the author into the problems of agricultural finance."

There are in its three parts 21 chapters touching, amongst other things, upon early development of national banking system, rural credit, legal and economic restrictions, seasonal inelasticity, movements of cash between geographical districts, short term credit, provisions for short term credit under federal reserve act, how the federal reserve has functioned, variation in paper rediscounted, discount rates, average rates charged, how the farmer and the country bank proceed to use the facilities offered by the federal reserve, criticisms of federal reserve, etc. The book has little to do with the federal farm loan though it does give seven pages in the appendix to a short statement of its method of functioning. The appendix also touches upon war finance corporation, Credit Foncier, Credit Agricole, financing farmers in England, German Landschaft, cooperative banks in agricultural districts of Canada, Raiffeisen banks.

## ONIONS PROFITABLE CROP THIS SEASON

By J. C. Archias

Each season the average grower is looking around for some crop that will not be overdone for the season. As a rule where any one crop has been more or less of a failure for the past several seasons it is shunned by everyone, each year the planting diminishing until it becomes so light that there is an abnormal price offered for the product at the end of the season, and the next year everyone rushes in to plant. Consequently the market is flooded and there is another lack of profit.

Crystal Wax and White Bermudas are leading up to this state at present. Imperial Valley and Coachella Valley have been one of the largest producers of Wax and Bermuda onions in the West for a number of years, but their production has been more or less overdone, particularly because many of the growers gather the onions in the green state in order to catch the early market. Owing to losses in the past few seasons the onion growers have become discouraged and after making a close canvass of the situation for this season, it is safe to say that Coachella Valley will plant less than 50 per cent of its usual acreage and Imperial Valley less than 25 per cent. The man who will plant onions should have the benefit of at least 75 per cent advantage over the past seasons for market and price. Onions look better for profit the coming season than any other crop in the valley. The usual planting in Imperial Valley is made any time during the month of October, planting about two pounds of seed to the acre on double ridges in medium soil. A few acres of onions is a safe gamble for next season.

## DATES IN TEXAS

Texas is becoming interested in the culture of dates. Report comes from Frank C. Patten of Galveston of a successful experiment in pollination which made possible the production of a few bunches. It is hardly possible that conditions so near gulf influence could in any way be similar to those in the Coachella Valley in this state where the date is being produced so successfully. Of course it is possible that a date may be developed which will do well under conditions different from those in its native country. Regarding one experiment made Mr. Patten writes:

"We have learned of a successful experiment at Houston, about 50 miles from here, in growing dates. A tree about ten years old was pollenized by hand last spring by Harvey C. Stiles, an expert horticulturist of Columbia, Texas. This tree had five large bunches of delicious dates on it this year. Through Mr. Stiles I have obtained one bunch which I have been exhibiting in the corridor of the Rosenberg library in connection with a Galveston bunch of dates where there had been no pollenization, and it has aroused a good deal of interest. Mr. Stiles tells us that our numerous date trees in Galveston will bear good fruit, he believes, if pollenization is properly attended to when the trees blossom in February. Previous to this time we have all supposed that successful date culture was not possible here because it was thought that weather conditions were not favorable. If we can succeed in getting a lot of trees in Galveston pollenized next February it will be quite interesting to see what will come of the experiment."

## LATEST COUNT ON AUTOS IN CALIFORNIA

According to figures compiled by the Automobile Club of Southern California, there are more autos in California at this time than there were in New York on January 1 of this year.

The registration for 1921 in New York, which led all states last year, was 812,031. The registration at the present time in California is approximately 834,192.

California was fourth on the list of states for the number of automobiles registered last year, but there is a possibility that it will jump to second place this year, and if eastern states eliminate all "dead" or defunct numbers from their registration totals at the end of the year, then California may jump into the first place. The registration figures as issued in this state contain no "dead" numbers.

Ohio, Pennsylvania and New York were ahead of California last year. The total number of cars registered in this state for 1921 was 673,830, an increase of 157,362 autos in less than ten months of the year.

The increase during 1921 over 1920 for California was only 104,938. The comparison of these figures is pointed out by the auto club as indicative of the tremendous increase in cars for this state during 1922.

## REPORT ON MANAGEMENT OF PRUNE AND APRICOT GROWERS

Because of criticisms of management of the California Prune and Apricot Growers the voting board of the association last spring asked the management engineers to make examination.

The report as rendered by Engineers Leffingwell, Ream and Company was unanimously accepted by the board and brings to an end the internal dissension which threatened several months ago to overturn the association.

The general findings are:

There has been nothing found reflecting in any way on the integrity of the management.

There has been nothing found indicating that the management is incapable of administering the affairs of the association.

There have been found several instances of the management's having extricated the association from difficult situations or having made deals advantageous to the association.

There have been found indications that the management is farsighted and capable of planning ahead wisely in the best interests of the growers and the entire industry.

In short we believe the management is honest and capable and worthy of the full confidence of the members, and that if the recommendations contained in this report are carried out, the association can look forward to more economical operation, greater returns to the growers, increased harmony among the members and a more solid organization.


# Competition

## The Public's Right

# Restored

## AN ANNOUNCEMENT

The Central Pacific Railway lines are to be separated from the stock ownership and operating control of the Southern Pacific Company of Kentucky, in accordance with the mandate of the United States Supreme Court of May 29, 1922. The Court's decision now goes to the United States District Court of Utah, where the details of the separation of the two properties will be formulated.

The Court's decision means the beginning of an era of active railway competition in California. This, in turn, means the opening of a period of intensive development, of growth in population and production, never before known in this State.

The Union Pacific has consistently stated that its primary interest is an independent Central Pacific for its connection at Ogden, free and untrammeled, so that it can co-operate with the Union Pacific in providing a high grade of transportation service and in aiding the development of this territory. Such co-operation will insure a transcontinental route eastward through Ogden which will provide active competition with all other transcontinental routes.

The Union Pacific henceforth purposes to develop its legitimate interests in California. It confidently relies upon the justness and fair-mindedness of the citizens of this State. It asks for nothing more.

In the view of those sincerely interested in the upbuilding of California the Supreme Court's decision is a great public victory. Transportation facilities will be increased. There can be no deterioration of those facilities. The Supreme Court has safeguarded the public interest by providing that THERE WILL BE NO DISRUPTION OF EXISTING TRAFFIC ROUTES AND SERVICE.

The basis for rates into and out of California will remain unchanged. On business between the Southern Pacific and the Central Pacific in California, the one-line basis for computing rates should be continued. The Union Pacific, if it should come into control of the Central Pacific, commits itself in advance to this policy.

There will be no non-essential duplication of facilities. But there will be legitimate and timely expansion of facilities to meet the ever-increasing public demand.

# Union Pacific System

# Crop Production

From Address by R. G. Risser before Oregon Irrigation Congress at Bend

THE first question to be raised in connection with crop production is: "What crops shall we grow?" It is a question which we ask ourselves and one which others ask us. It recurs in some places almost as often as the market takes a downward turn or at least as often as a disappointing season shakes our faith in our old standbys. But it is sometimes a baffling question, and always a question which should be answered only with a full knowledge and consideration of existing conditions. It should never be answered without due regard to the facts which affect it.

As I watch the trend of crop geography, see the production of certain crops localize and the big commercial districts successfully develop, I am tremendously impressed with one outstanding principle. And that principle is this: The large enduring districts which have achieved success and won renown for certain specialty products are those especially adapted by environment for the production of these particular crops. There is something about them which admirably fits them for the crop in question. It may be soil, climate, location with reference to markets or a combination of all which gives them a natural advantage and helps them crowd out competing districts less favorably qualified.

The most practical method of determining the adaptability of a locality for a crop is field trial. It is the most important test and should be conducted in such a way as to give definite results. But it should never be done on an extensive scale. Heavy losses have been sustained by attempting to grow some untried crop in a large way the first season. "Be sure you are right, then go ahead," applies here, but we want to emphasize the qualification, first, "be sure you are right."

Much should be said here to the credit of those enterprising individuals who introduce valuable new crops in a community. Resourceful men of this type who break away from the beaten paths of habit and tradition and strike out along original lines always deserve credit for their vision, their initiative, and their courage.

While we are speaking of the community let me offer another thought. Having demonstrated the merits and adaptability of a certain product for your district, make its production a general thing throughout the community. Growers can learn from each other in working out standard cultural practices. They can cooperate in providing tools and equipment and in getting labor. By their combined production and thorough collective action in advertising, they can build up a wide reputation for their output which they could not do singlehanded.

Crop production should not be considered merely as a matter of selecting and growing a certain crop. It should be looked at in its larger aspects and considered as a system. For this reason there should be a very definite and comprehensive plan or program for cropping, and this plan or program should have certain characteristics which will make for orderly and sensible production.

The first requirement for a satisfactory crop program is a diversity of crops. Sections devoted to one or two crops have seldom been a permanent success. There are many instances all over the country where a one crop plan has not worked out well, and there are sound reasons why it should not work out wel'. There are many advantages of having more than one crop. It reduces the loss in case of failure of a crop. It distributes labor and income throughout the season, and reduces the speculative element in farming.

Along with the diversity of crops there should be a definite system of crop rotation. Crops should follow each other in the proper sequence, and the rotation system should be well balanced. Rotation will be of assistance in controlling weeds and pests and in maintaining the productive capacity of the land. It should include a leguminous crop for this purpose.

The cropping program should be developed by evolution rather than revolution. Sudden and violent changes are not the best policy. Indiscriminate jumping from one crop to another or from one extreme in acreage to another is not only haphazard but hazardous. A single season of high prices should not be sufficient inducement to cause one to select a particular crop and substitute it for another. The program should stabilize conditions and should be built upon a series of crops selected for generally satisfactory returns for the average season over a period of years. Then this program should be reasonably constant.

Do not misunderstand me. It is all well and good to watch market tendencies and to study causes of market fluctuations. But growers are often unduly influenced by market flurries which last for one season only and action in prices. Such changes in which are inevitably followed by a reprice as are due to temporary or seasonal conditions do not represent any general trend and are therefore an unsafe guide for planting. In the case of perishable annual crops like vegetables, at least, it is not usually advisable to make radical changes each season.

While we are dealing with cropping programs in connection with market conditions, let me say that marketing possibilities should be carefully considered when a crop is chosen. Market requirements and preferences in varieties and marketing periods should not be overlooked. The probable demand at the time in question, competitive sources of supply, and factors influencing consumption should all be known.

The possibility of adjusting production more closely to consumptive requirements deserves more attention. Overproduction and underproduction are neither desirable, and it is important that they should be avoided. Sometimes by reference to informative statistics it is possible to foresee these contingencies and prevent them. In the case of perishable products like vegetables the production during the shipping seasons of the various districts should be synchronized and coordinated systematically. It is, therefore, well to work closely with a distributing agency in making a crop program and to analyze the information secured as a basis for plans.

In conclusion we want to emphasize the importance of high yields and good quality in any production schemes advanced. Any one who figures the thing out can not fail to appreciate the necessity for heavy production and a fine marketable commodity, but average yields are so much short of possible yields that we think sometimes growers have not all taken time to compute and compare results. Make the calculations yourself on the products you grow, and perhaps you will be induced to put forth stronger efforts to break all records for past achievements in crop production.

## PEACH SCAB IN SOUTHERN CALIFORNIA

(Continued from Page 445)

As regards varieties and their relative susceptibility to scab, our observations this summer would lead us to list the important varieties locally in the following order, the first variety named being the most susceptible: Lovell, Muir, Ontario, Phillips Cling, Elberta, Sims Cling, Orange Cling, Lemon Cling. Further observation may change the order in some cases.

Owners of peach orchards where scab was bad last year should plan to protect their fruit at the proper time next year and convince themselves of the practicability of control. Of course there is the possibility that some seasons will not be as favorable for the development of scab and spray would not be much needed. On the other hand, if many infected twigs are present and if the proper conditions of moisture are present during the critical period, it is then too late to spray, and serious losses will almost surely follow.

## OVERHEAD IRRIGATION IN A SEMI-ARID CLIMATE

By A. T. Parsons

OVERHEAD irrigation of lawns and gardens is familiar to every one, and the use of similar systems in semi-humid regions for truck and other high value crops is common. It is, however, unusual for an overhead system to be installed in the interior valley of California on a farm operated on a commercial basis.

The Jane Garden Farm, about 12 miles north of Sacramento, owned by F. W. Kiesel, vice president of the

Overhead Irrigation On the Banks of the Sacramento

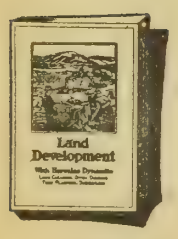
Sprinklers at work on Jane Garden Farm near the city of Sacramento. Each sprinkler is attached to the end of a 60 foot hose. Water is supplied by a Pelton pump run by electric motor.

"Let the Water Get to 'Em"

"They'd be twice the size by now if we'd loosened up this ground before. The hardpan is packed so that it cuts off most of the water.

HERCULES FARM DYNAMITE

will cure that. It requires little extra effort and does the business."

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The way blasting with Hercules Farm Dynamite should be done is explained at length in the new Hercules 75-page book "Land Development". Tree-planting, blasting between the rows, ditching, stumping and boulder blasting are treated. Photographs and diagrams help, too.

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*The Ideal Root for*

PRUNE & APRICOT TREES

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California Nursery Co.

Niles, California

Californian National Bank of Sacramento, comprises about 640 acres, directly adjacent to the Sacramento River and under the Natomas levee. With the exception of a few acres adjacent to the ranch buildings, all of the land is planted to beans which are irrigated with water pumped from the river.

Water for domestic supply, fire protection, and for irrigation of a rather extensive vegetable as well as flower garden is obtained by pumping from a well about 45 feet deep, drilled several years ago when the land was first reclaimed and cultivated. Several pumps of various types were used for this service, but the present installation has given the best service. It was installed early in the present year, an event which Mr. Kiesel now says he wishes had occured ten years earlier.

The present plant consists of a Pelton type FD 1¼ inch two stage centrifugal pump direct connected to a 7½ horsepower motor operating at 1750 R. P. M. The drawdown of the well is so small that no pit is required, the plant being placed at the ground level.

The plant pumps directly into a 1000 gallon pressure tank also at the ground level. An automatic pressure regulator manufactured by the Cutler-Hammer Co., starts the motor whenever the tank pressure drops to 30 pounds and stops it when the pressure is built up to 60 pounds again. The capacity of the pump is 5000 gallons per hour. It is interesting to note that in spite of the shallowness of the well the water is cool, about 52 degrees the year round.

About an acre and a half is devoted to a truck garden where melons, tomatoes, and miscellaneous vegetables are raised for the ranch table. A two inch pipe line from the pump runs midway of the garden throughout its length, with hydrants at regular intervals. The land is watered by sprinklers attached to 60 foot lengths of hose running each way from the hydrants. As many as four sprinklers can be used at one time. The total distance from the well to the farthest end of the garden is 750 feet, and the pressure at that point is sufficient to permit each sprinkler to cover a circle about 60 feet diameter.

Since the water is also used for domestic purposes and for irrigation, flowers, etc., no definite figures as to amount of water required for the truck garden can be obtained but, assuming a certain proportion of the total amount pumped, it seems probable that from six to ten inches deep per month is applied through the growing season. The condition of the various crops indicates that whatever amount is applied is sufficient.

An important consideration in the selection of the present plant was the provision of adequate fire protection. Two-inch pipe lines run to all buildings and the pressure maintained at all times is sufficient to throw a stream over any building. A line is also to be laid to a corrugated iron and frame warehouse for beans, situated on the levee, about 300 feet from the pump. Mr. Kiesel has so much confidence in the reliability of his present pumping system that he expects to discontinue insurance on the warehouse as soon as this line is installed.

# Legal Queries

Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.

### Changing Water Course

Over the land of a neighbor a small creek meanders. It crosses a small corner of my place. Can the neighbor change the course of this creek so that it runs in a straight line full length of my boundary line? The land is sandy and loose and the creek undoubtedly will wash out and cause my fences to fall and bank to cave in.—Subscriber, Sebastopol.

The neighbor would be entitled to straighten the course of the stream upon his own land and conduct it along the line providing he take measures so that the water will not cut the bank or injure your fences. This can be done by confining the stream in a concrete ditch or other reasonable method of maintaining the banks. If this is not done, however, you undoubtedly would be entitled to whatever damage may be incurred by reason of the falling in of the ditches and cave in of your bank.

### Check—Will

I do not desire to make a will but wish to leave a certain amount of money to a small child. Can I give an undated check at the present time, this check to be placed in a safety deposit box and cashed after my death? Can money be drawn from the savings bank by ordinary check?—Subscriber, Covina.

Such method of operation would be invalid, as one of the essentials of a gift is actual delivery. In this instance there is no delivery or even semblance of delivery. If there is no delivery during the lifetime of the donor the check would be simply without any consideration and it would be the duty of any administrator to reject it. Under the inheritance tax laws the bank is presumed, upon notice of the death of a party, to refuse to honor a check given during his lifetime. The purpose of this is to preserve the estate so that the full amount of the inheritance tax be paid. Under the contract whereby a person puts money in the savings bank it is required to give certain notice of its withdrawal and to present the bankbook at the time of the withdrawal.

### Access to Highway

I own 20 acres with 100 foot frontage on a highway. There is a triangular piece between a portion of my land and the highway. I wish to sell certain land which does not border upon the highway. Can the person to whom I sell cut a road through the triangular piece to the highway?—Subscriber, Anaheim.

The law gives to a person who sells land entirely surrounded by his own land what is termed a right of way by necessity, as it presumes that the vendor intended to give to the vendee a right of ingress and egress to the land sold. This right must be exercised along the nearest direct way to the highway. If, however, there are other means of access, the vendee cannot arbitrarily say just where he wishes to have this egress. This right, of course, does not appear if the land is owned by third parties, so that it would depend upon whether the triangular piece is owned by third parties and whether the vendee will have right of access to some other road. In either event he would not be entitled to cut the road as desired. If he is entirely surrounded by lands of other parties and his only right is over the land of the vendor, he might cut the way through the land of the vendor to allow it to touch the highway.

### Moving Pipe Line

I wish to change a pipe line on my


STANDARD LOADS of DU PONT SHOTGUN POWDERS

DUPONT (Bulk) SMOKELESS

| Kind of Game | 12 GAUGE DRAMS | 12 GAUGE OZ SHOT | 16 GAUGE DRAMS | 16 GAUGE OZ SHOT | 20 GAUGE DRAMS | 20 GAUGE OZ SHOT | SHOT SIZES ALL GAUGES |
|---|---|---|---|---|---|---|---|
| Turkey Geese | 3½ | 1-⅛ | 2¾ | 1 | 2½ | ⅞ | * 2 & 4 |
| Brant Large Ducks | 3¼ | 1-⅛ | 2¾ | 1 | 2½ | ⅞ | 4 in Flight 6 over decoys |
| Medium Ducks Grouse Prairie Chicken | 3¼ | 1-⅛ | 2½ | 1 | 2¼ | ¾ | 6 |
| Squirrels Rabbits | 3 | 1 | 2½ | 1 | 2¼ | ¾ | 6 |
| Small Ducks Pheasants Pigeons Doves | 3¼ | 1-⅛ | 2½ | 1 | 2¼ | ¾ | 7½ |
| Quail Snipe Woodcock Shore Birds | 3 | 1 or 1-⅛ | 2½ | 1 | 2¼ | ¾ | 8 |
| Reed Birds | 3 | 1 | 2½ | 1 | 2¼ | ¾ | 10 |
| Trapshooting | 3 | 1 ⅛ | 2½ | 1 | 2¼ | ¾ | 7½ |

BALLISTITE (Dense) SMOKELESS

If BALLISTITE (*dense*) Powder is desired order by grains. A comparison follows of *Bulk* and *Dense* Loads

| DRAMS | | GRAINS | DRAMS | | GRAINS |
|---|---|---|---|---|---|
| 3½ | equivalent to | 28 | 2½ | equivalent to | 20 |
| 3¼ | " " | 26 | 2¼ | | 18 |
| 3 | " " | 24 | 2 | | 16 |
| 2¾ | " " | 22 | 1¾ | | 14 |

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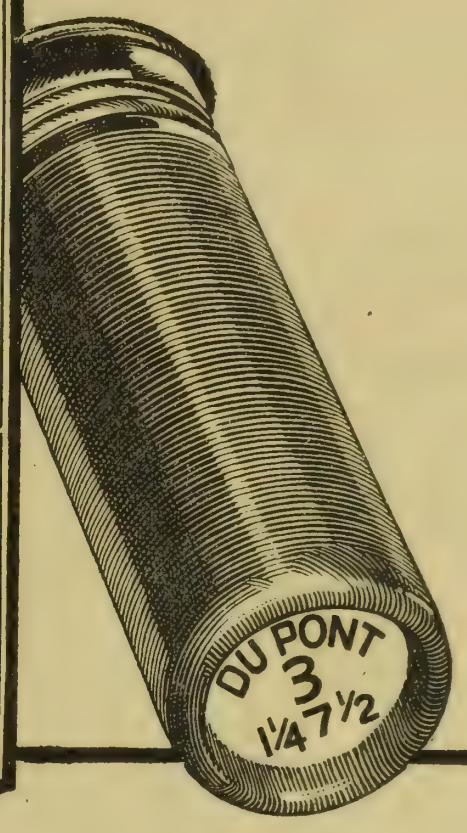


There is just as much reason for you to specify the brand of powder you shoot as the make of shell you use—and it is the same reason.

SHOOT DU PONT POWDERS

DU PONT

place so as to irrigate more easily. Another party uses this line to water his place. Can I stop him from using my pipe line?—Subscriber, Anaheim.

You probably could not. Sufficient facts, however, are not stated to give much of any answer to this question. You will, of course, be entitled to change the pipe line on your own place to suit your own convenience so long as you do not interfere with the vested rights of third parties.

---

Every crop of wild oats is smutty. —Osborne Farmer.


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# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Grapes on Adobe

What kind of grapes do best on adobe land?—Subscriber.

The planting of grapes on "dobe" is a questionable undertaking. Almost all varieties will thrive better on land of a different type. Heavy soils are in addition generally believed to be more susceptible to general infestations by grape phylloxera, a tiny root louse which is a very serious root pest in many districts. It is probable that this is due to the fact that distribution is more rapid in such soils because of the cracking following irrigation providing a means of travel from one root or vine to another. So far as culture is concerned the objections to "dobe" soil for grapes are the same as for other fruits in that the proper handling of such soils is difficult and requires an application to detail not necessary on the lighter soils. If, however, one must plant grapes on such soils the Emperor will do as well as any of the common varieties, provided of course climatic and other conditions are favorable to a product of this kind. —F. K. H.

### Pear Blight

I am enclosing badly defective leaves from pear tree. Can you tell me the cause?—Subscriber, Lancaster.

See answer to similar question by James Mills, Jr., in issue of February 12, 1921, page 197.

### An Acre

Is 208⅓x208⅓ feet an acre of land? —Subscriber, Gardena.

No, there are 43,560 square feet or 4,840 square yards or 160 square rods in an acre. A plot 208⅓ feet square contains a fraction over 43,402 square feet. A square with its sides 208.7103 feet long contains within two hundredths of a square foot of an acre.

### Enlarged Gall Sac

We had a rabbit die and on examining it found its gall sac twice as large as it should be and very hard. What is cause and cure?—Subscriber, Lomita.

The conditions set forth in this case are very rare and can not be cured as no one can know of it until animal is killed. Oftimes a stricture or obstruction comes in mouth of gall bag and this causes enlargement, and as it can not discharge readily it hardens. This is the second case the writer has come in touch with in many years.—W. D. W.

### Call the Vigilance Committee

Now for another appeal to the public:

About three weeks ago a hunter was ordered off a rancher's place in this neighborhood and for retaliation set fire to the timber below this man's house. This fire burned over about 5000 acres and destroyed two ranch homes. By hard work other homes were saved. Much timber was destroyed.

About six miles from this fire another was started, burning over about 4000 acres, burning two more ranch homes. One was occupied by a man and his 82 year old mother. They had just sat down to dinner when the fire swept up the ridge and before they could save a thing they had to run for their lives. Even the dog was burned. The whole neighborhood turned out and fought the fire for about three weeks. It is raining now so the fires are out.

We like to see the hunters enjoy themselves but have a little respect for us "hill billies."—Subscriber, Etersburg.

### Ragged Robins

Please inform me through your paper if you know of any nursery where I can get the Ragged Robin rose bushes. I have several seed catalogues and none have the mentioned rose.—Subscriber Morganhill.

We think any nurseryman carrying an ad in the California Cultivator can supply you. In case they can not one may take ripe wood cuttings from a bush which is entirely dormant, say in November or December, make cutting of wood size of lead pencil, set in sandy soil two-thirds of the length of a 12 inch cutting, water occasionally.

### Grapes and Figs

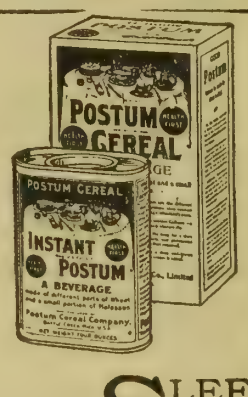
I have some ground in Alpaugh, Tulare County, loamy soil, some shell. The loam is about four feet deep under which is a kind of gumbo. Alfalfa does exceptionally well, the ground holding the moisture very well on account of the gumbo underneath. Will Alicante grapes and Kadota figs thrive on this soil? Are the Alicante and the Alicante Bouschet grapes the same? What tree or grape would you suggest if the above mentioned will not do?—Subscriber, Anaheim.

We doubt very much the advisability of planting either Alicante grapes or Kadota figs in the district you mention. The hard clay subsoil in the Tulare Lake district has quite effectively prevented the extensive planting of trees and vines in that district. There are, of course, certain areas in the district in general which might prove to be satisfactory for fruits but unless there was considerable acreage developed shipping facilities, especially for the fresh varieties you mention, would be difficult to secure because acreage would not be sufficient to load car lots. Alicante and Alicante Bouschet are names for the same grape. For more definite information regarding the advisability of planting on your particular land would suggest that you get in touch with your local farm adviser or horticultural commissioner.—F. K. H.

### Temperatures Affecting Grapes

How low a temperature will Zinfandel and Alicante Bouschet stand? Our temperatures here range as low as 8 above zero.—Subscriber, Hinkley.

Perfectly dormant grapevines would probably successfully withstand the winter temperatures mentioned It appears to us that your problem would be whether your growing season is long enough to mature the crop and whether late spring or early fall frosts are prevalent. Damage is usually caused by untimely frosts when the vines are in a growing condition. A careful study of the temperature records for your district compared with the dates when growth normally starts is advised.—F. K. H.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opinion you would get much more satisfactory results by taking out your apple trees and planting pears grown on their own root. At first thought this would seem to be a waste of time as well as trees but it is better to do it now than to spend money experimenting and then after two or three years find that the experiment was a failure and the trees have to be pulled out after all. Grafting is the best method of working over deciduous trees and, in the case of your yearling apples, it would be best to cut off the entire top and insert the grafts in straight stock.

### Stocks for Walnuts

What is the most desirable way to raise English walnuts? Shall we graft on root of the Northern California black walnut seedling or wait till the second or third year growth and graft the limbs? We have been told that by using the native northern walnut we have a tree that is quite resistant to disease and sunburn. What can you tell us about this?—Subscriber, Chico.

The northern California native black walnut is generally preferred as a stock on which to bud or graft the California walnut. As a rule, the plan followed is to grow in nursery row until the bud or graft is a year old then plant in orchard form, choosing trees of uniform vigor and size, and this results in a far more uniform orchard than can be secured by planting seed in their permanent place and grafting when three or four years old. The cost of cultivation and care of trees set 50 or 60 feet apart is so great that uniformity adds to the economy of growing in the nursery row or buying trees from established nursery. Blight resistance is not secured so effectively by the use of root stocks as by the use of scions from resistant trees.

### Tank of Toilet

I have seen a lot of useful information in the Cultivator since I've been a subscriber and now I would like a little more. To my toilet I have a high tank, white enamled, and iron rust from the water has worked out over the top and is now going down over the front and sides. In spite of all my labors with almost all kinds of powders there seems to be no stop to it. Can you suggest anything that I can do to stop it from spreading any further?—Subscriber, Los Angeles.

It would be hard to recommend anything which would restore the natural color of enamel which might not endanger its entire removal. Presumably the tank fills too near the top and needs adjusting of the water supply. These tanks usually have a zinc or copper lining and there should be no such staining or marking as the subscriber suggests. It is possible the float has rusted and may have taken in sufficient water that it fails to raise it sufficiently to shut off the flow which may cause the water to remain at too great a height from the box.

### June Drop

Two years ago wind whipped leaves off orange trees. Navels set but drop off when some are large as marbles. After they have matured fruit is all on one side of trees. Trees are not watered but look very healthy.—Subscriber, Vacaville.

This is probably a case of June drop which has been so thoroughly discussed many times in former Cultivators that a discussion at this time of the year would have little general interest. A hint at this time, however, may be in order, and that is that with the approach of another blossoming season the trees should be in the very best of condition with plenty of moisture at the roots. Some think that additional protection is secured by having the ground covered with a growing crop to prevent heating of the soil under the hot wave which usually precedes the June drop.

### Replanting Apple Trees.

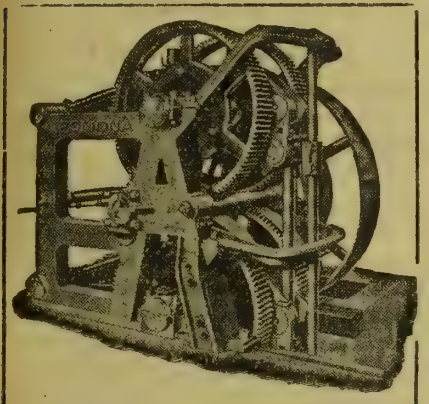
I have a neighbor who has a nice lot of coming two year old apple trees. He bought them to take up in what we call big pine timber or the higher mountains, and failed to get them up there last fall. They have made a good growth. He is afraid to take them up this fall for fear he will take codling moth up with them which is in a summer apple near where they are planted. What do you advise? Isn't the codling moth egg only laid in the flower of trees as they bloom? Could these trees be sprayed and moved successfully, and if so what are the ingredients?—Subscriber, Maxwell.

If by two years old the inquirer means that trees have two years growth of bud on one year root—which means that the root is three years old—we would advise discarding the trees and purchasing new ones rather than resetting. Nurserymen burn thousands of trees every year rather than hold them over for it is difficult to make old deciduous nursery trees into a successful orchard. As to carrying codling moth that is hardly probable, though the orchardist must bear in mind that the codling moth lives the year through, though at this period of the year it may be hidden in the crevices of fruit boxes, in the rough places in the bark of trees or any convenient protected hiding place. It is in the pupal form and hidden by its little case or cocoon. About apple blossom time it escapes from this case in the form of a moth and proceeds to deposit eggs on the blossom ends of the forming apple or pear. The wormy apple crop is then started unless the spray pump has been brought into requisition. Therefore apple growers should exercise caution in moving boxes, trees or any possible carriers of this pest into an orchard section.

### Kadota Figs

In your issue of October 7 a subscriber wanted to know what is the reason his Kadota figs fall off. If they are Kadotas and not Calimyrnas, the only reason I know of is lack of water. I have never seen a Kadota tree in fresh young condition but held its figs to ripening and have never seen one injured by having too much fruit. Keep the ground moist and they will grow both wood and fruit in plenty.—N. E. Beckwith, Reedley.

The Northern California Wool Growers Association will hold annual meet in Red Bluff Saturday, October 28.

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**4126. Ladies' House Frock with Knickers.**—Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38 inch size requires 6¼ yards of 32 inch material for the dress, and 2⅝ yards for the bloomers. Collar and cuffs of contrasting material as in large view, will require ⅝ yard. The width of the skirt at the foot is about 2¼ yards. Price 10 cents.

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**CATALOGUE NOTICE**

Send 12c in silver or stamps for our Up To Date Fall and Winter 1922 Catalogue. This is even better than the Spring and Summer number. It will have 8 colored plates,, the same as the last catalogue, but a great many of the other pages will be arranged in plate form, so that the Fall and Winter Catalogue will be more like a fashion book than a pattern catalogue.. It will also include points for the needle and hints for the home dressmaker.

**PATTERN DEPARTMENT**
**California Cultivator Los Angeles**

# Household Department

### THE LAUGHING FOOL

The world admires the kindly man
Who grins and does the best he can,
But there's a time a laughing face
Is absolutely out of place—
A time when for a little while
It doesn't pay to wear a smile.

Bill Green had heard "The man who grins
Is usually the man who wins,"
And so unto himself he said:
"I'll laugh until the day I'm dead,
When trials come and things go wrong,
I'll laugh and chuckle right along."

While working in a china store,
One day Bill dropped upon the floor
A costly vase of rare design,
Which crashed just like a bursting mine.
It made his boss exceeding hot
To see the ruin Bill had wrought.

"You blundering fool!" the boss exclaimed,
The while in rage his visage flamed;
"Your careless hands have now let fall
The most expensive vase of all,
A model of the potter's craft!"
And Bill looked up at him and laughed.

A second later through the door
Of that once peaceful china store
A flying human form was seen;
We recognized as William Green,
Belabored by an angry chief
Intent on bringing him to grief.

Later, when calm had settled down,
The chief explained to all the town
That he had kicked Bill from his place
For laughing boldly in his face.
Which goes to prove the man who wins
Is not always the man who grins.—Edgar A. Guest.

### THE THREE GIFTS

(Continued from Last Week)

Each morning Claudius climbed the hill that he might look down upon the scene he was painting. With deft fingers he mixed the shadowy greeens for the birch trees and the grass, and with clever, careful brush he pictured the smiling sky and the gracious beauty of the palace.

But when the long shadows fell and evening came Claudius would hurry eagerly to the palace for he knew that the little maid would be waiting with strawberries in a great glass bowl and tiny rolls and something savory and hot in a covered dish, which she herself had prepared. They would laugh while she mixed the salad, though her face was a bit wistful now, and Claudius would sigh with content when at last they sat down before the table.

Each night while they ate Claudius told of his city and his days at school and even of his dogs for whom he was lonely so soon. But while he talked and watched the tender face of the little maid a vague sadness would steal over him for surely she was as gentle and as charming and as beautiful as any girl could be.

At last the week ended and the gift was finished. The little maid clasped her hands and shivered as she looked at it for there was the valley with its little walks and glens in wavering green and brown. There too were the kindly trees bending over the pillared verandas. An azure sky arched above the palace dome. Here and there a lacy curtain fluttered from an open window, or seemed to flutter. In a splash of gold and red and lavender the flower gardens bloomed again.

The little maid turned to leave the room. Claudius caught her hands in his and looked into her face.

"Ah, child, if only there were no Sun Princess in all the world.—But, alas, it is time to think of other things—"

The patient voice of the little maid broke in, "At the sunset hour the princess will wait upon the balcony in the upper room. There she will gaze upon your gift. If it pleases her she will descend to you. If her heart is not touched she will not move and you have failed."

Claudius found the upper room at sunset as his brother had found it. The same rich, faint light came from the painted swinging vases and on the balcony sat the Sun Princess enveloped in cloudy white. Claudius gazed for a moment and thought she must be wondrous fair, then proudly he lifted his gift to the lighted dais which had been prepared for it and waited with humbly lowered head for the Sun Princess to descend.

After many minutes Claudius lifted his head. The splendor of his gift seemed to light the center of the room and he turned proudly to either side to welcome the princess. Then he gazed, incredulous, toward the balcony. The princess had not moved. The dim and lovely face in its mist of white was as unmoved as a quiet pool. The gift had failed.

After his anger had passed Claudius searched the palace for the little maid to comfort him, but she had disappeared and at sunrise he rode over the mountains alone.

The third brother, Constant, did not arrive at the palace till many weeks later, and he came alone. He had chosen to linger on the mountains and in the valleys and he came with his pockets full of precious seeds and rare herbs. He stopped on the hill and looked down at the palace like a spreading white flower in the green and sunlit valley and his blue eyes grew tender with love and wonder at the sight.

Constant had lunched on berries and mountain fruits and a few hours before he had broiled a monster trout over the coals of his camp fire so the banquet which the Sun Princess had had prepared was not tasted and instead the little maid served under the apple trees a modest supper of bread and milk and cinnamon cookies.

When Aurelia's note was handed to him he whistled absently and began to search through all his pockets. Then he looked up into the face of the little maid and smiled.

"I brought, as my gift to the princess, my mother's wedding ring, but I remember now that it fell from my pocket into a mountain torrent. However, I see that it is just as well for she has given me a week to find a gift."

He reached for the topmost cooky and gazed with contented eyes at the wonders of the garden.

The next morning Constant was the second to awaken, and the little maid, hurrying breakfast, came flushed and smiling to find him sorting seeds on the damask of the dining table.

Together they breakfasted at the farthest end of the table and together they laughed over the grounds in the coffee and the popovers which had not popped. They finished on jam and biscuits from a tin and went out to look at the giant chrysanthemums which were just opening in the garden.

Over in the garden's richest spot Constant pointed out a tiny plant which had not been there the day before.

"It doesn't look like much," he said, blushing. "I planted it at dusk last night and I'm afraid the flower it bears will have to be my gift to the sun princess for I have nothing else."

The little maid, looking closely, saw that the leaves of the plant were bruised as though it had been carried in a pocket, but even as they watched it was taking heart from the earth and the dew and the splendid sunshine and straightening its leaves to a smoother, deeper green. Curled up among the leaves, too, was a large and delicate bud.

"I saw no flowers like it that had opened," said Constant, wondering about the color of the little maid's hair under her close white cap. "But I wish you had been there with me to drink the perfume which came from all the plants like this. The bud should open into something very lovely."

And so the week passed. At not long after dawn the two breakfasted and were out to tend the gift plant which daily was growing stronger and glossier in the cradling sunshine. The bud was rising on a long and slender stem and it had grown so large that every morning when they left the plant and hurried toward the forest or the dale for their gay tramp, the little maid would look back one last time, fearing that the bud had bloomed.

Returning, tired, at evening time, Constant and the little maid would bend again over the plant and rejoice to see how it had grown. Then into the coziest room they would stroll contentedly and Constant would build a fire on the hearth so that the little maid could toast thin slices of bread and he could broil the steak.

At last the week ended and the gift plant bloomed. They found the flower when they came home early, silently from the wood, but long before they found it they knew that it had opened for the garden held a rich new perfume. The little maid bent over and touched it with her lips—a deeply purple blossom with shining gold at its heart and the sweetness of a thousand violets poured into one.

The little maid lifted her face and began patiently,

"At the sunset hour the princess will wait upon the balcony in—"

But Constant bent and picked the gift flower and enclosed its stem in the right hand of the little maid. Then he stopped her words with his lips.

"Sweetheart, did you think there could ever be anyone else! What am I to the Sun Princess—and what is she to me! Come, we will leave together."

And with eyes star-like with rapture the little maid took Constant by the hand and led him to the upper room. The same rich, faint light came from the painted swinging vases and on the balcony sat a figure enveloped in cloudy white. They stood before her.

In bewilderment Constant opened his lips to tell the Sun Princess that he loved another, for no one had spoken and the silence was unbearable. Then like a flash the crystal chandeliers in the room burst into light and Constant moving another step toward the white figure, stopped in amazement for he saw that she was neither girl nor Sun Princess but just a lovely doll with raiment of cloudy chiffon.

The little maid touched his arm timidly and he turned toward her. Her cap was off and he saw that everything about her was like the sunlight. Her hair was threads of dancing gold. Her eyes were deep and bright. Her white skin was pure and radiant.

### HOUSEHOLD QUERIES

**Jam Without Sugar**

Will you tell me, through the columns of your paper if it is possible to make jam without sugar by using sweet fruits such as figs and sweet prune plums so it will keep several months?—Subscriber, Arcadia.

Prof. Cruess writes that he does not consider it advisable to attempt "to make a syrup for canning purposes from grapes. However, we find that an excellent jam can be made by stewing grapes until soft, rubbing them through a screen to remove seeds and skins, combining the pulp so obtained with other fruit pulp and cooking to a jam consistency." Fruits thoroughly ripened so that they contain maximum amount of sugar may be canned successfully without addition of any sugar, keeping perfectly and being more pleasing to many tastes than where sugar is added. "Sugar Saving Suggestions" issued by the University of California during war times and revised by Prof. Cruess in June 1920 suggests that corn syrup or honey may be used instead of sugar, two-thirds cup syrup being equivalent to one cup sugar. Also addition of a little salt makes jams palatable with less sugar. One-quarter ounce salt to each six ounces sugar to each pound of fruit is recommended.

**Chayotes**

Can you tell me any way of cooking chayotes?—Subscriber.

The one important thing to remember in cooking chayotes is that the young tender ones cook quickly but the older hard ones must cook longer until thoroughly done. They are delicious if properly cooked.

Chayote Soup.—Make like potato soup. Split chayote in halves, peel, slice thinly or run through food chopper, using coarse knife. Put tablespoon butter, drippings or fat of any kind in stew pan. Add chayote, cover tightly and cook over medium fire five minutes or until dry, then add little boiling water and cook till done. Add

salt and pepper to taste, milk and fine cut parsley, garlic or onion as liked. A left over of sour cream may be added when ready to serve or a little grated cheese. Some like the addition of one or two eggs, beaten whole, put into the soup when boiling briskly (add slowly to keep boiling all the time) just before serving. The egg cooks so quickly that it forms in little straws.

Creamed—Prepare as for soup above, cutting in thin slices. Cook in same way. When soft season with salt, pepper, butter or sour cream and little milk.

Fried—Cut in thin slices or sticks, dip in beaten egg and cracker crumbs, season with salt and pepper and cook in fat like egg plant or squash.

Batter Cakes—Grind fine one cup chayote and add to hot cake batter. This is an easily remembered batter recipe: One cup flour, 1 egg, 1 cup milk, 1 teapsoon baking powder, 1 teaspoon sugar. Cook as ordinary hot cakes.

Salad—Cooked chayotes combine very nicely in salad if carefully dried in cooking. Don't use them wet or soggy. Use like potato. Combine with cold boiled egg, little onion and add salad dressing. The very young tender ones, the size of a plum, may be sliced raw and used as cucumbers.

### To Clean Paint Brushes

Is there any way to clean paint brushes really satisfactorily? I have used turpentine but it doesn't take the paint out. Perhaps the quality of the turpentine is poor, but after days of soaking the paint still sticks.—Subscriber, Alhambra.

There are thoroughly satisfactory paint cleaners put up ready for use which are less expensive than turpentine. These have been advertised in the Cultivator. If you do not find the advertisement we will be glad to send name and address on request. We have just been talking with a very enthusiastic young housekeeper on this subject. She and her husband have bought for their first home an old house, and because all their money has gone into the purchase price they have done the work of repainting and refinishing themselves. Every cent counted big. They found under the old house some dried paint brushes which looked as if their useful days were long past. But a neighbor told them of her successful experience in cleaning such old brushes. They tried it, reclaiming three good brushes which they have used all through their refinishing work. The dollars saved have gone into purchase of enamels and varnishes for renewing some castaway chairs also found under the old house.

### Coffee Cake—Fig Bars

Would you kindly publish a recipe for making fig bar cookies in the Cultivator, also recipes for good coffee cake made from yeast?—Subscriber, Sacramento.

Coffee Cake—Three-quarters cup milk, ½ cup melted shortening, ½ cake yeast, 1 teaspoon salt, 2 eggs, 1 cup sugar, 1 teaspoon lemon extract, ¼ cup chopped walnut meats, flour. Heat milk slightly then add flour to make batter and yeast dissolved in little lukewarm water. Allow to rise until light, then add shortening, eggs well beaten, sugar, lemon, salt, and enough flour to make stiff dough. Knead ten minutes and let rise until light. Place in greased pan and let rise again. Spread with melted shortening and sprinkle with sugar, cinnamon and nuts. Bake in hot oven half an hour. Sufficient for one large loaf.

Fig Bars—Boil together 1 cup chopped figs, ¼ cup sugar, ½ cup water, a small piece of butter, 1 teaspoon flour, a little lemon juice; let it cool; cream together 1 cup sugar, ½ cup shortening, add 1 egg, ½ cup milk, 1 teaspoon vanilla, sift together about 3 1/3 cups flour, ½ teaspoon salt, 1 teaspoon each of soda and baking powder; add to creamed mixture; divide in two, roll thin, spread fig mixture on one, cover with the other, press gently, cut in shapes desired and bake on greased tins in moderate oven.

Another—One cup sugar, 1 cup butter, ½ cup milk, 2 eggs, 2 teaspoons baking powder, flour to roll stiff. Bake in one sheet, or you may cut into four inch squares. Roll out very thin and bake in hot oven.

Fig Filling—One cup sugar, ¼ cup water boiled to crack stage. Run ½ pound figs through meat chopper and put into syrup while hot and beat till cool. Spread on cookies, put another on top and sprinkle with pulverized sugar.

Still Another—Two and one-half cups flour, 2½ cups rolled oats, 1 cup each butter and brown sugar, ½ cup sour milk and 1 teaspoon soda. Flour the board generously, roll thin and cut with a narrow oblong cutter. Mix ½ pound figs chopped fine, 1 cup sugar and 1 cup water and boil till smooth and thick, then add a teaspoon of vanilla, or chop fine ½ pound figs, add ¼ cup of grape juice and 2 tablespoons sugar and let boil to a paste. (Either boil the figs in water till tender or soak in water before adding the sugar.) Put a layer of fig paste between every two of the cooky dough, sandwich fashion, and bake in hot oven. When cold pack edgewise in a jar and hide the jar.

### Dried Fruits and Nuts

I enjoy your paper and especially the recipes. I want to send dried fruits and nuts back East for Christmas and would like recipes for as many tasty ways of preparing them as I can find. Enclose a splendid cake recipe.—Subscriber, Sunnyvale.

We will give as soon as possible in this department some ways of using dried fruits. Why not send to the various fruit and nut associations in California for their booklets of recipes and enclose in your Christmas packages? These are printed for advertising purposes, are distributed free and are absolutely reliable. Besides they are designed by artists and would make beautiful gifts in themselves. Write for free booklets of recipes to Sun-Maid Raisin Growers, Fresno; California Prune and Apricot Growers, San Jose; California Peach and Fig Growers, Fresno; California Walnut Growers Association, Los Angeles; California Almond Growers, 311 California Street, San Francisco; California Olive Association, Higgins Building, Los Angeles. Thank you for sending the cake recipe:

Lemon Loaf Cake—Cream together one cup butter and two cups sugar. Drop in four eggs, one at a time, but dc not beat the eggs. One cup milk, three cups flour, four level teaspoons baking powder. These are added alternately, in the ordinary way. The grated rind of a lemon furnishes flavoring. Bake in a moderate oven for about three-quarters of an hour. The temperature should be even to produce the close, fine grain given by its unbeaten eggs and the scant allowance of baking powder. This cake is excellent for keeping.

## SOME GOOD WAYS TO CONSERVE

By Mrs. L. B. Brown

### Dried Tomatoes

Pick in the morning, scald and peel, cut in halves, put in sun to dry on trays. Good for soups, stews and beans.

### Tomato Butter

Twelve pounds tomatoes, cut up after peeling, 6 pounds cooking apples, peeled, cored and sliced, 6 pounds brown sugar. Let all simmer several hours, add ground spice to suit taste. Very good on hot cakes or bread for children.

### Figs

Pick ripe ones only, let dry, flatten with hands, pack in large jars, sprinkle each layer with little sugar, pack down tight and they are ready to use in two days or any time one likes to eat between meals. They will not hurt children as cheap candy will.

### Grapes

Pick ripe and put on trays in the house and they will not dry so fast, and you will have grapes to eat when you could not get them off the vines.

### A Miner's Sour Dough

I use this all the time and we would not go back to baking powder hot cakes for anything. We also use it in our mine camp.

To make the starter—1 yeast cake dissolved in 1 pint warm water, flour to make medium batter. Let set 24 hours in warm place.

To use—Take half of starter, add 1 tablespoon brown sugar, 1 pint water, flour enough to make a good thin cake batter, add salt, 1 level teaspoon soda, beat well and bake on hot griddle. If there is any left over put in "sour dough jar" and add nothing but flour and water. Can be used every morning.

To make waffles add 1 or 2 eggs before the soda and beat hard, add soda and bake on waffle iron.

I have used each of these and I get such good pointers from the Cultivator both for the farm and home that it is no more than right that I contribute some of my favorite recipes.—Mrs. L. B. Brown, Schilling.

## WOOLEN TESTS

Hold cloth up to light; if the weave is loose and sleazy that material will not hold its shape.

Ravel out some warp; if it breaks easily the material will not wear, and unless it tears hard and leaves a rough edge the cloth is not woolen.

Wool gives off the odor of burning feathers when set afire and it burns slowly. Cotton flames and burns in a second.

## ONLY ONE WHO UNDERSTOOD

It was Daisy's twelfth birthday, and she had been given a silver thimble. Her friends admired the gift, but Daisy kept her sentiments to herself. In the evening a very human aunt was shown the useful present.

"Poor child!" was her only comment.

"Those are the first words of sympathy I've had today" said Daisy—and her pent-up feelings found relief in tears!

## WILL TO WIN NEEDED

The line between failure and success is so fine that we scarcely know when we pass it; so fine that we are often on the line and do not know it. How many a man has throw up his hands at a time when a little more patience would have achieved success. —Elbert Hubbard.

## SIGN OF HOMEMAKER

Samantha says: When the children have good manners, you can be sure that the mother is more than a housekeeper; she's a homemaker.

The deepest point reached in deep sea sounding is 32,078 feet in the Pacific Ocean near the Island of Mindanao, Philippines.

The lowest point of land in the United States is Death Valley which is over 300 feet below sea level.

The intensity of brightest moonlight is less than 1-500,000 that of sunlight.

Money will buy a dog, but only love will make him wag his tail.


## Oil Light Beats Electric or Gas

BURNS 94% AIR

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal oil).

The inventor, W. V. Johnson, 31 N. Fifth St., Portland, Ore., is offering to send a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help him introduce it. Write him today for full particulars. Also ask him to explain how you can get the agency, and without experience or money make $250 to $500 per month.

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DICTIONARY is an all-knowing teacher, a universal question answerer, made to meet your needs. It is in daily use by hundreds of thousands of successful men and women the world over.

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Relief for Orchardists and Gardeners

You can't rid your trees and plants of Mealy Bugs, etc., until the ants are exterminated. I guarantee to kill every ant on your property. Send for full information and special Orchard prices.

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Place a can on every trail. Every ant will disappear. 60c can. 6 cans $3.00. Ask for literature.

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Mfg. Chemist and Entomologist,
710 TOWNE AVE., LOS ANGELES.

MARVEL ANT EXTERMINATOR

Save 1-2 on Fuel

CHEAPEST HEAT YOU CAN BUY

The Sievert Oil Burner burns either distillate or kerosene oil in cook stoves, heaters, furnaces, pasteurizers, boilers, prune dippers, dairy sterilizers, etc. Absolutely safe, odorless, very convenient and low priced. MAKES HEAT AT HALF WHAT WOOD AND COAL COSTS. Install it yourself. Write for circular and prices on different sizes. Address Sievert Oil Burner Co., 710 North Main St., Los Angeles.

# Horse and Wagon Days are gone forever

Your crops are hauled by truck and train because these modern methods are quicker, cheaper, more satisfactory.

## Why Not

use modern methods of cooking and heating in your home?

# NEW SUPERIOR COAL OIL BURNER

(Model 1-W Willis Patents)

provides heat that is as different from that of wood and coal, as the train and automobile differ from the horse and wagon.

The **NEW SUPERIOR COAL OIL BURNER** is quickly and easily installed **IN ANY TYPE COOK STOVE, HEATER** or **FURNACE.** All you need is a small wrench.

Heating and Cooking the **NEW SUPERIOR WAY** is at least **ONE-THIRD CHEAPER** than wood or coal. Clean heat is generated quickly, without odor or smoke—and the heat is absolutely safe, easy to regulate and thoroughly dependable.

The **NEW SUPERIOR BURNER** is unconditionally guaranteed to give at least two years continuous service without repair expense; to burn cleanly, quietly and economically; to heat water, oven and stove better than coal or wood and **NEVER TO NEED CLEANING.**

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## New Superior Coal Oil Burner

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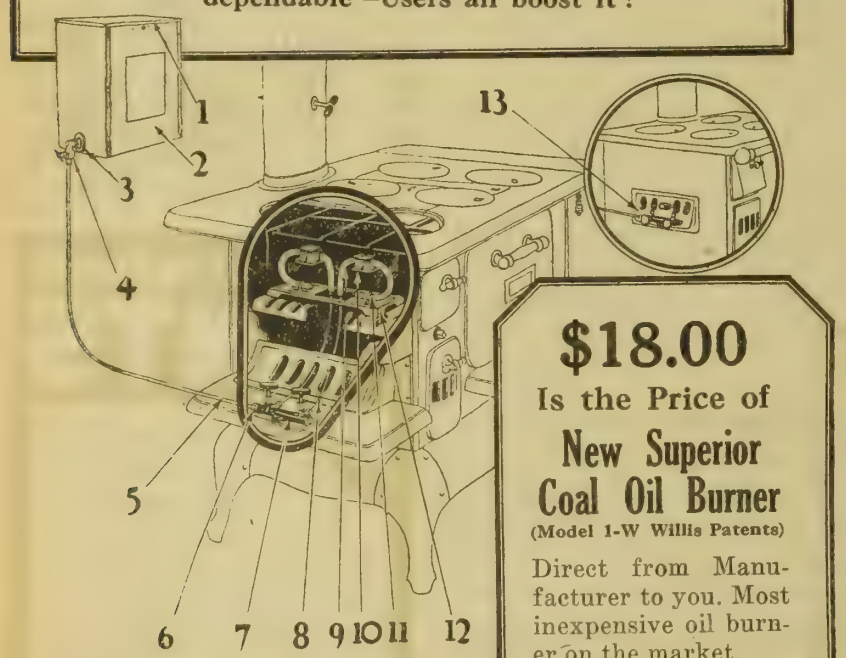


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Is the Price of

**New Superior Coal Oil Burner**

(Model 1-W Willis Patents)

Direct from Manufacturer to you. Most inexpensive oil burner on the market.

1—Dust cover on tank keeps the oil clean. Tank is handsomely ENAMELED a deep rich brown.
2—Direction sheet is pasted directly on tank—cannot get lost.
3—Tube screen inside of tank prevents trouble from dirty oil.
4—Quick shut-off valve at tank. A quarter turn cuts the oil off or turns it on.
5—Flexible copper tubing. Makes installing easy and never rusts or leaks.
6—Imperial compression couplings. Make absolutely leak-proof joints. Easy to connect up.
7—Simple, dependable double valve control. The finest valve ever put on an oil-burner.
8—Flexible brass tubes carry oil from valve to base of burner pipes. Leak-proof and easy to connect in any style of stove.
9—Genuine seamless chrome-steel tubing is used in making the generating pipes.
10—Divertible manganese iron flame spreaders. Lock centered over gas tips. Enable concentrating flame over oven when desired.
11—Patented non-corroding gas tip. Can be used on no other burner.
12—Patented burner base. The oil-tight generating basin at each end enables generating with either kerosene (by opening oil valve) or denatured alcohol, or paper, as desired. Found on no other burner.
13—The insert in circle shows how the valve may be placed for range installation. Where more convenient the valve may be placed ABOVE the air side with the feed tube connections pointing downward.

## Superior Oil Burner Co.

259 Market St. San Francisco, Cal.


### NEW RAISIN RECIPES

A new raisin recipe book is being mailed by the Sun-Maid Growers. Here are four "samples": No doubt the book will be sent to any Cultivator reader on request to Sales Department, Sun-Maid Raisin Growers, Fresno.

**Raisin Cream Cheese Salad**

1 cream cheese, ½ cup chopped Sun-Maid raisins, 3 tablespoons cream, 1 teaspoon salt, ⅛ teaspoon paprika, lettuce, salad dressing. Mix cheese, raisins and cream to a paste. Season with salt and paprika. Form into balls the size of a hickory nut. Press a whole large raisin on each side. Serve three or four balls on crisp lettuce leaves. Serve with either mayonnaise or French dressing.

**Devil's Food Cake**

1 tablespoon butter or shortening, 1 cup sugar, 1 egg yolk, 2 squares unsweetened chocolate, ½ cup boiling water, 1½ cups flour, ¾ cup Sun-Maid seeded raisins, 1 teaspoon baking powder, 1 teaspoon soda, ⅛ teaspoon salt, ½ cup sour milk or buttermilk, 1 stiffly beaten egg white. Cream butter and add sugar slowly, creaming them together. Add beaten egg yolk. Melt chocolate in boiling water then flour, baking powder, soda and salt add. Beat until well mixed. Sift together and add alternately with the milk. Add vanilla and plumped raisins. Fold in egg white, pour into greased shallow pan and bake in a moderate oven 35 to 40 minutes. Cover with frosting or if desired serve with whipped cream.

**Raisin Biscuit**

1 egg, ¾ cup milk, 2 tablespoons sugar, 5 tablespoons melted shortening, 1 teaspoon salt, 4 cups flour, 3 teaspoons baking powder, 1 cup Sun-Maid seedless raisins. Beat egg; blend the egg and shortening and dissolve sugar. Add flour and baking powder sifted together, to egg mixture, and work to a dough. Add raisins and turn mixture on a slightly floured board and roll out one-half inch thick. Cut and bake in hot oven for fifteen minutes.

**Raisin Custard Pudding**

2 cups milk, ½ cup sugar, ¾ teaspoon salt, 3 tablespoons flour, 2 eggs, ½ cup Sun-Maid raisins, ½ teaspoon vanilla. Heat 1½ cups milk. Mix sugar, salt and flour with remaining ½ cup cold milk. Add to hot milk, stirring constantly and cook in double boiler until mixture thickens. Remove from fire. Add beaten eggs, raisins and vanilla. Pour into greased baking dish and bake in slow oven 30 to 40 minutes until pudding is firm. Serve hot or cold, with or without whipped cream.

### COMING EVENTS

(Corrections and Additions Requested.)

**Short Courses,** Davis, October 2-February 15: General Agriculture, October 2-November 10. Poultry Husbandry, October 2-November 10. Deciduous Fruits, December 4-9. Dairy Manufacturers' Short Courses: Buttermakers and Creamery Managers, February 5-15. Cheesemakers, February 5-15. Milk Plant Operators, February 5-15. Ice Cream Making, February 5-15.

Berkeley, November 13-February 8: Conference Pear Growers, Prune Growers and Apricot Growers, November 13-15. Fruit Products Conference, November 16. Canners, January 2-6, 1923. Land Settlement, February 4-8, 1923.

**California Industries Exposition,** San Francisco, October 7-28.

**Chino Community Fair,** Chino, November 1-4.

**Cotton Festival,** Calipatria, November 4-11.

**Yucaipa Apple Festival,** Yucaipa, November 9-12.

**Pacific Slope Dairy Products Show,** Fresno, November 13-18.

**Prune and Apricot Growers Convention,** Berkeley, November 13-15.

**Pork Day,** Hanford, November 16.

**Fruit Show,** University of California, Berkeley, November 16-18.

**California Fruit Growers and Farmers Convention,** Sacramento, November 21-23.

**Orange and Olive Festival,** Oroville, November 28-December 2.

**First National Walnut Exposition.** Santa Ana, December 4-9.

**National Orange Show,** San Bernardino, February 16-26, 1923.

**Raisin Day,** Fresno, April 30, 1923.

COAST AND GENERAL

**Arizona State Fair,** Phoenix, October 30-November 4.

**Pacific International Livestock Show,** Portland, November 5-12.

**Northwest Fruit Growers Exposition,** Seattle, November 11-19.


# A Powerful Foe To Orchard Pests

ORCHARD BRAND SPRAY MATERIALS

**Lime Sulphur Solution**
**Dry Barium Sulphur**
**Bordeaux Mixture**
**Arsenate of Lead**
**Atomic Sulphur**
**Universal Oil Sprays**

The General Chemical Company is California's most powerful champion against insect and fungus pests of the Orchard.

This Company specializes in chemicals. Its earnest attention is devoted to manufacturing products that are uniform, safe and efficient—products that can be depended upon to control Orchard pests.

Entomologists are employed by the Company to give counsel regarding pest control. All fruit growers are cordially invited to take advantage of this service.

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*Extra Fine, Strong*
*Thrifty Vines*
*Standard Varieties*

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A Rainy Day Pal
TOWER'S FISH BRAND REFLEX SLICKER
$4.50 Get yours at your nearest dealer
A.J. TOWER CO. BOSTON
TOWER'S FISH BRAND

# Sheep for the Small Farm

By A. L. Spellmeyer

FOURTEEN months ago good ewes sold near Los Angeles at $1.50 per head and I offered these sheep, 4,000 of them, to 100 men without getting a taker, and then they sold in three bunches to various men, ewes for $1.50, and about $2,25 for lambs and yearlings. Those $1.50 ewes would have had $2.50 worth of wool and $8 lambs and be easily sold today for $11, and this means outside of expense $21.50, for the ewe one had to beg a sale for at $1.50.

The sheep business has come back and is once more looked upon with favor by banks and bond houses, and it would not be difficult to chattel sheep now up to $6 for breeding ewes where 14 months ago one could not borrow a dime on them. If you are out to buy breeding ewes they will cost from $10 to $12 without range. If you want to buy a ewe lamb it will cost you $8 for the few offered. You can't get them on the fat market for the great bulk of ewe lambs are being reserved to fill depleted herds.

Feeder lambs sell by weight without cut to 11 cents that go 65 to 70 pounds average and some are selling on the Middle West market at $4.75 per cwt. Colorado and other feeders have bought millions of lambs to feed, and these lambs are standing close to 13 cents or up delivered to the feed yards, so a 16 to 18 cent winter live lamb price is certain or some people are going to lose many millions of dollars.

The depression that existed 14 months ago among both sheepmen and their finance backing was remarkable for the fact that such a market condition and such a state of mind could pervade a producing industry that was based upon staple food and clothing, and in the sheep industry which by proven census had already shown increasing shortage and lack of supply as to meat and wool demand. It is easy now to see the essential value of sheep, and later it will be as easy to see backward the value of cattle. Sheep you will admit have pased a test and risen to their level, so for the purpose I am going to outline I will write about sheep for the small farmer instead of cattle for the small farmer.

Here in California we have many small ranches, 40 acres, 60 or even 20 in alfalfa. Near every small ranch there are vacant fields and unplowed acreage that will provide at small or no cost a considerable grazing for a limited number of sheep. On every alfalfa ranch there is a need for ditches and borders to be cleaned up, and sheep do this nicely. Part of the year when hay is not fit to cut it still will provide green feed for sheep. At other times hay is spoiled that could be used by sheep. I am not talking theory for I know a San Joaquin farmer who made $700 from a little bunch of 60 sheep in one year.

Almost any 50 acres of alfalfa will feed 100 sheep on waste borders and nearby available untilled land. Sheep can be tended by a boy in playtime or a good dog, and fences are not required. At night they can be corraled and valuable fertilizer result from that operation.

One hundred pure bred ewes run properly should have 100 per cent lambing or better, and this would mean now 50 bucks at the prevailing $40 per head price for good ram stock and at least $15 for such quality ewe lambs. One hundred ordinary ewes should pay on present prices run on a farm at least $3 for wool, which a man can shear in two days, and 100 lambs at $8 or a $1100 total per year. One hundred acres of alfalfa should care in fine shape for 500 ewes, and some will do far better than that. Sheep will pay as much as the hay pays in some districts and do it with less outlay of labor and care. There is profit in sheep on the small farm.

# High School Judging Contest

Nearly a hundred boys with their teachers gathered at the Southern California fair on the opening day to participate in the judging contest for the southern part of the state. The high teams met teams from the Northern and Central parts of the state at Davis on October 27. The winning team in this contest will be sent to Portland to judge against boys from all over the West.

Classes of horses, sheep, hogs, beef and dairy cattle were judged and the result shows that the winning teams have gone into the subject as though it was a business. Nearly a year ago teams from the winning schools stood in the same relative positions in a big contest at Chaffey High School.

The contest was handled by Profs. Hughes and Miller from Davis, assisted by extension service men stationed in Southern California.

The value of such a contest cannot be overestimated as it brings out the manly qualities of the contestants. The boys show the results of the training by fearlessly walking up to the judges and telling them why they placed the animals as they did. Of course they made mistakes both in placing and in their reasons but their self confidence was gratifying to the men in charge. This method of teaching agriculture is of recent development and not one of the judges but who envies the youngsters their chance to become adept along all lines of livestock even before they become of college age. Chaffey Union High School at Ontario, Antelope Valley and Van Nuys were close together for first place but the Chaffey boys were more uniform in excellence and won the coveted trophy. Antelope Valley which was second will also be sent to Davis for the contest on October 27.

Winning teams—1, Chaffey Union; 2, Antelope Valley; 3, Van Nuys; 4, Pomona; 5, Hanford.

Winning boys—1, Glenmore Imbach, Van Nuys; 2, John McLaughlin, Chaffey; 3, Royal Hawkins, Pasadena; 4, Don Nelson, Hemet; 5, William Sawyer, Antelope Valley.

Draft horses—1, William Beard, Chaffey Union & Albert King, Pomona, tied with 990%; 3, Allan Grant, Lomita & William Sawyer, Antelope Valley Union, tied with 980%.

Beef cattle—1, Fred Giacomazzi, Hanford with 970%; 2, Herman Covey, Holtville, with 960%; 3, Leonard Scott, Pomona, with 950%.

Dairy cattle—1, William Beard, Chaffey Union, with 930%; 2, William Sawyer, Antelope Valley Union, with 920%; 3, Roger Sherman, Long Beach, with 910%.

Mutton sheep—1, Glenmore Imbach, Van Nuys, with 950%; 2, William Armstrong, Chaffey Union, with 920%; 3, John Ritter, Antelope Valley Union, with 860%.

Swine—1, Glenmore Imbach, Van Nuys, with 890%; 2, John McLaughlin, Chaffey Union, with 870%; 3, Arthur Younkin, Pomona and Carlos Harvey, Holtville, tied with 860%.

## LEGISLATION ON TUBERCULOSIS

At a meeting of dairymen and veterinarians of Southern California which was held in Los Angeles on October 3 matters relating to proposed legislation regarding tuberculosis in cattle were discussed with Dr. J. P. Iverson of the state department of agriculture. It was recommended that laws require the branding of all reacting grade cattle and the registration of all reacting pure breds at offices in Los Angeles and Sacramento. Thus it would be possible to know positively whether a cow has ever been a reactor or not.

Under existing laws it is not possible to force a man to test his herd and this law cannot do so either but it will provide that in case he does test, then branding and registration of reactors must follow.

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LA LOMITA RANCH JERSEYS

The kind that combines high production and show type.

Home of Imported Golden Lustre, Senior and Grand Champion Cow at the Southern California and Los Angeles County Fairs. And of her son, Gamboge's Majesty's Falcon, Senior and Grand Champion Bull at the Los Angeles County Fair, whose daughter was Junior Champion Cow of the same show.

A great line of Majesty breeding—Imported Golden Lustre, Grand Champion, her son; Gamboge's Majesty Falcon, Grand Champion, her granddaughter; Falcon's Una of La Lomita, Junior Champino.

Imported Golden Lustre, Senior and Grand Champion Cow

Our herd won against the best Jerseys in the State

AT RIVERSIDE
Senior and Grand Champion Cow
Junior Champion Cow
6 Firsts

AT POMONA
All Championships
7 Firsts

We have a couple of young bulls of this breeding for sale at reasonable prices. We invite you to inquire about them.

Ranch at PALMS, CAL.

Mail Address: F. R. BAIN, 724 S. Spring St., Los Angeles, Cal.

The 1922 Modesto Fall Sale
45 Registered Holsteins 45
Selling at Kounias Registered Stock Farms
(2 1-2 Miles From Modesto on Waterford Road)
Modesto, Calif., Thursday, November 2, at 10 A. M.

This is an offering of well bred cattle, mostly young, ranging from open heifers up to heavy producing cows with substantial records, and with a few choice young bulls.

Contributors to Sale:

S. G. KOUNIAS, Modesto.
JAMES GIBSON, Modesto.
LEWIS SNEDIGAR, Modesto.
FRANK HATCH, Modesto.
C. L. MORSE, Modesto.
MANUEL AZAVEDO, Patterson.
M. J. RUDDY, Modesto.

Every close observer of Holstein develoment in California, agrees that at no time in many years has there been a more favorable time to buy registered Holsteins than the present season. This offering is one of sound value and offered under most attractive conditions for the buyer.

EVERY ANIMAL OVER SIX MONTHS OLD TUBERCULIN TESTED AND SOLD SUBJECT TO RETEST BY THE BUYER; EVERY ANIMAL POSITIVELY GUARANTEED TO BE A BREEDER.

TERMS OF SALE: One-third cash, balance in 3, 6 and 9 months to responsible parties who make arrangements prior to sale with California Breeders Sales and Pedigree Company.

Management

California Breeders Sales & Pedigree Company
C. L. Hughes, Sales Manager, Sacramento, Calif.
Auctioneer: COL. BEN A. RHOADES, Los Angeles, Calif.

Cattle Ranches Livestock Order Buying
AGENT FOR LARGE RANCH SALE-PURCHASE OR FINANCE
A. L. SPELLMEYER
320 American Bank Bldg. or Exchange Bldg. Los Angeles Phone Bdwy 1528 Stockyards after Nov. 1st

*"The best herd of cows I have ever seen."*
*—John L. Smith.*

In THE HOLSTEIN-FRIESIAN WORLD, Syracuse, N. Y., issue of October 14, 1922, Mr. John L. Smith, nationally known judge of Holsteins, and who judged at Sacramento this year, writes as follows of his visit to Fred Hartsook's great herd at Lankershim, Calif.:

"We figured on a big day at Mr. Hartsook's so got a good start in the morning. Mr. Hartsook met us and we started in to see THE BEST HERD OF COWS I HAVE EVER SEEN. Production with type is his aim and he sure has it in his foundation."

This statement, coming from a prominent judge who has seen nearly all, if not all of the great herds of America and Canada, confirms the judgment of prominent California breeders and judges.

The wonderful quality of this herd is of particular interest at the present time to prospective buyers of registered Holsteins, for the reason that the herd has increased to the maximum size desired by the owner, and from now on regular draft sales will be in order. The first is to take place as follows:

# MEADHART BREEDING FARM

## Fred. Hartsook, Lankershim, Calif.

## First Draft Sale——60 Registered Holsteins

(Selling on the Farm)

## Friday, Nov. 10, at 10 A. M.

GREAT COWS with large yearly and short time records, many fresh or heavy springers.

SPLENDID HEIFERS, by high class sires and many out of high record dams, both long and short time.

PRACTICALLY EVERY FEMALE THAT SELLS BRED IN CALF TO SIR AAGGIE DE KOL MEAD, THE $30,000 SON OF MISS VALLEY MEAD DE KOL WALKER.

Prospective buyers who want production, type, good health, and the added value of cattle linked up with one of our greatest breeding herds, will find in this offering cattle worthy of their most careful consideration.

Every animal tuberculin tested and sold subject to retest by the buyer; every animal positively guaranteed to be a breeder.

TERMS OF SALE: One-third cash, balance in 3, 6 and 9 months to responsible parties who make arrangements before sale with California Breeders Sales and Pedigree Co.

Write for Catalog now.

Management

**California Breeders Sales and Pedigree Co.**

C. L. Hughes, Sales Manager, Sacramento, Calif.
Auctioneers: RHOADES & RHOADES, Los Angeles

# Absolute Dispersal

## Arthur & Maxfield Holstein Co. Herd

## 70 Registered Holsteins 70

## at Public Auction, Wednesday, November 15, 1922

### Kings County Fair Grounds, Hanford, California

To terminate the existing partnership between J. W. Arthur and Wm. G. Maxfield their splendid herd of registered Holsteins will be sold to the highest bidder at public auction.

This is an unusually attractive herd of cattle, among some of their accomplishments the following are noted:

HIGHEST PRODUCING purebred herd in Kings County Cow Testing Association, with an average of 439.23 lbs. butterfat from 13,595 lbs. milk on 21 head, in a ten months' test.

HIGHEST 7 DAY RECORD in Kings County, over 33 lbs. butter on official test.

HIGHEST 365 DAY SEMI-OFFICIAL RECORD in Kings County, with over 1,100 lbs. butter.

HIGHEST PRODUCING COW in Kings County Association, with 702.6 lbs. butterfat from 20,375 lbs. milk in ten months.

THIS ENTIRE HERD HAS PASSED TWO CONSECUTIVE TUBERCULIN TESTS WITHOUT A SINGLE REACTOR.

If you want high producing cows, or heifers and bulls from such cows, make your plans now to attend this sale. It is a choice herd of cattle in excellent physical condition.

TERMS OF SALE: One-third cash, balance in 3, 6 and 9 months to responsible parties who arrange for terms prior to sale with California Breeders Sales and Pedigree Co.

Management

**California Breeders Sales and Pedigree Company**

C. L. Hughes, Sales Manager, Sacramento, Calif.
Auctioneers: RHOADES & RHOADES, Los Angeles, Calif.

# Meadhart Holstein Herd

We are trying to have nothing but the greatest in Holstein type and production and experts tell us we are succeeding.

Our show animals won the big share of the prize money at all big fairs in the state this year.

We will sell 60 head of wonderful females at our ranch on Nov. 10. Be there.

Lankershim Calif. Fred Hartsook RANCH We Will Welcome You

Your appreciation of the California Cultivator can be shown best by writing to and buying from Cultivator advertisers.

## LOS ANGELES COUNTY FAIR

(Continued from Page 443)

Sorted Fan of Bickleigh, Italian Vineyard; 4, Wainta Belle Vista, Cox; 5, Lady's Diamond of Elmcourt, Cook.

Two year old—1, Caroline E, Langdon of Hollow Hill Farm, Italian Vineyard; 2, Jewel Langdon of Hollow Hill Farm, Italian Vineyard; 3, Lillia of Navarino, Italian Vineyard; 4, Britania E. King of Hollow Hill Farm, Italian Vineyard.

Senior yearling—1, Rosana of Twin Oaks, Cox; 2, Karmalita of Calimont, Italian Vineyard.

Junior yearling—1, Laura of Claremont, Rapson; 2, Rosana of Sycamore Ranch, Cox; 3, Cherub's Daisy of Castle View, Italian Vineyard.

Senior calf—1, Kitchener's Daisy of Sycamore Ranch, Cox; 2, Guasti's Violet, Italian Vineyard; 3, Glen Belle of Belle Vista, Cox.

Junior calf—1, Pearl of Sycamore Ranch, Cox; 2, Nell of Sycamore Ranch, Cox; 3, Guasti's Daisy Belle, Italian Vineyard.

Senior champion bull—Carl E. King of Hollow Hill Farm, Italian Vineyard.

Junior and grand champion bull, Unnamed calf, Dinsmoor.

Senior and grand champion cow—Caroline E. Langdon of Hollow Hill Farm, Italian Vineyard.

Junior champion cow, Laura of Claremont, Rapson.

Aged herd, 1—Italian Vineyard.

Calf herd—1, Cox.

Dairy herd—1, Italian Vineyard.

Get of sire—1, Italian Vineyard, 2, Cox.

Produce of dam—1 and 3, Italian Vineyard; 2, Cox.

### Ayrshires

Exhibitors: H. G. Ranch, Buellton; A. A. Mac Minn, Phoenix; C. R. Willoughby, Ventura.

Aged bull—1, Netherton Chancellor, Mac Minn.

Two year old—1, Lady King Repeater, H. G.; 2, Findlayston Sunset, MacMinn.

Senior yearling—1, The Clocker, H. G.; 2, Lochinvar Pride, Mac Minn.

Junior yearling, 1, Duke of Lochinvar, Mac Minn; 2, Majestic of Lochinvar, Mac Minn.

Senior calf—1, Harmony Victor, H. G.; 2, Ivy's Butter Boy, Mac Minn; 3, Harmony Sentinal, H. G.

Junior calf—1, Lochinvar Everlasting, Mac Minn; 2, Harmony Traveling Salesman, H. G.; 3, Harmony Moving Picture, H. G.

Aged cow—1, Ayrmont Patmore, H. G.; 2, Aldermosses Traveller Sonny 2d, H. G.; 3, University Ivy Rose, Mac Minn; 4, Lucille of Fairview, H. G.; 5, Arizona Queen Belle, Mac Minn.

Two year old—1, Heather Belle of Phoenix, Mac Minn; 2, Sweet Mary C, H. G.; 3, Peter Pan's Pansy, H. G.; 4, Arizona Dairymaid, Mac Minn.

Senior yearling—1, Bernice Bonnie C., H. G.; 2, Gloria C., H. G.; 3, Grace of Litchfield, Mac Minn.

Junior yearling—1, Lochinvar's Lassie, Mac Minn; 2, Lochinvar's Denty, Mac Minn; 3, Harmony White Queen, H. G.

Senior calf—1, Harmony Mariposa, H. G.; 2, Lochinvar's Queen Bee, Mac Minn; 3, Harmony Meadow Lily, H. G.; 4, Harmony Lola, H. G.; 5, Lochinvar's Ivy, Mac Minn.

Junior calf—1, Lochinvar's Butter Cup, Mac Minn; 2, Lochinvar's Marie, Mac Minn; 3, Unnamed, H. G.; 4, Peter Pan's Piper, H. G.; 5, Harmony Laura, H. G.

Senior and grand champion bull—Lady King Repeater, H. G.

Junior champion—Harmony Victor, H. G.

Senior and grand champion cow—Heather Belle of Phoenix, Mac Minn.

Junior champion—Harmony Mariposa, H. G.

Aged herd—1, H. G.; 2 and 3, Mac Minn.

Young herd—1, H. G.; 2 and 3, Mac Minn.

Calf herd—1 and 3, H. G.; 2, Mac Minn.

Dairy herd—1 and 3, H. G.; 2, Mac Minn.

Get of sire—1 and 2, Mac Minn, 3 and 4, H. G.

Produce of dam—1 and 2, Mac Minn; 3, H. G.

### Jerseys

Exhibitors: F. R. Bain, Los Angeles; Harry Cook, Chino; Mrs. Eccles, Glendora; Mrs. Rough, Arlington; H. Blackburn, San Fernando; Grant Brown, El Monte; Geo. Thomas, Riverside; D. E. Huff, Orange; O. D. Hall, Pomona.

Aged bull—1, Lilly's Lowland Fern, Cook; 2, San's Alois Brightness, Cook.

Two year old—1, Gamboge's Majesty's Falcon, Bain; 2, Mauk's Raleigh, Rough.

Junior yearling—1, Fern's Betties Champion, Cook.

Senior calf—1, Sibyl's Perfection, Bain; 2, Major of Golden Glen, Thomas; 3, Golden Ferris Noble Prince, Bain; 4, Count's Noble Fern, Brown.

Junior calf—1, Belle's Bright Boy, Cook.

Aged cow—1, Imp. Golden Lustre, Bain; 2, Wizz's Tessa May, Bain; 3, Violet of Mossdale, Bain; 4, Shylock's Gay Bettie, Cook; 5, Shylock's Maid, Cook.

Two year old—1, Noble's Vilda, Bain; 2, Imperial Hortense, Hall; 3, Lambert Ramona of Sterling, Cook.

Senior yearling—1, Gamboge's Majesty's Red Feather, Bain; 2, Skylark's Little Mary, Brown.

Junior yearling—1, Mauk's Marie, Thomas; 2, Flossie's Jolly Financier, Bain; 3, Fern's Interested Violet, Cook; 4, Jewel's Eminent Lass, Cook.

Senior calf—1, Sans Alois Rexie, Cook; 2, Jerry's Lady, Thomas; 3, Vilda's Rose Bud, Huff; 4, Noble's Fern Primrose, Huff; 5, Raleigh's Noble Vilda, Huff.

Junior calf—1, Falcon's Una of La Lomita, Bain; 2, Bo Peep of La Lomita, Bain; 3, Sans Alois Lady Supreme, Cook; 4, Walnut Park Noble's Kate, Huff; 5, unnamed, Bain.

Senior and grand champion bull—Gamboge's Majesty's Falcon, Bain.

Junior champion bull—Sibyl's Perfection, Bain.

Senior and grand champion cow—Imported Golden Lustre, Bain.

Junior champion cow—Falcon's Una of La Lomita, Bain.

Reserve grand champion bull—Sybyl's Perfection, Bain.

Reserve grand champion cow—Falcon's Una of La Lomita, Bain.

Aged herd—1, Bain; 2, Cook.

Young herd—1, Cook.

Calf herd—1, Cook; 2, Thomas.

Dairy herd, 1, Bain; 2, Cook.

Get of sire—1 and 2, Cook; 3, Huff; 4, Bain.

Produce of dam—1, Cook; 2, Thomas; 3, Brown; 4, Cook; 5, Mrs. Eckles.

### Duroc—Jersey Hogs

Exhibitors: Charnock Ranch, Hemet; G. F. Curtis, Chino; G. A. Goodell, Spadra; J. M. Pickart, Arlington; D. A. Russell, Lankershim; O. H. Marvin, Pomona; Roy Fortner, Pomona; E. J. Forney, Pomona; Arthur Younkin, Pomona.

Boar two year old—1, Great Orion Sensation Jr., Charnock; 2, Ace of Diamonds, 2d, Charnock; 3, Ace of Pathfinder 2d, Curtis; 4, Charnock Royal Pathfinder, Charnock.

Senior yearling boar—1, Topnotch Pathfinder, Charnock.

Junior yearling boar—1, Charnock Pioneer Sensation, Char.; 2, Charnock Defender, Char.; 3, Charnock Orion Cherry, Char.; 4, Pioneer Pathfinder, Goodell.

Boar, senior pig—1, Charnock Mammoth Sensation, Char.; 2, Charnock Sensation Mammoth, Char.; 3, Charnock Sensation Leader, Char.; 4, Model Pathfinder, Marvin.

Boar, junior pig—1, Unnamed, Char.; 2, Unnamed, Char.; 3, Bar None, Goodell; 4, Western Sensation, Goodell.

Aged sow—1, Fancy Sensation Maid, Char.; 2, Taylor's Defendress 2d, Char.; 3, Tu-Tock's Pathfinder Girl, Char; 4, Valley Queen Sensation, Char.

Sow, senior yearling—1, Charnock Betsy Sensation, Char.; 2, Beauty Sensation, Fortney.

Sow, junior yearling—1, Sunset Lady, Char.; 2, Cherry's Koke, Char.; 3, Lady Model Educator, Marvin; 4, Republic Cherry Model Lady, Marvin.

Sow, senior pig—1, Mammoth Queen, Goodell; 2, Pomona's Pride, Forney; 3, Charnock Royal Dedenfdress 5th, Char.; 4, Mammoth Lady, Char.

Sow, junior pig—1, Unnamed, Char.; 2, Unnamed, Char.; 3, Rose Sensation, Goodell; 4, Cheer's Sensation, Goodell.

Senior and grand champion boar—Charnock Pioneer Sensation, Char.

Junior champion—Charnock Mammoth Sensation, Char.

Senior and grand champion sow—Fancy Sensation Maid, Char.

Junior champion sow—Unnamed, Char.

Aged herd—Charnock Ranch.

Young herd—Charnock 1 and 2; Goodell, 3.

Breeder's herd—1, Charnock; 2, Goodell.

Get of sire—1 and 2, Charnock; 3, Goodell.

Produce of dam—1 and 3, Charnock; 2, Goodell.

Under year barrow—1, Charnock, 2, Fortner.

Young barrow—1, Fortner.

Pen of barrows—1, Fortner.

### Hampshires

All entries by Francis T. Underhill of Santa Barbara.

Grand champion boar—U's Top Chief.

Grand champion sow—Countess Hilda.

### Berkshires

Exhibitors: Italian Vineyard Company, Guasti; A. B. Humphrey, Escalon; Chester T. Johns, Ontario; Mrs. Virden, Sacramento; Cal. Junior Republic, Chino, and Stella Mae Dillard, of Etiwanda.

Aged boar—1, Escalon Big Joe, Humphrey; 2, Enhancer, Italian Vineyard; 3, Master Type, Johns.

Senior yearling—1, Riverby Rival, Johns; 2, Escalon Artful Leader 5th, Humphrey; 3rd Iowana Artful King, Italian Vineyard.

E Junior yearling—1, Guasti's Rival, Italian Vineyard; 2, Hazen's Rival, Italian Vineyard.

Senior pig—1, Grapewild Ambition, Humphrey; 2, Kintyre Dominator, Italian Vineyard; 3, Grapewild Royal, 3, Humphrey.

Junior pig—1, Monarch's Royal Superb, Italian Vineyard; 2, Grapewild Leader 15th, Humphrey; 3, Grapewild Leader 16th, Humphrey; 4, Bernice's Laurel King, Johns.

Aged sow—1, Violet's Festline, Italian Vineyard; 2, Grapewild Rose 2nd, Humphrey; 3, Grapewild Rose 6th, Italian Vineyard; 4, Real Type Lassie, Johns.

Senior yearling—1, Grapewild Laurel 2nd, Humphrey; 2, Grapewild Bernice 13th, Humphrey; 3, Lady Good's Brookwood, Italian Vineyard; 4, Violet's Lassie, Italian Vineyard.

Junior yearling—1, Escalon Artful Princess; 2, Grapewild Rose 31st; 3, Lady Good's Rockwood; 4, Violets Lassie.

Senior pig—1, Wonder's 2nd, Italian Vineyard; 2, Escalon Royal Lady 13th, Humphrey; 3, Grapewild Rose 36th, Humphrey; 4, Champions Types Lass, Johns.

Junior pig—1, Guasti's Royal Lady 4th, Italian Vineyard; 2, Guasti's Royal Lady 2d, Italian Vineyard; 3, Rival's Lass, Johns; 4, Guasti's Royal Lady 3rd, Italian Vineyard.

Senior and grand champion boar—Escalon Big Joe, Humphrey.

Reserve—Guasti's Rival, Italian Vineyard.

Junior champion boar—Monarch's Royal Superb, Italian Vineyard.

Senior and grand champion sow—1, Violets Festline, Italian Vineyard.

Aged herd—1, Italian Vineyard; 2, A. B. Humphrey; 3, Johns.

Young herd—1, Italian Vineyard; 2, Humphrey; 3, Johns.

Breeder's herd—1 and 3, Humphrey; 2, Italian Vineyard.

Get of sire—1 and 3, Italian Vineyard; 2, Humphrey; 4, Johns.

Produce of dam—1 and 3, Italian Vineyard; 2, Johns; 4, Humphrey.
Barrow under one year—1 and 2, Italian Vineyard; 3, Johns.
Barrow under six months—1, Johns; 2 and 3, Italian Vineyard.
Pen of barrows under one year—1, Johns; 2, Italian Vineyard.

**Poland Chinas**

Exhibitors: A. Buckland & Son, Fresno; Johnson Bros. San Diego; S. W. Creezon, Pomona; Dunlap & Tyler, Pomona; G. H. Goodrich, Los Angeles; Thurman Irwin, Chino; L. F. Curtis, Chino.
Boar, 2 year old—1, Giant Prospect, Buckland; 2, Renowned Liberator, Johnson.
Junior boar, yearling—1, The Tempest, Buckland.
Boar, senior pig—1, Commander, Buckland; 2, Giant Challenger, Buckland; 3, Unnamed, Creezon; 4, San Diego Boy, Johnson.
Boar, junior pig—1, Unnamed, Dunlap & Tyler; 2, Man of War, Buckland; 3, Model Jones, Buckland; 4, Jones Model, Buckland.
Sow, 2 year old—1, Evergreen Hutch, Buckland; 2, Model May, Johnson; 3, Genis Lady, Dunlap & Tyler.
Sow, senior yearling—1, Fashion Bobby, Goodrich; 2, Timm's Lady, Irwin.
Sow, junior yearling—1, Miss King Kole, Buckland; 2, Graceful Lady First, Buckland; 3, Kole's Queen, Buckland; 4, Buckland Girl, Buckland.
Sow, senior pig—1, Show Girl, Buckland; 2, Miss Model Wonder 5th, Buckland; 3, Prospect Maid, Buckland.
Sow, junior pig—1, Bobolink, Goodrich; 2, Maid's Model First, Buckland; 3, Unnamed, Goodrich; 4, Unnamed, Goodrich.
Senior champion boar—Giant Prospect, Buckland.
Junior champion boar—Bobolink, Goodrich.
Senior champion sow—Miss King Kole, Buckland.
Junior champion sow—Unnamed, Goodrich.
Grand champion boar—Giant Prospect, Buckland.
Grand champion sow—Miss King Kole, Buckland.
Reserve grand champion boar—Unnamed, Goodrich.
Reserve grand champion sow—Fashion Bobbie, Goodrich.
Boar and three sows over 1 year old—1, Buckland; 2, Buckland; 3, Johnson Brothers.
Boar and three sows under 1 year—1, Goodrich; 2, Buckland; 3, Johnson Brothers.
Breeder's herd—1, Goodrich; 2, Buckland; 3, Johnson; 4, Dunlap & Tyler.
Get of sire—1, Goodrich; 2, Buckland; 3, Buckland; 4, Johnson Bros.
Produce of dam—1, Goodrich; 2, Buckland; 3, Buckland; 4, Johnson.
Barrow—1, Buckland; 2, Buckland; 3, Buckland.
Special heavy barrow—1, Buckland; 2, Buckland; 3, Buckland.
Three barrows of the breed under 1 year—1, Buckland.
Special heavy barrow—1, Buckland.

## AWARDS AT SOUTHERN CALIFORNIA FAIR AT RIVERSIDE

**Holsteins**

Exhibitors: W. R. Elliott, Riverside; Fred Hartsook, Chino; California Junior Republic, Chino; Frampton Bros., Artesia; D. L. Wright & Son, Pasadena; Shasta Stock Farm, Pasadena; Berylwood Stock Farm, Hueneme; F. W. Barney, San Bernardino; M. E. Goodreau, Arlington; Sierra Vista Stock Ranch, Perris; Agee Bros., Rivera.
Bull, 3 year old—1, Major Korndyke Pontiac Fobes, Hartsook; 2, Dichter Spofford Korndyke Lad 5th, Jr., Rep.; 3, King Pietertje Ormsby Piebe Jr., Elliott.
Bull 2 year old—1, Korndyke Pontiac Fobes Nona H, Frampton Bros.; 2, Count Beauty Walker Beets, D. L. Wright & Son; 3, McCloud Ormsby Pietertje, Shasta Stock Farm.
Bull, senior yearling—1, Prince Aaggie of Berylwood, Berylwood; 2, Republic Spofford Ida Lyons, Jr. Rep.; 3, Sir Veeman Bona De Kol, Barney; 4, Count Pontiac Aaggie Mead, Goodreau.
Bull, junior yearling—1, Tritomia Panzie Ormsby, Hartsook; 2, Aaggie Ormsby Piebe King, Elliott; 3, S. V. Ormsby Skylark Gerben, Sierra Vista.
Bull, senior calf—1, Count A. Veeman, Berylwood; 2, Unnamed, Jr. Rep.; 3, Meadhart Aaggie Mead Lad, Hartsook; 4, King Artis Segis Pontiac, Hartsook.
Bull, junior calf—1, Meadhart Aaggie Mead Orms, Hartsook; 2, Unnamed, Jr. Rep.; 3, Prince Fobes Korndyke, Berylwood; 4, Meadhart Aaggie Mead De Kol, Hartsook.
Cow, 3 year old—1, Bessie Snowball De Kol, Hartsook; 2, Iris De Kol Canary, Hartsook; 3, Parthenia Paul Segis 2nd, Hartsook; 4, Ava Model Hengerveld 2nd, Hartsook.
Cow, 2 year old—1, Juliana Pontiac Nancy, Sierra Vista; 2, Lily McKinley Orms, Skylark, Hartsook; 3, Paragon K. H. S. Fayne, Agee Bros.; 4, Handsome Tueberi's Spofford, Cal. Jr. Rep.
Cow, senior yearling—1, Glory Orms Piebe, Elliott; 2, Betty Orms Piebe King, Elliott; 3, Rag Apple Tritomia Orms. Segis, Hartsook; 4, Unnamed, Cal. Jr. Rep.
Cow, junior yearling—1, Caroline Wayne Fayne, Hartsook; 2, Lily Tritomia Pietertje Orms., Hartsook; 3, Pearl Aaggie Hengerveld Segis, Snodgrass; 4, Lassie Mercedes of Ians Haml., Berylwood.
Cow, senior heifer—1, Meadhart Mary, Hartsook; 2, Lady Ononia Segis, Berylwood; 3, Nancy Calamo Korndyke 2nd, Hartsook; 4, Miss Aero Osma, Berylwood.
Cow, junior heifer—1, Meadhart Eva Bona, Hartsook; 2, Peggy Ormsby Piebe, Elliott; 3, Meadhart Jacoba Pontiac, Hartsook; 4, Unnamed, Agee.
Champion senior bull—1, Major Korndyke Pontiac Fobes, Hartsook.
Champion—Promise Aaggie of Berylwood, Berylwood.
Champion—Bessie Snowball De Kol, Hartsook; Meadhart Mary, Hartsook.
Grand champion bull—Prince Aaggie of Berylwood, Berylwood.
Grand champion cow—1, Bessie Snowball De Kol, Hartsook.
Reserve grand champion bull—Major Korndyke Pontiac Fobes, Hartsook.
Reserve grand champion cow—Meadhart Mary, Hartsook.
Aged herd—1, Hartsook; 2, Jr. Rep.
Breeder's young herd—1, Hartsook; 2, Elliott; 3, Jr. Rep.
Calf herd—1, Hartsook; 2, Jr. Rep.; 3, Agee.
Dairy herd—1, Hartsook; 2, Berylwood; 3, Jr. Rep.
Get of sire—1, Tritomia Pictertje Ormsby, Hartsook; 2, K. P. O. P. Jr., Elliott; 3, Toyon Fayne Valdessa, Agee; 4, Sir Aaggie De Kol Mead, Hartsook.
Produce of dam—1. Nona Fobes, Hartsook; 2, K. S. P. McKinley, Hartsook; 3, Juliana Nancy, Sierra Vista.

**Jerseys**

Exhibitors: J. E. Thorp, Lockeford; Mrs. W. H. Rough, Arlington; Plavan & Stinger, Santa Ana; La Lamita Ranch, Palms; Geo. W. Thomas, Arlington; D. Eyman Huff, Orange; Waterloo Jersey Farm.
Bull, 2 year old—1, Financial Corrector, Thorp; 2, Mauk's Raleigh, Rough; 3, Gypsy's King Raleigh, Plavan & Stinger.
Bull, senior yearling—1, Gamboge's Majesty's Falcon, La Lamita; 2, Biddy's King of Mossdale Jr., Thorp.
Bull, junior yearling—1, King's Lips of Mossdale, Thorp.
Bull, senior calf—1, Financial Corrector Gold, Thorp; 2, Sybil's Perfection, La Lamita; 3, Nonnie's King of Mossdale, Thorp; 4, Golden Fern's Noble Prince, La Lamita.
Bull, junior calf—1, Nobleman of Tintagel, Thorp.
Cow, 3 year old—1, Golden Lustre, Bain; 2, Salome of Mossdale, Thorp; 3, Wizz's Tessa May, Bain; 4, Goldie's Nehalem Cowslip, Thorp.
Cow, 2 year old—1, Goldie Dame Obota, Thorp, 2, Girlie of Mossdale, Thorp; 3, Nobles Vilda, Bain.
Senior yearling heifer—1, Gamboge Majesty's Red Feather, Bain; 2, D. L. K. Aljibe, Thorp; 3, Wardress of Mossdale, Thorp; 4, Grace's Jeanne, Thomas.
Junior yearling heifer—1, King's Miss of Mossdale, Thorp; 2, Flossie's Jolly Financier, Bain; 3, Mauk's Marie, Thomas; 4, Miss Silverside's Princess, Plavan & Stinger.
Senior heifer calf—1, Financial Corrector Foxola, Thorp; 2, Financial Corrector Viola, Thorp; 3, Raleigh's Noble Vilda, Huff; 4, Miss Golden Gate of Mossdale, Thorp.
Junior heifer—1, unnamed, Bain; 2, King's Daughter of Mossdale, Thorp; 3, 1 entry, Bain; 4, 1 entry, Bain.
Senior champion bull—Financial Corrector, Thorp.
Junior champion bull—Financial Corrector Gold, Thorp.
Senior champion cow—Golden Lustre, Bain.
Junior champion cow—Gamboge's Majesty Red Feather, Bain.
Grand champion bull—Financial Corrector, Waterloo Jersey Farm.
Grand champion cow—Golden Lustre, Bain.
Reserve grand champion bull—Financial Corrector Gold, Thorp.
Reserve grand champion cow—Gold Dame Onota, Thorp.
Aged herd—1, Thorp; 2, Thorp.
Breeder's young herd—1, Bain; 2, Thorp; 3, Thomas.
Calf herd—1, Thorp; 2, Thorp; 3, Thomas.
Dairy herd—1, Bain; 2, Thorp; 3, Thorp.
Get of sire—1, Thorp; 2, Thorp; 3, Huff.
Produce of dam—1, Thorp; 2, Thomas; 3, Plavan & Stinger.

**Ayrshires**

Exhibitors: A. E. McMinn, Corona; H. G. Ranch, Buellton.
Bull, 3 year old—1, Netherton Chancellor, McMinn.
Bull, 2 year old—1, Lady King's Repeater, H. G.; 2, Finlayston Sunset, McMinn.
Bull, senior yearling—1, The Clocker, H. G.; 2, Lochinvar Pride, McMinn.
Bull, junior yearling—1, Majestic Lochinvar, McMinn; 2, Duke of Lochinvar, McMinn.
Bull, senior calf—1, Ivy Butter Boy, McMinn; 2, Harmony Victor, H. G.; 3, Harmony Sentinel, H. G.
Bull, junior calf—1, Lochinvar Everlasting, McMinn; 2, Harmony Moving Picture.

(Continued on Page 459)


TRADE MARK SUPERIOR

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or

harness that out-wears your horse?

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**Mr. and Mrs. Poultry Farmer:** 200,000 baby chicks for 1923 delivery from Hoganized flocks of fully matured breeders. No pullet eggs used. White and Brown Leghorns, Anconas, Minorcas, R. I. Reds, Barred Plymouth Rocks. Send your orders now. Will deliver when you want. Ansel W. Robison, 1196 Market St., San Francisco. Oakland Branch, 1737-39 Broadway, Oakland.

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White Leghorns, Anconas, R. I. Reds.
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**White Leghorn Baby Chix** for summer and fall months from stock Accredited by Sonoma County Farm Bureau. We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

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## POULTRY

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**Booking Orders Now for Fall** and spring delivery. Trap nested, single comb White Leghorn chicks, few pullets and pedigreed cockerels. Pramme Poultry Ranch, Los Molinos, California.

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**Los Gatos Hatchery** is now booking orders for White Leghorn Chicks. Shannon Station, Los Gatos, California.

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**Strawberry Plants**—Improved New Oregon Magoon, Gold Dollar. Five dollars thousand. Progressive Everbearing $1.50 hundred. F. O. B. Canby. Sam Morell, Canby, Oregon. Plants officially inspected.

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[illegible]us seed for Japanese Persimmons; also choice budded Japanese [illegible] between J. [illegible]rees. It will pay you to write Holsteins w[illegible]red W. Kelsey, El Monte, [illegible]

[illegible] California Black Walnut Seed [illegible].00 per pounds. Crop short. Order early. Kieffer, [illegible]tterfat[illegible] walnut, chestnut, filbert trees. [illegible]alog. Felix Gillet Nursery, Nevada [illegible]y, California.

**For Sale**—Giant Argenteuil Asparagus Crowns. Mathers' Avocado Nursery, Pasadena. P. O. Box 585. Phone Colorado 6044.

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**100,000 Pearl Cauliflower Plants** $2.00 per 1,000. A. E. Nelson, El Monte, Calif.

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**Alfalfa and Fruit Lands for Sale**—Would you be interested in owning a farm in the fine alluvial soil of San Joaquin County, in the heart of the dairy and fruit center, one-half mile from a fine grammar school, three miles from a big high school and three miles from railroad center connecting with all of the larger markets, where people are making fortunes in grapes and dairies. 800 acres of this fine land with lots of water is being subdivided into small farms putting on house, barn, tankhouse and irrigation plant ready for occupancy. You can be the lucky owner of one of these farms for a small payment down, six per cent on all deferred payments and contract to extend over a period of nine years. The owners will do more than the above improvements and help finance orchards, vineyards, alfalfa or purchase dairy cows. For further information address owner, F. F. Copp, 430 E. Mariposa St., Stockton, California.

ARE YOU GAME?
Some people have said the day of opportunity is past, but that is not so. We offer ambitious farmers an opportunity to own a farm on easy terms. Deep, rich, tried soil. Cheap irrigation, complete drainage. Rail and water transportation. Diversified crops.
SUTTER BASIN COMPANY,
304 California Fruit Building
Sacramento, California.

**A Post Card** will bring you a list of little farms and chicken ranches in the famous San Gabriel Valley near Los Angeles. Fred W. Kelsey, 209 So. Rosemead Avenue, El Monte, California.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**$71,000 Buys 120 Acre** bearing orchard on highway near Chico; easily subdivided. 86 acres in trees, mostly prunes; irrigation. Levi H. Maxwell, Rd. 1, Chico.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## MACHINERY

**For Sale** Smudge Tanks, Water Tanks, Oil storage tanks, why pay twice our price for tanks that won't give more service than these. Few prices: 300 gallons round wagon tank, $24.25; 400 cap., $27.25, and 500, $31.25. These have solid tops, man hole and 2 inch outlet. No heavy frame to lift on and off set in truck bed, one man can handle. Also storage tanks with tops 1000 cap., $39.25; 2000 gals., $58.25. Open tops for water 1000, $35.25; 2000, $48.25. Redwood tanks used but good, 25,000 gals., $150; 50,000, $250 to $300, also windmills and pumps. Cylinder pump rods, fittings. Surface irrigating pipe 3 inch $12.50 per 100 ft. 4 inch, $16.75, and 6 inch, $27.50 in 10½ ft. lengths. This is new material. Call, write Demmitt Co., 120 North Main, L. A. Bdwy. 1984.

**For Sale**—Lisle Well Boring Machine. Equipment to bore holes 10 inches to 48 inches. Robt. Maguire, Box 409, Route 2, Inglewood, California.

## GOATS

**For Sale Cheap** — Toggenburg Grade Goats, good milk stock; 5 does, 1 buck. A. M. Starr, Route 1, Box 627, Long Beach, California, 3404 Grant Street.

## HORTICULTURAL PRINTING

**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St. Los Angeles

## LIVESTOCK

**For Sale**—Registered Percheron Stallion, "Avelene 11" Kentucky bred saddle stallion "Jack Rogers" and three saddle horses (two geldings and one mare). Also three registered Jersey bulls by "Merry King Pogis" and five young Hereford bulls (Repeater strain) all ready for use. These can be seen at the ranch which is seventeen miles north of Santa Barbara on the main highway or particulars can be had through the mail on application to the Secretary. DOS PUEBLOS RANCHO, Naples, Santa Barbara County, California.

## PATENT ATTORNEYS

WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

## CATTLE

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aaggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys—Grape Wild Farms—Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

SHORTHORNS STRALOCH FARM
Two and one-half miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Aberdeen-Angus Cattle**—Registered bulls; heifers always on hand. Everything priced to please buyer. Brook Hollow Farm, Hollister, California.

**High Class Bull Calves** for sale, from R of M Dams. Grant A. Brown, El Monte.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Herefords**—"Veramont Stock Farm," H. M. Barngrover, Prop., Stockton, California.

**Winsor Ranch Jerseys**—Bull calves with production behind them, at reasonable prices. BONITA, CALIFORNIA.

**Registered Herefords**—Anxiety IV strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

## MISCELLANEOUS

**Tobacco**—Three year old Kentucky leaf. Pay for tobacco and postage when received. 3 lbs. chewing, $1.00; 4 lbs. smoking, $1.00; 7 lbs. No. 2 smoking, $1.00. KENTUCKY TOBACCO ASSN., Hawesville, Ky.

QUALITY KODAK FINISHING
Work and prices both attractive. Price list on request. C. V. PLEUKHARP & SONS, 222 Mercantile Place, Los Angeles, California.

**Natural Leaf Tobacco**—Chewing, 5 pounds, $1.75; 10 pounds, $3.00. Smoking, 5 pounds, $1.26; 10 pounds, $2.00. Send no money. Pay when received. TOBACCO GROWERS UNION, Paducah, Ky.

**Smoked Salmon**—5 pound box, $1.25; salt salmon bellies, 5 pounds $1.25, delivered by mail. Coffin Fish Co., Seattle, Washington.

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**I Want Farms** for cash buyers. Will deal with owners only. R. A. McNown, 370 Wilkinson Bldg., Omaha, Nebr.

## TURKEYS

GIANT BRONZE TURKEYS

Large turkeys can be raised at practically same cost as small ones. It is in the strain. One of our toms will give you five more pounds of meat to market in all his get the first year; besides vitality and beauty.

GOLD NUGGET STRAIN
J. Will Blackman, Originator

Again prove their superiority by winning at California State Fair, September, 1922. Gold Special Sweepstakes for best turkeys in the show. All breeds competing. In open class they won 1st old tom, 1st and 2d yearling tom, 1st and 3rd yearling hen. This, along with practically every Gold Special Sweepstake at the West's greatest shows since 1915, prove that they have

AN UNEQUALED RECORD

Toms and hens for sale. Book orders now for December delivery as each year we are sold out early.

BLACKMAN & MUMFORD
609 East Third St., Los Angeles, Cal.

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

**Turkeys**—White, Bronze, Bourbon Red. Order before choice birds are gone for the holidays. Is not too early to book egg orders for Spring. Hatching $5.00 per dozen. B. Hocking, 541 E. 33rd, Los Angeles, Calif.

## GOVERNMENT LAND

**Attention:** Million acres Government land for farming, grazing, timber. Near R. R. Plenty water. Send for folder. Rally, 1111 So. Alvarado, Los Angeles, California.

## PIGEONS

**White King Pigeons** unmated pairs $3.00, mated pairs, $5.00, and Pearl Guineas $5.00. Paradise Valley Poultry Ranch, National City, Cal.

## DUCKS

**Pekin and Mallard Drakes.** Partridge Plymouth Rock Roosters. M. Tribble, Galt.

TREES

**Get My Prices** on Japanese persimmons, Kadota and Black San Pedro figs, Concord grapes, Muscats, Malagas and Thompson Seedless, rooted and Black Monukka cuttings. Nursery stock growing at El Monte, and Vista near San Diego. Easily accessible to Southern planters. Good stock at right prices. Fred W. Kelsey, El Monte, Cal.

**Fruit Trees and Grapevines**—Still have unsold few varieties grapes grafted on resistant root. We ship all stock on approval, if not entirely satisfactory return at our expense. Write for our special prices. J. F. Miller & Sons, Healdsburg, California.

**Kadota Fig** Trees from record bearing trees in its old home center. For twenty years these trees direct from Mr. Taft's nursery here in Pasadena have borne record crops. Send for information and prices. W. T. Kirkman, 1075 Topeka St., Pasadena, California.

**For Sale**—Florida Sour Orange Seed Bed Stock, from fruit growers seed. All leading varieties avocados, grafted Placentia walnuts. Mathers' Avocado Nursery, Pasadena. P. O. Box 585. Phone Colorado 6044.

**Trees and Plants**—All kinds, Berries and Small Fruits a specialty at lowest prices. Over 25 years in business. Send for price list. M. J. Moniz, Berry Specialist, P. O. Box 264, Sebastopol, California.

**For Sale Grafted Walnut Trees** for searus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E 4th Street, Santa Ana, California. Phone 572-W.

**For Sale—Grafted Walnut Trees** for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**For Sale**—Hachiya Persimmon Trees, grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**For Sale**—Elberta Peach Trees, only 600 left, all 5 to 7 feet high, peach root. F. A. Tetley & Son, Riverside, California.

**Tree Agents** and working partner wanted. Cash Nursery, Sebastopol, Cal.

DUROC-JERSEYS

**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

**Winsor Ranch Durocs**—The best of stock at reasonable prices. BONITA, CALIFORNIA.

POLAND CHINAS

POLAND-CHINAS STRALOCH FARM
Two and one-half miles west of Davis, Calif. on Highway. C. Harold Hopkins, Woodland, California.

**For Sale**—Large type registered Poland China boars, sixteen and seven months old respectively. L. E. Miller, R. 2 box 250 Whittier, California.

SHEEP

HAMPSHIRE DOWNS
STRALOCH FARM
Two and one-half miles west of Davis, Calif. on Highway. C. Harold Hopkins, Woodland, California.

HOGS

**Tamworths, The Bacon Breed.** James J. Summerfield, Santa Rosa.


## PARADICHLOROBENZENE AND PEACH BORERS

A report from J. O. McKinney, county horticultural commissioner at Hollister, says:

"Growers of this county are now using paradichlorobenzene in the control of peach borers and find the expense for material to run from one and a third cents to two cents per tree according to the age of the orchards, and labor is about one and a half cents per tree for the average. Ground being very cloddy will cost more labor.

Experiments show that this treatment is effective when properly applied, and A. J. Flebut of the United States department of agriculture is aiding in demonstrating proper usages and is getting valuable information regarding different dosages and soil temperatures. More than five tons of this material will be used here this fall."

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The Sun-Maid Raisin Growers announces appointment of Sanborn Hermanos, Inc. as distributing agents for Sun-Maid Raisin Growers for Mexico. The firm maintains headquarters in Mexico City. Announcement of this appointment was made shortly after the return from Mexico of Harry Davis, manager of the Latin-American department, who is now on his way to South America to investigate the possibilities for marketing Sun-Maid Raisins in the southern continent.

## AWARDS AT RIVERSIDE

(Continued from Page 457)

ing H. G.; 3, Harmony Traveling Salesman, H. G.; 4, calf, McMinn.

Cow, 3 year old—1, Ayrmont Palmer, H. G.; 2, Lucillet of Fair View, H. G.; 3, University Ivy Rose, McMinn; 4, Aldermans Travelers Savory 2d, H. G.

Cow, 2 year old—1, Heather Bell of Phoenix, McMinn; 2, Peter Pan's Panzy, H. G.; 3, Sweet Marie C, H. G.; 4, Aryona Dairy Maid, McMinn.

Cow, senior yearling—1, Gloria C, H. G.; 2, Bernice Bonnie C, H. G.; 3, Grace of Litchfield, McMinn.

Cow, junior yearling—1, Lochinvar Isabel, McMinn; 2, Lochinvar Denty, McMinn; 3, Lochinvar Lassie, McMinn; 4, Harmony White Queen, H. G.

Cow, senior calf—1, Harmony Mariposa, H. G.; 2, Lochinvar Queen, McMinn; 3, Harmony Lola, H. G.; 4, Harmony Meadow Lily, H. G.

Cow, junior calf—1, Lochinvar Marie, McMinn; 2, unnamed, H. G.; 3, Harmony Laura, H. G.; 4, Harmony Peter Popper, H. G.

Senior champion—Lady King's Repeater, H. G.

Junior champion—Ivy Butter Boy, McMinn.

Senior champion cow—Ayrmont Palmer, H. G.

Junior champion cow—Harmony Mariposa, H. G.

Grand champion bull—Lady's King Repeater, H. G.

Grand champion cow—Ayrmont Palmor, H. G.

Reserve grand champion cow—Heather Bell Phoenix, McMinn.

Aged herd—1, H. G.; 2, McMinn; 3, McMinn.

Breeder's young herd—1, McMinn; 2, H. G.; 3, McMinn.

Calf herd—1, McMinn; 2, H. G.; 3, H. G.; 4, McMinn.

Dairy herd—1, H. G.; 2, McMinn.

Get of sire—1, McMinn; 2, McMinn; 3, H. G.; 4, H. G.

Produce of dam—1, McMinn; 2, H. G.; 3, McMinn.

### Duroc Jersey

Boar 2 years—1, Great Orion S. Jr.; 2, Ace of Demrids 2nd; 3, Charnock Royal Path; 4, Ace of Pathfinder 2nd, Charnock Ranch, Hemet.

Boar senior yearling—1, Pathfinder Pride, Sierra Vista; 2, Top Notch Pathfinder, Charnock; 3, Sensation King Thorp.

Junior yearling boar—1, Charnock Pioneer Sensation, Charnock; 2, Diamond Bar Sensation; 3, Charnock Orion Cherry, Charnock; 4, Charnock Defender, Charnock.

Senior boar pig—1, Charnock Senior Leader, Charnock; 2, Charnock Mammoth Sox, Charnock; 3, S. V. Royal I Am, Sierra Vista; 4, Charnock Senior Mammoth, Charnock.

Junior boar pig—1, You'll Do's King, Thorp; 2, King You'll Do, Thorp; 3, No name, Charnock; 4, S. V. Royal 2nd; Sierra Vista.

Sow, 2 years—1, Lu Jack's Pathfinder Girl, Charnock; 2, Fancy Sensation Maid, Charnock; 3, Taylor's Defendress 2nd, Charnock; 4, Wonder Sensation Girl, Thorp.

Sow, Senior yearling—1, Diamond Senior Lady, Thorp; 2, Lena Sensation, Sierra Vista; 3, Charnock Betsy Sensation, Charnock; 4, Lucy Sensation, Sierra Vista.

Junior yearling sow—1, Cherry's Koke, Charnock; 2, Sunset Lady, Charnock; 3, Lucy Pathfinder 2nd, Sierra Vista; 4, Wonder Badage 3rd, Thorp.

Senior sow pig—1, Mammoth Lady, Sierra Vista; 2, Charnock Royal Defendress 5th, Charnock; 3, Charnock Royal Defendress 6th, Charnock; 4, 1 entry, Thorp.

Junior sow pig—1, Senior Miss of Mossdale, Thorp; 2, and 3, unnamed, Charnock; 4, Miss Sensation of Mossdale, Thorp.

Senior champ, boar—Pioneer Sensation, Charnock.

Junior champion boar——1, unnamed, Charnock.

Senior champ sow—1, D. Lady, Thorp; 2, Sunset Lady, Charnock.

Junior champ sow—Unnamed, Thorp.

Aged herd—1, Charnock; 2, Thorp; 3, Sierra Vista Stock Ranch.

Herd, boar and 3 sows under 1 year—1, Charnock; 2, Thorp; 3, Sierra Vista.

Herd—1, bred by exhibitor, Thorp; 2, Sierra Vista; 3, Charnock.

Get of sire, 4—1, Charnock; 2, Charnock; 3, Sierra Vista.

Produce of dam, 4—1, Charnock; 2, Thorp; 3, Sierra Vista.

One barrow of the breed farrowed before March 1, 1922—1, Charnock; 2, Sierra Vista.

Fat barrows, 1 barrow of the breed farrowed on or after March 1, 1922—1, Charnock; 2, Sierra Vista.

First pen of barrows, Sierra Vista.

Cassification spring pigs (sow)—1, unnamed, Thorp; 2 and 3, unnamed, Charnock; 4, unnamed, Thorp.

Classification spring pigs. Litter of four—1, Thorp; 2, Charnock; 3, Pickert & Son, Arlington.

Classification spring pigs—1, and 2, boar pig, Thorp; 3, Charnock; 4 and 5, J. M. Pickert & Sons.

### Poland Chinas

Exhibitors: Johnson Bros., San Diego; A. Buckland & Son, Fresno; Southern California P. C. Association; Thurman Irwin, Chino.

Boar, 2 year old—1, Renowned Liberator, Johnson Bros.; 2, Giant Prospect, Buckland.

Boar, junior yearling—1, The Tempest, Buckland; 2, Shark, So. Cal. P. C. Assn.

Boar, senior pig—1, Commander, Buckland; 2, Giant Challenger, Buckland; 3, San Diego Boy, Johnson Bros.

Boar pig—1, Jones Model, Buckland; 2, Model Boy, Johnson Bros.; 3, Model Jones, Buckland; 4, Glenwood Boy, Johnson Bros.

Sow, 2 year old—1, Model May, Johnson Bros.; 2, Miss Lady 5th, So. Cal. P. C. Assn.; 3, Evergreen Hatch, Buckland.

Sow, senior yearling—1, Timmie's Lady, Irwin; 2, Smooth Lady, So. Cal. P. C. Assn.

Sow, junior yearling—1, Miss King Kole, Buckland; 2, Buckland Girl, Buckland; 3, Graceful Lady, Buckland; 4, Perfection Maid, So. Cal. P. C. Assn.

Sow, senior pig—1, Show Girl, Buckland; 2, Miss Model Wonder, Buckland; 3, Prospect Maid, Buckland.

Sow, junior pig—1, Maid's Model, Buckland; 2, Pacific Girl 2d, Buckland; 3, Maid's Model 1st, Buckland; 4, unnamed, Johnson Bros.

Senior champion boar—1, Tempest, Buckland; 2, Liberator, Johnson Bros.

Junior champion boar—Commander, Buckland.

Senior champion sow—Miss King Kole, Buckland.

Junior champion sow—Maid's Mossdale, Buckland.

Reserve champion boar—Renowned Liberator, Johnson Bros.

Senior reserve champion sow—Model Mary, Johnson Bros.

Junior reserve champion boar—Jones Model, Buckland.

Junior reserve champion sow—Show Girl, Buckland.

Grand champion boar—Tempest, Buckland.

Reserve grand champion boar—Jones Model, Buckland.

Grand champion, sow—Miss King Kole, Buckland.

Reserve grand champion, sow—Maid's Model, Buckland.

Herd, boar and 3 sows—1, Buckland; 2, Johnson Bros.; 3, Buckland.

Herd, boar and 3 sows—1, Buckland; 2, Buckland; 3, Johnson Bros.

Herd, boar and 3 sows under 1 year, bred by exhibitor—1, Buckland; 2, Johnson Bros.; 3, Mays.

Get of sire—1, Buckland; 2, Buckland; 3, Johnson Bros.

Produce of dam—1, Buckland; 2, Buckland; 3, Johnson Bros.

Fat barrow, 1 of the breed, farrowed on or after March 1, 1922—1, Buckland; 2, Buckland, 3, same.

Fat barrows, 3 of the breed, farrowed on or after March 1, 1922—1, Buckland; 2, Anderson.

Promotion show—1, Johnson Bros.; 2, Mays; 3, Anderson; 4, Canham; 5, Babcock.

Women's fitting and showing contest—1, My Lady Rival, Mrs. F. L. Hall; 2, Lady 1st, Mrs. Will Mays.

Grand champion barrow all breeds—Berkshire, Johns.

Grand champion pen barrows all breeds—Tamworths.

### Berkshires

Exhibitors: A. B. Humphrey, Escalon; Chester T. Johns, Ontario; F. L. Hall, Perris; Italian Vineyard Co., Guasti; Mrs. F. K. Hall, Perris.

Boar, 2 year old—1, Escalon Big Joe, Humphrey; 2, Enhancer, It. Vin.; 3, Master Type, Johns.

Boar, senior yearling—1, Escalon Artful Leader 5th, Humphrey; 2, Riverby, Rival 2d, Johns; 3, Laurel Achievement, Hall; 4, Iowana Artful King 33rd, It. Vin.

Boar, junior yearling—1, Guasti's Rival, It. Vin.; 2, Hazen's Rival, It. Vin.; 3, Etiwanda Duke, It. Vin.

Boar, senior pig—1, G. W. Ambition, Humphrey; 2, Kintyre Dominator, Humphrey; 3, G. M. Royal 3rd, Humphrey.

Boar, junior pig—1, Monark Royal Superb, It. Vin.; 2, Enhancer Leader, It. Vin.; 2, Grays Wild Rose 6th, It. Vin.; 3, rey; 4, G. W. Leader 15th, Humphrey.

Sow, 2 year old—1, Violet Festline, It. Vin.; 2, Grays Wild Rose 6th, It. Vin.; 3, Real Type's Lassie, Johns; 4, G. W. Rose 2d, Humphrey.

Sow, senior yearling—1, G. W. Laurel 2d, Humphrey; 2, Festline's Rival 3rd, It. Vin.; 3, G. W. Bernice 13th, Humphrey; 4, Lady Goods Rookwood, It. Vin.

Sow, junior yearling—1, Escalon Artful Princess, Humphrey; 2, Guasti's Lady Rookwood, It. Vin.; 3, Violet's Lassie 2d, It. Vin.; 4, Violet's Lassie, It. Vin.

Sow, senior pig—1, 1 entry, Rincon's Wondrous, It. Vin.; 2, G. W. Rose 36th, Humphrey; 3, Escalon Royal Lady 13th, Humphrey; 4, My Lady Rival, Hall.

Sow, junior pig—1, Rival's Bell, Johns; 2, Guasti Royal Lady 2d, It. Vin.; 3, Escalon Belle 28th, Humphrey; 4, G. W. Lad 3rd, Humphrey.

Grand champion boar—Escalon Big Joe, Humphrey.

Reserve grand champion boar—Guasti's Rival, It. Vin.

Junior champion boar—Monarch Royal Superb, It. Vin.

Reserve champion—G. W. Ambition, Humphrey.

Senior champion sow—Violet's Festline, It. Vin.

Junior champion sow—Rincon's Wondrous, It. Vin.

Senior reserve champion boar—1, Guasti's Rival, It. Vin.

Senior reserve champion sow—1, Grape Wild Laurel 2d, Humphrey.

Junior reserve champion boar—1, G. W. Ambition, Humphrey.

Junior reserve champion sow—1, Rival's Lass, Johns.

Boar and 3 sows over 1 year—1, aged herd, It. Vin.; 2, 1 entry, Humphrey; 3, 1 entry, Johns.

Boar and 3 sows under 1 year—1, two herds under 1 year, It. Vin.; 2, 1 entry, Humphrey; 3, 1 entry, Johns.

Boar and 3 sows over 1 year bred by exhibitor—1, 1 entry, Humphrey; 2, 1 herd bred by exhibitor, It. Vin.

Boar and 3 sows under 1 year bred by exhibitor—1, 1 entry, Humphrey.

Get of sire—1, 1 entry, Humphrey; 2, two get of sires, It. Vin.; 3, 1 entry, Johns, 4, two get of sires, It. Vin.

Produce of dam—1, 1 entry, Johns; 2, 2 entries, It. Vin.; 3, 2 entries, It. Vin.; 4, 1 entry, Humphrey.

Barrows, 1 of breed, farrowed after September 1, 1921 and before March 1, 1922—1, It. Vin.; 2, It. Vin.; 3, Johns.

Fat barrows 1 of breed, farrowed on or after March 1, 1922—1, 1 entry, Johns; 2, 2 single barrows under 6 months, It. Vin.; 3, 2 single barrows under 6 months, It. Vin.

Fat barrows, farrowed after September 1, 1921 and before March 1, 1922—1, 1 pen of barrows under 1 year, It. Vin.; 2, 1 entry, Johns.

Fat barrows, 3 of breed, farrowed on or after March 1, 1922—1, 1 pen of barrows under 6 months, It. Vin.

American Assn. special boar—1, Rosecrest achievement, Hall; 2 and 3, 2 entries, Humphrey; 4, Bernice's Laurel King, Johns; 5, 1 entry, Jones, 6, 1 entry, Beard.

American Berkshire Assn. special sow—1 and 3, 2 entries futurity, It. Vin.; 2, 1 entry, Humphrey; 4, King's Bernice 2d, Johns; 5, 1 entry, Humphrey; 6, King's Bernice, Johns.

American Berkshire Assn. special litter—1, 1 entry, futurity, It. Vin.; 2, 1 entry, Humphrey; 3, 1 entry, Johns; 4, 1 entry, Hall; 5, 1 entry, Jones; 6, 1 entry, Beard. tario.

Southern Berkshire Congress Ladie's special—1, My Lady Rival, Mrs. L. Hall; 2, Rincon Duchess, Mrs. Alex M. Wilson; 3, Etiwanda Duchess Dillard; 4, Etiwanda Lady Climax, Dillard.

Barrow carcass, senior—1, Berkshire, Humphrey; 2, Hampshire, Underhill; 3, Tamworth, Summerfield; 4, Poland China, Garner.

Barrow carcass, junior—1, Poland China, Mays; 2, Duroc, Sierra Vista; 3, Hampshire, Underhill.

Champion carcass—1, Will Mays, Poland China winner over all breeds and both ages.

## NIGHT CLASS IN FRUIT GROWING

Beginning November 7, night classes in fruit growing will be held at Chaffey Union High School on each Tuesday evening for six weeks. Varieties, pruning, thinning and fertilization are the principal topics to be discussed. On the evening of November 7 a pruning conference will be held and it is hoped that a number of growers will be present to narrate their past season's experience in pruning.


**BURR FARM**

26th and Downey Road
Los Angeles RFD 2, Box 120

**Bulls For Sale From Year Record Dams**

CALL OR WRITE

**KING KORNDYKE PONTIAC MEAD**

Backed by Producing and Transmitting Dams. HIS Dam, De Kol of Valley Mead 2nd, and HIS Sire's Dam, Miss Valley Mead De Kol Walker, have made a total of FIVE RECORDS—Averaging 1638 lbs. Butter in 365 days. For HIS SONS from A. R. O. Dams, write or see us:

**Los Angeles County Farm, Hondo, California**
Three miles from Downey on Downey-Long Beach Boulevard

**GUERNSEY COWS**

produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

**ROSEMOOR FARM**

W H. Dupee, Owner Riverside, Calif.

**Italian Vineyard Company**
**GUERNSEY CATTLE**
Herd Headed by the King of Hollow Hill
BERKSHIRE HOGS
Stock of Both Breeds For Sale
Alex. Wilson, Supt. Guasti, Cal.

**BREEDING DATE BOOK—FREE**

We have issued a convenient little book for the keeping of breeding dates of cattle, hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly mail you a copy free if you request it. A postal will do.

CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
C. L. Hughes, Sales Manager
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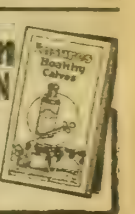
**FREE BOOK on CONTAGIOUS ABORTION**



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# Fall Hatching

By B. R. Holloway

IN one of your recent issues this question was asked by a subscriber from Arcadia: "I am new in the poultry game and would like to know whether a fall hatch of White Leghorns will do as well as a spring hatch. What are the objections, if any, and why do not more poultry people prefer the fall hatch?" You answer that the pullets are not profitable because they begin laying at the decline of the season instead of at its height and must be fed longer before they pay for their feed. In my experience of over ten years hatching almost a million fall hatched chicks, would state that the fall hatch is the best investment a poultryman can make as the pullets may be raised 50 cents cheaper each than spring hatched pullets. First, because they grow faster and one can raise a very large percentage, in many cases one pullet to two chicks or better. You get a high price for broilers, and pullets come along in about five months on a chick growing mash, laying in many cases 75 per cent at 6 months of age, and you cannot stop them.

You no doubt realize that practically all money that is made on poultry ranches is made in the spring of year when they get large quantities of eggs. Pullets hatched in September will be laying in January and getting up to good percentage in February and will lay very profitably until away along in October, when our experience shows us that they may get down to 20 to 25 per cent when we put the lights on them and they will come back much more quickly than the early hens.

We have found after carrying fall hatched chicks on our own place for many years, that their first moult is very light and much later than spring hatched, and the second year we find they moult much later and produce a very high percentage of eggs in the fall. This is easy to understand from the fact that our breeding hens are the late moulters and with the best hens in the flocks we have mated fall hatched cockerels which come from mothers who have been late moulters. We have delivered in the first three weeks of our delivery, that is, on August 24, 31 and September 7, 58,000 chicks and have in our incubators at this time, 100,000 eggs. The demand is excellent. This will means that we will sell approximately 40 per cent more chicks this fall than the fall season of 1921.

Fall chicks are profitable all the way through from the fact that one is enabled to use the brooder system to the best advantage, having more time between broods, which means being able to give better attention to each brood and cleansing the soil thoroughly and also raising chicks when the vitality is extremely high.

Also you say: "If one is short of pullets and anxious to save time, he should set all the eggs he can in August and bring off September chicks. If he has birds enough for the coming season he will do better to wait till February, which is, all things considered, the best hatching month in the year." I feel that this statement is not correct for the simple reason that we have hundreds of customers who buy chicks from us during the latter part of August, September, October and on into November when they are of good vitality and we find that the poultryman who merely sits around waiting for the most propitious time to brood one lot of chicks is usually the one who does not succeed very well.

As to producing eggs for fall hatched chicks, this is too large a subject for me to go into at this time. The hatching percentage is low, but only because we get a larger percentage of clear eggs in the fall than in the spring and a much greater percentage of dead germs and the dead germ condition is caused, no doubt, by eggs being picked up in very warm weather, although they are gathered often. However, the eggs that are left, from a hatching standpoint, hatch as well as they do in the spring, and we get as fine or finer chicks than we do in the spring. We have delivered to date (September 22) in the past five weeks, approximately 88,000 chicks and we have reports of their great vitality and everyone is well pleased.

We have found this condition prevailing every fall for the last seven years, chicks being especially fine and strong, so the impression of low vitality in chicks in the fall is absolutely incorrect, although the low hatchability impression is correct. All of our customers raise an exceptionally high percentage of fine pullets which are uniform in size, cockerels come to a broiler weight quickly and sell for higher prices.

These statements are made in reference to Southern California only and at some other time I would be glad to go into the matter of producing good hatching eggs in the fall of the year. However, at this time we are extremely busy and rushed as we are building a large addition to our hatchery and our business is 40 per cent greater than last fall, which means that we are very busy.

# Poultry Queries

(Conducted by Jean A. Koethen)

### Lice and Other Things

We have just bought a mixed lot of chickens and turkeys and find them very lousy. A small lump just above beak of one tom has been treated by dousing head in kerosene. Another tom has stood around hunched up for a week. We powdered him thoroughly with sodium flouride. The pullets are six months old. Should they have a laying mash? We have no green feed and are feeding alfalfa hay instead. Our grain is barley and wheat hay with the grain in the heads. Is the barley good feed? This is our first venture in California and we shall be grateful for any suggestions.—Subscriber, Palmdale.

To get rid of lice, dust the chickens with sodium flouride, or anoint with blue ointment, wihch must be handled carefully, since it is poisonous. You can buy it at any drug store, I think. Dilute half and half with vaseline, and apply a bit the size of a pea with the tip of the finger around the vent of each bird. Do not use anywhere but about the vent. For the turkeys buhach powder is best. Dust thoroughly on a sheet, then cover for a moment with another sheet or a sack, and you will see the lice fall off by hundreds. That lump above the beak of one tom may be the beginning of chicken-pox. Better anoint with carbolated vaseline and keep him away from other birds. The "humped-up" tom may have blackhead and may be only lousy. If the sodium flouride treatment does not improve his condition, try two tablespoons olive oil. Give this in the morning, and next morning, if he does not eat, mix into a cup of clabbered milk one-third teaspoon each of red pepper and charcoal and a little chopped onion, and thicken with dry toast or corn bread. Mold a teaspoon of this into a pill and feed forcibly three or four times a day. This recipe was given me recently by a woman who had had excellent success with it, and is worth a trial. The hens and pullets should have a good laying mash before them all day. also grit, shell and clean water. In addition to the mixed grain in the head, give some cracked corn at night. The young stock should also have cracked corn, but not the turkeys, that is, not until fattening time. They are not quite old enough yet. Barley is pretty generally used by California poultrymen, and the hulls do not often make trouble. If they do, feed less and more of the wheat and corn. The green feed question is a serious one, for hens will not lay and thrive for long without greens. Alfalfa hay is a better substitute than alfalfa meal, and you might try sprouting barley or oats till you have something else. For a winter supply of greens the easiest thing is to plant barley now. If it rains it will grow rapidly, and as soon as it is tall enough to cut you can cut a little each day and run through the clover cutter. Many poultrymen depend on barley for their winter greens. For next summer plant a patch of alfalfa some time this fall. You can mix barley with it for a "nurse crop" then pull out the barley after the alfalfa is well started.

### Feather Eating

What makes chickens eat feathers, and what is the cure?—Subscriber.

Feather eating is a vice. Sometimes it is due to lack of meat in the ration, but more often it is induced by idleness or by vermin. See first that the birds are free from lice and that there are no mites in their house. Give more meat, either in the form of green cut bone or in a well cooked mash, with vegetables, green peppers and a little linseed meal. Give free range if possible. An ointment consisting of a teaspoon of extract of aloes mixed in a cup of lard rubbed on the feathers around where the feathers have been picked out, will soon put an end to the trouble.

### Beans

Are blackeye beans good for laying hens and should they be fed during the molt?—Subscriber.

Blackeye beans are good feed at any time, but should not be more than a third of the hard grain ration. They can also be ground and fed in the dry mash.

### Best Breed

What is the best breed of chickens, or is there any difference in the smaller breeds?—Subscriber.

There is no best breed. White Leghorns are preferred for commercial egg farms because they are believed to stand confinement in large flocks better than other breeds and to produce more eggs on a given amount of feed than any other. For backyard use you will probably find any other of the Mediterranean breeds just as good layers, and if you want meat as well as eggs you will get both from any of the American breeds, Rocks, Wyandottes and R. I. Reds. The Asiatics do not lay so early nor so many eggs, but are splendid for the table.

### Rhode Island Whites

In reply to an inquiry published in the Cultivator a few weeks ago I wish to say that I have both R. I. Reds and R. I. Whites. I have raised the Reds for 13 years and this is my third season with the Whites. I have studied both breeds carefully and have decided the Whites are ahead. I think they mature earlier, respond with extra eggs to extra feeding more quickly than do the Reds, and they are much nicer to dress, but they are not as quiet and easy to handle as the Reds. I think they show the Leghorn cross there. I have the idea from the way the article read that the writer who answered did not know much about the Whites. They are a distinct breed from the Reds yet like them in size and build. The breed originated in Rhode Island.—Mrs. Wm. P. Smith, Lindsay.

I am very glad to be corrected, for my own acquaintance with Rhode Island Whites is entirely a show room acquaintance.

### Poor Hatching

Rhode Island Red and White Leghorn eggs in my hot water incubator did not hatch well, but all behaved alike. In some the chicks were just beginning to form; in others nearly formed; in others entirely formed, and a small percentage hatched. The machine held its temperature well and chicks commenced hatching on the 20th day. What was wrong?—Subscriber, Fresno.

You will never get a good hatch with eggs from heavy hens and White Leghorns in the same incubator, but there must have been something wrong beside the mixing of eggs. Is it possible some of the eggs were held too long before they were set? Nine days is the limit with expert hatchers. From the fact that many of the chicks were not fully formed I am inclined to think the temperature was kept too low. Did you test your thermometer beforehand? If it registered a degree too high that would account for the poor hatch.

### Crooked Neck

My large tom turkey has developed a crooked neck. He faces straight ahead but his neck is twisted till it looks like a crooked-neck squash. He eats fairly well but is getting thin and lacks pep.—Subscriber, Holtville.

That condition is called "wry-neck" and is believed to be due to brain or nerve irritation. It is sometimes connected with rheumatism, and may possibly be caused by worms or by other irritation of the digestive tract. I believe I would try oil of turpentine in a dose of two to three teaspoons. See that he gets no spoiled or moldy feed.

### Cause of Worms

Does sprouted barley or oats given to chickens cause worms?—Subscriber, Burbank.

I do not see how it could. Worms usually come from infected or filthy soil. When chickens have been infested with these parasites for a long time the soil gradually is filled with them or with their eggs, and it is difficult to rid the hens of them without removal to new soil.

# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Infection

I have a mare that, according to the veterinarian here, had infection in her ankle joint which swelled badly and the swelling extended up the leg and pus sacs formed which I opened. Soaked the foot and ankle in hot water and sheep dip. She came out all right and four months later the hock on the same leg swelled up badly. I have opened it several times and washed it out with sheep dip but it gets no better. What shall I do with it?—Subscriber, Bakersfield.

You should be very careful in opening a swelling that is near a joint. You might open the joint and let out the joint oil. Try putting on a flaxseed poultice over night, then wash it off with warm water and use a solution of the permanganate of potash. Use a teaspoon of it to the quart of water.

### Sweeny

I have a four year old colt that has a sweenied shoulder. Have used four bottles of liniment and while it has helped some it has not cured it. What would you advise doing?—Subscriber, Bakersfield.

The best remedy we know of for curing sweeny is to inject a few drops of equal parts of alcohol and turpentine into the muscle in several places. This must be done with a hypodermic syringe and done carefully. You should get a veterinarian to do it. It may be necessary to repeat the operation in about three weeks but one treatment is usually sufficient.

### An Unusual Case

What is wrong with my cow? She stretches her neck and backs to the end of her chain and quivers as though too weak to stand up. She eats hay, bran and beet pulp but refuses to eat any green feed. She had trouble calving. Had her bred a short time before she started to have these spells. What is the cause of her troubles?—Subscriber, San Diego.

The symptoms are not common and we do not know what to name it. Would advise trying one pint raw linseed oil and two ounces of turpentine as a drench every day until four or five doses have been given. Tell us of any new developments.

### Swollen Udder

We have a cow with a swollen udder. We have given her epsom salts and rubbed hot oil on the swollen parts but she is no better. Can you tell me what to do for her?—Subscriber, Mountain Ranch.

Why did you apply hot oil? The oil will close the pores of the skin and make conditions worse. Warm water would be better but just careful rubbing is sufficient. She may have tuberculosis. That will often cause swelling of the udder that will not yield to treatment. Better have her tested.

### Tuberculosis

I have a fine grade Holstein cow that has her fourth calf. She has looked very poor since calving but we attributed it to her being a heavy milker. She was tested the other day and proved to be very bad with tuberculosis. What effect will this have on her five months old calf that has had her milk right along. The heifer is a beautiful large calf that is worth saving if possible.—Subscriber, Moorpark.

We would not advise trying to raise the calf. She is probably not affected much yet and would be safe to fatten for the butcher but would not be safe to raise for a milker.

### Rheumatism

We have a mare that became lame suddenly, over night, in one hind foot. Was so bad she could not touch it to the ground. We bathed it and applied liniment now for three weeks and she is no better. The other hind foot is now in same condition. She lies down most of the time and has great difficulty in getting up. Both legs are swollen from hock to foot. She drinks a great deal of water and eats only rolled barley, will not touch hay. Can it be rheumatism and if so what would be the best treatment?—Subscriber, San Marcos.

When there is pain and swelling and we can not find any other name for it we call it rheumatism. Now if this is rheumatism a good remedy would be three ounces of salicylate of soda, four ounces of bicarbonate of soda and six ounces of powdered gentian. Mix and divide into 24 powders and give one powder morning and evening in the feed. She should eat some hay. Cut down the grain so she will want the hay.

### Warts

What can I do to take warts off a cow's teats and also off the neck?—Subscriber, Denair.

If the warts have a small neck clip them off with a scissors and touch the spot with the end of a red hot wire. If the warts are flat apply a little nitric acid which will kill the wart and in a few days will form a scab and drop off. If you do not put on enough the first time you may have to repeat it. Be careful in handling the acid. It is very caustic and will burn your hands or clothing. Use a small swab to apply it.

### Cow Failing in Her Milk

I have a four year old Jersey cow that came fresh on Decoration Day (May 30). She gave about five gallons of milk but now has dropped off to less than half that amount. She seems well. We feed a prepared meal. Can the difference be that earlier in the season we could get plenty of green corn stocks or green barley? Otherwise she is treated the same. She was dried up six weeks before calving thinking it would benefit her when she came fresh.—Subscriber, Arcadia.

Green feed is always best to keep up the flow of milk. The next best thing is sloppy feed. That seems to agree with a cow. A little salt should be given regularly. Alfalfa for milk cows should be cut before it is too ripe and should not be dried too much. Alfalfa that is tough and stringy makes a better cud and the cow remasticates it better, digests it better and gives more milk after it.

### Triplets

I have a cow that has just dropped three calves, one heifer and two bulls. The cow is six years old and this makes seven calves for her. Calves all normal and doing well though they came a little early. Will they breed? Will the cow calve again?—Subscriber, Lemon Grove.

When there are twins, one a heifer and the other a bull, the heifer is nearly always barren and is called a freemartin. Now where there are two bull calves to one heifer the chances for her being barren are even greater. The bulls will probably be all right. We do not see any reason why the cow would not continue to breed.

### Cow Bloats and Dies

About two weeks ago we had a young Jersey cow that was due to come fresh in December. She had been fed dry alfalfa hay and a few cull potatoes. She got loose and was in a field that had been in spring potatoes, for about 20 minutes, when we caught her. She started to bloat and in ten minutes was dead. Some thought she had been poisoned. All she could have eaten was a little alfalfa and some young tumble weed. Do you think she was poisoned or what do you think could have killed a healthy cow so quickly?—Subscriber, Chatsworth.

We do not know of any poison that would cause her to bloat so quickly. We are inclined to think that she picked up a potato that had been left in the field and it was too large to pass down into the stomach. It stopped in the throat or between there and the stomach. In that case just what you saw would follow. The remedy would be to push the potato down into the stomach or puncture the side and let the gas out until relief could be given some other way.

### Hen With Fatty Tumor

I had a fine large Barred Rock hen, two years old, that had a lump on her left hip. The lump was one year in growing. I showed her to many including a veterinarian, but no one ever saw anything like it. She ate and drank and ran as fast as the others and did not seem to suffer in any way. At last, filled with curiosity, I killed her and found the lump to be a solid mass of fat just like kidney suet. It was pear shaped and weighed one and one-fourth pounds. The fat would separate in layers. The hen weighed four pounds and was nice and fat both inside and out. Do you think it would

(Continued on Page 463)

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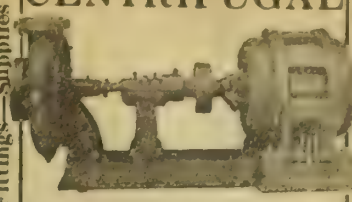
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# Los Angeles Markets

Los Angeles, October 25, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 55 cents.
change price, 48 cents.

| Oct. | 18 | 19 | 20 | 21 | 23 | 24 |
|---|---|---|---|---|---|---|
| | 54 | 51 | 51 | 51 | 49 | 48 |

### CHEESE

Brokers' prices:
California flats, 23@26.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 62; case count, 55; pullets, 42; pewee pullets, 28.
Prices Fresh Extras past week:

| Oct. | 18 | 19 | 20 | 21 | 23 | 24 |
|---|---|---|---|---|---|---|
| | 57 | 58 | 60 | 60 | 62 | 62 |

### POULTRY

Price to producers L. A. produce exchange: Hens. 24; colored, 30; broilers, 36; roasters, 26; old roosters, 14; fryers, 28; ducks, old, 15; ducklings Pekin, 3½ up, 20, others, 20; geese, 20; turkeys, live, young toms, 35; dr. 40; old, live, 33; dr., 38; hens, live, 34; dr., 39; small hen and tom, 15; squabs, 25@50; capons, 43.

Belgian hares, 11@16; old, 8.

### LIVESTOCK

(Quotations furnished by Federal-State Livestock Market News Service, 1014 Pacific Finance Building, based on prices off cars at Los Angeles.)

Cattle: Cattle market quiet. Packers forced to buy from Montana, Utah, Arizona and Texas to take care of their needs up to November 1. Few fat California cattle found narrow outlet though prices held steady. Good, weighty steers continue to move from 7.75@8.00, laid down here, with 800 to 1000 pound offerings of good quality around 7.50. Small lots good steers sold California points at 6.50@7.00. A string of 120 good two year old Herefords of Arizona origin sold in Kern County at 6.75, weighing 810 pounds after 11 mile drive. Common Arizona steers low as 6.00@6.50 off cars. Good hay-fed above 1100 pounds 7.00 at loading station Kern County. 5.00@5.25 took several small lots fat, heavy cows country points, similar stock cost to 6.00 off cars here. Seventy good two year old Hereford heifers, averaging 825 pounds, brought 5.25 loading point, Kern County. Drove good 1071 pound cows in Kern brought 5.00, common to medium 1062 pound, 4.00. Some demand for bologna and butcher bulls 3.00@4.00.

Feeder market quiet, few thin steers available. California purchasers took on Utah and Idaho feeders at 5.75 and west Texas Herefords at 5.50, Arizona yearlings and twos at 5.00 and threes and fours at 5.25. These are moving into the Imperial as well as coast counties.

Calves: Hot weather and over-supply dulled demand. Good and choice light dairy vealers, 7.50@7.75 off cars here, with 225 to 250 pound offerings at 7.00@7.50, 300 pound averages from Texas and Arizona 6.50@6.75, common to 5.50.

Hogs: Shortage stock cars cut down hogs from the East and California porkers found active demand. Good, grain-fed 160 to 200 pound, 11.00@11.25 L. A. plants, heavier weights and sows usual discounts. Spread 9.80@10.00 took most choice light hogs at farm bureau sales last week.

Sheep and Lambs: Choice fat lambs, off cars, 13.25@13.50. Utah lambs, 12.00 and better shipping points, choice light yearling wethers to 8.00, fat, handyweight ewes, 4.75@5.00.

Demand for feeding lambs fairly good, prices slightly under fat stock. Desirable breeding ewes, 9.00@10.00, f. o. b. ranch. Quotations released from this office on and after November 1 will be based largely on actual sales at the Union Stock Yards.—Nelson R. Crow.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, October 24 by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement moderate, market steady. New Stock: Locals, best, sacked 1.35@1.65; mostly, 1.50@1.65; poorer, low as 1.00 cwt. Northerns: Rivers, 1.80@1.90; poorer low as 1.65 cwt. Idahos: Russets, 2.00@2.15. Sweet Potatoes: Locals: Nancy Halls, 2@3 lb. Northerns; Nancy Halls, 3 lb.

Onions: Demand and movement slow, market steady. Stocktons: Yellow and White, 2.00@2.25 per cwt. Locals: Whites, 60@75; Spanish, 75@90 lug. Garlic: Mex. and Northern, best, 6; poorer, 5.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, October 24, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Artichokes: Doz., 1.25@1.50; small, 1.00.

Beans: San Pedro: Kentucky Wonders, 7; Limas, 6@7.

Bunched Vegetables: Per dozen bunches: Trunips, carrots, beets parsnips, 30. Parsley, onions and radishes, 15; spinach, 25.

Cabbage: Market dull, quality generally good. Field cr., best mostly 3.00@3.25.

Cauliflower: Per doz., 1.25; large sizes, 1.50@1.75.

Cucumbers: Local, lug, 1.50@1.65.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, Northern, best, 2.25@2.50; poorer, 2.00.

Corn: Green, local, best, lug, 80@90.

Eggplant: Local, 2½ lb.

Lettuce: Market steady Locals: Ordinary, leafy, 75@90 cr.; Northern, 2.50@3.00.

Okra: Lb., best, small, 11@12.

Peas: Best, Northern, lb., few best, 12@13; poorer, 8@9.

Peppers: Locals: Bells, mostly, 3½; Chilis, 3@3½ lb.; Cherry and Floral Gem, 10; Pimentos, 5.

Sacked Vegetables: Per sack. Beets and Carrots, 1.00; Turnips, 1.25.

Squash: Market steady. Locals: Summer, lugs, 50@65; Italian, lugs, 90@1.00; cream, 75 lug; Hubbard, 2 lb.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs, best, 1.00; poorer low as 60@75.

### FRESH FRUIT

These are actual prices obtained October 24 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Bellefleurs fancy, 3½ tier, 1.25@1.35; 4 tier, 1.30@1.50; loose 2½@3 lb. Locals: Loose, Romes, 3; Jonathans, 3½; Delicious, 5@6 lb. Utahs: Jonathans, loose, 3½ lb.; bushel baskets, 1.75. Washingtons: Jonathans packed, extra fancy, 2.25; fancy, 2.00 per box. Oregons: Delicious, loose, fancy, 7@8.

Cranberries: Cape Cods, 14.00@15.00 per barrel; half barrel crates, 7.00@7.75.

Grapes: Demand good, market unsettled. Northerns and Locals: Muscats, best, 5; poorer, 3@4; Malagas, 4@4½; Tokays, 6½@7½; Cornichons, 5½@6; Black Morocco, Missions and Zinfandels, 4@5 lb.; Red Emperors, 6½ lb.

Peaches: Market steady. Locals and Northerns, best, 4@4½; poorer, 2@3.

rieties, best 4; poorer, 2@3 lb.

Pears: Demand good, market firm. Northerns and Locals: Bartletts, best, 6½; ripe, 3@5.

Persimmons: Lb., 8@10.

Pomegranates: Lb., 6@7.

Watermelons: Demand moderate, market dull. Locals: Klondikes, medium size, 75@1.00; No. Black Diamond, large 1.25@1.50; casabas, Northern and local, 1.25@1.50 cwt.

### CITRUS FRUIT

Grapefruit: Arizonas, 65-96 sizes, 6@6.50.

Lemons: Demand and movement light, market steady. Special brands, fancy, 8@9; choice, 6.50@7.50.

Oranges: Demand moderate, market steady. Valencias, special brands, $10@11 according to size.

### HONEY

Colonies generally in good condition for winter. Nectar yield from alfalfa reported unusually light. Demand and movement of honey barely moderate with relatively few inquiries for carlots. Market firm and many beekeepers and shippers reported holding for higher prices, expecting a general advance due to the tariff. Carlots for outside shipment ranged per pound as follows: White Orange 10@10½ cents; one car sold locally at 9 cents. White Sage, 8¼@8¾; one car 9¼ cents. Light Amber Sage, 6½@7 cents; Light Amber Alfalfa, 6¼@6½ cents. Beeswax: Cash to growers 20 cents per pound.

### WALNUTS

Prices named by the California Walnut Growers Association on last Tuesday are: No. 1, 22½; No. 2, 17½, and fancy budded, 26. Last year's closing price for No. 1 was 27. The market opened at 24½, but only stood at that point for a day, strengthening immediately and moving up to 27.

### BEANS

California Lima Bean Growers Association, October 21:

Managers of warehouses report total quantity (field run) regular Limas for 1922 crop: Santa Barbara County, 70,000 bags; Ventura County, 674,500; Los Angeles, County 60,000; Orange County, 276,700; San Diego County, 20,000. Total 1,101,200. Total production regular Limas about equal to 1921 crop plus holdover of 1920 on hand September 1921. The market has advanced and seems firm today at around 7.65@7.75 f. o. b. cars on C/R grade regular Limas and 9.00 on C/R Baby Limas. Market promises to hold firm on above basis and may show advance. Michigan white beans have advanced past few days, now selling 7.00 f. o. b. cars Michigan.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

Prices quoted f. o. b. L. A. to producers:

| | |
|---|---|
| Tame Oat | 20.00@22.00 |
| Barley Hay | 16.00@18.00 |
| Rabbit Alfalfa | 24.00@26.00 |
| No. 1 Dairy | 22.00@24.00 |
| Standard Alfalfa | 16.00@18.00 |
| Wheat Straw | 8.00@10.00 |
| Barley Straw | 7.00@ 9.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around $22 as a fair average. No. 1 dairy is varying from $15 to $17 with $16 as a mean or average price. Standard alfalfa is not much in evidence. Few offer it; fewer want to buy. If sold it brings from $10 up.

# San Francisco Markets

San Francisco, October 24, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras (Oct. 25) | 49½ |
| Prime Firsts | 46 |

Prices Extras past week:

| October | 19 | 20 | 21 | 23 | 24 |
|---|---|---|---|---|---|
| | 50 | 50 | 50 | 50 | 48½ |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats, | 22½@25½ |
| California Flats, fancy (Oct. 18) | 28 |
| Oregon Trips | 25 |
| Oregon Young America | 27 |
| Cal. Y. A. fy | 28½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 69½ |
| Extra Pullets (Oct. 25) | 47 |
| Undersized Pullets No. 1 | 36½ |

Prices California Extras past week:

| October | 19 | 20 | 21 | 23 | 24 |
|---|---|---|---|---|---|
| | 66½ | 67½ | 67½ | 69½ | .... |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of October 23 by San Francisco jobbers October 16 by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers: 1 to 1¼ lbs. 36@40 per lb. Very fancy, 42@44 per lb. 1½ to 1¾ lbs., 32@35 per lb. Colored, 28@30 per lb.

Fryers: Leghorn, 2 lbs., 28@30 per lb. Colored 2 to 3¼ lbs., 28@30 per lb.

Young Roosters: Colored, 3½ lbs. and up, 28@30 per lb. Staggy, showing spurs, 21@23 per lb.

Colored Old Roosters: 17@18 per lb. Leghorn old roosters: 14@15 per lb. Leghorn hens: 2½ to 3 lbs. 18@20 per lb. 3 lbs. and over, 22@25 per lb. Large colored hens: 28@29 per lb. Off stock 26@27 per lb.

Ducks: Young, 18 to 20c per lb. Off stock, 10 to 15c per lb.

Geese: Young, 20 to 22c per lb. according to quality.

Live Turkeys: Old, 32 to 35c per lb. Spring 36@38 per lb. Dressed turkeys nominal.

Belgian Hare: Live, 15 to 18c per lb. Dressed 18 to 23c per lb.

Jack Rabbits: $2 to $2.50 per doz.

Squabs: Live, fancy, 50 to 52c per lb. Common, $3 to $3.50 per doz. Old pigeons, 2.50 to 3.00 per doz.

Guinea Fowls: Young, 8 to 10 per doz.

### LIVESTOCK

Quotations furnished by the Federal-State Livestock Market News Service:

Cattle prices per cwt. (delivered off cars from San Francisco)—Beef steers, good grade, $7.75@8; medium grade, $7@7.50; common grade, $6@6.75; beef cows, good grade, $5.75@6; medium grade, $5.25@5.50; common grade, $4@5; canners and cutters, $2@3.50; bologna bulls, $2.50@4.

Calves: 150 to 200 pounds, good and choice, 8@8.25; 200 to 250 pounds, good and choice, 7.50@8; 250 to 300 pounds, good and choice, 7@7.50; over 300 pounds, 5.50@6.50.

Hogs: Good and choice, grain fed Californias, 150 to 200 pounds, 10.75@11; 200 to 250 pounds, 10.40@10.75; 250 to 300 pounds, 9.25@9.75; 300 pounds up 8.50@9; smooth sows, 250 to 300 pounds, 7@7.50; rough sows, 250 to 300 pounds, 6@6.50; rough sows, over 300 pounds, 5@6.

Sheep and Lambs—Lambs, good and choice grades, 12.50@13.00 medium grades, 12.00@12.50; ewes, medium and good, 5.00@6.00; wethers medium and good, 7.50@9.00.

### FAT HOG AUCTIONS

Cal. Farm Bureau Marketing Assoc. reports:

Fresno, October 20, 1922

| No Hogs | Av. Wt | Dock | Price |
|---|---|---|---|
| 13 | 38 | .... | 13.15 |
| 12 | 129 | .... | 10.70 |
| 85 | 184 | .... | 10.55 |
| 16 | 98 | .... | 10.45 |
| 82 | 184 | .... | 10.40 |
| 96 | 168 | .... | 10.25 |
| 95 | 179 | .... | 10.25 |
| 81 | 203 | .... | 10.20 |
| 84 | 188 | .... | 10.10 |
| 82 | 97 | .... | 10.10 |
| 23 | 180 | .... | 9.85 |
| 111 | 137 | .... | 9.30 |
| 5 | 262 | .... | 8.85 |
| 29 | 259 | 320 | 7.35 |
| 1 | 270 | .... | 25.50 |

815 hogs

10 cars, 23 consignors, $12,190.34.

Fat hog auctions scheduled for next week are as follows: Modesto, November 1; Chowchilla, 2; Fresno, 3; Wasco, 4.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Rivers, 1.10@1.25 at wharf. Salinas, 1.90@2.00 cwt. Idaho Gems, 1.75@2.00 cwt. Bakers, 2.50 on track. Jobbing, Rivers, 1.25@1.50 cwt. Sweet Potatoes: Merced 2@2¼ lb. Nancy Halls, 2¼.

Onions: Green onions, 1.50@1.75 box. Stockton Browns and Yellows, 1.40@1.50 cwt. at wharf, jobbing price, 25@35 higher. Garlic: 3½@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, October 23, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per lug, 12.00@15.00.

Beans: Kentucky Wonder, Blue Lake 10@13 per lb.; Italian, 12@14; Lima, 8@10 per lb.

Brussels Sprouts; 6½@7½ lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: 75@1.00.

Cauliflower: Doz., 1.00@1.50.

Celery: Local, 2.00@3.00 cr.; 15@25 per half doz. bunches.

Corn: Green, 1.50@3.00 sack.

Cucumbers: Lug, 1.25@1.75; pickling, 2@3; small, 3½@5 lb.

Eggplant: Lug, 50@1.00.

Lettuce: Local, best, 1.50@2.00 cr.

Peas: Lb. 7@13.

Peppers, Cal. Bells, 75@1.00 lug; Chili, 75@1.00.

Rhubarb: 1.25@2.00 box.

Sacked Vegetables: Carrots, 1.00@1.25, turnips, 75@1.00; beets, 1.00@1.25; pumpkin and squash, 1.25@1.75. sk.

Spinach: Nominal.

Squash: Summer, lug, 1.50@2.00; Italian, 1.50@2.00.

Tomatoes: Bay and Peninsula, 1.00@1.25;; few higher. Plum tomatoes, 15@20. a berry drawer for best.

### FRESH FRUIT

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, October 23, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Apples: New crop apples, 75@1.25 lug box. Gravensteins, fancy, 3½@4 tier, $1.50@2.00 box. Smaller, $1@1.50 box. Crabapples, 50@1.00 lug. Bellflowers, best, 90@1.15 box. Winter Pearmains, 1.50@1.75 box. Newtons, 3½-4 tier, 1.40@1.75. Wealthy, fancy, 1.25@1.50 box. N. W. Jonathans, 3½@4 tier, 1.75@2.25 box. Spitzenberg, 1.50@2.25 box. Winter Bananas, 2@2.75 box.

Avocados: Cal. small, 1.25@1.50.

Bananas: Best Eastern and Hawaiian, 7@7½ lb.

Blackberries: 75@80 drawer.

Cantaloupes: Nominal. Honey Dew and Casabas, crates, 50@85.

Cranberries: Eastern, 15.00@16.00 bbl.; Oregon, 5@5.25 box.

Figs: Black, 1.50@1.75 double layer box. White, 90@1.00 crate.

Grapes: Thompson Seedless, 1.15@1.50 crate, 1.25@2 large lug. Tokay, Malagas and Muscats, 1@1.25 crate. Malagas and Tokays, 1.50@2.50 large lug. Muscats, 2.25@2.75 lug. Rose of Peru and Isabella, 1@1.10 crate. Black Prince, 1.50@2 lug. Wine Grapes, track prices, Zinfandels. 50@75 ton. Poor, 20@35 ton. Muscats, 5@20 ton.

Peaches: 65@1.00 crate; 1@1.25 L. A. lug; 1.25@1.50 large lug. Clings, 1.50@1.75 large lug.

Pears: Bartlett, 2.25@2.50 box. No. 2, 1.50@2.00; small box, 1@1.25.

Pomegranates: 1.00@1.25 small box.

Persian Melons: 50@1.00 crate.

Persimmons: 1.00@1.50 flat cr.

Plums: Best, 1.50@2.25 crate; lug, 1.00@1.25; small prunes, 1.25@1.50 box.

Quinces: 1.25@1.50 box.

Raspberries: 60@1.00 dr.; few higher.

Strawberries: Local, 75@1.00 drawer.

Watermelon: Southern, 1 lb. No. 2, for less.

### CITRUS FRUIT

Grapefruit: Southern California fancy special pack, 6@7 box. Arizona, 5.50 box.

Lemons: Special pack, 8.50@9.00 box. Choice, 6.50@8.50. Lemonettes, 2@4.00, box.

Oranges: Valencias, fancy boxes, 126-216s, 9.50@10.50; 250-288s, 8.50@9. Smaller, 7@8. Choice, 6@9 box.

### DRIED FRUITS

Figs, 1922, Packers' prices f. o. b. Cal.:

| | |
|---|---|
| White Adriatic | |
| Standard (in 25s) | 7¼@7½ |
| Choice (in 25s) | 9½@10 |
| Fancy (in 25s) | 13½@14½ |
| Extra fancy (in 25s) | 15@15½ |
| Bricks, 12 No. 10s | 1.12½@1.20 |
| Bricks, 24 No. 8s | 1.85@1.90 |
| Bricks, 50 No. 6s | 2.85@3.00 |
| Bricks 70 No. 4s | 2.90@3.10 |
| Layers, 10-lb., 4 row | 1.75@1.85 |
| Layers, 10-lb., 5 row | 1.50@1.60 |
| Calimyrna | |
| Standard (in 25s) | 14 |
| Choice (in 25s) | 16 |
| Extra choice (in 25s) | 19 |
| Fancy (in 25s) | 22 |

Few black figs left for sale; those commanding high prices.

Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:

California Peach and Fig Growers' has withdrawn prices on all figs.

Raisins, Sun-Maid Raisin Growers' Prices:

| | |
|---|---|
| Seeded | |
| Sun-Maid, 15 oz | 11¼ |
| Sun-Maid 11 oz | 8¾ |
| Bakers (in 30s) | 9½ |
| 1-crown (in 30s) | 9½ |
| Loose Muscatels | |
| 4-crown (in 25s) | 11 |
| 3-crown (in 25s) | 10 |
| 2-crown (in 25s) | 9½ |
| 1-crown, rceleaned (in 25s) | 9 |
| Seedless | |
| Thompsons, 15-oz | 10½ |
| Thompsons 11-oz | 8 |
| Thompsons bulk (in 25s) | 10 |
| Thompsons bakers (in 25s) | |
| Sultanas, bulk (in 25s) | 9 |
| Bleached Thompsons, Northern: | |
| Choice (in 25s) | |
| Fancy (in 25s) | 13½ |
| Extra fancy (in 25s) | 15 |
| Soda dipped (in 25s) | — |
| Soda dipped 15-oz | — |
| Bleached Thompsons, Southern | |
| Choice (in 25s) | — |
| Fancy (in 25s) | 14 |
| Extra fancy (in 25s) | 15½ |
| Bleached Thompsons, California Brand | |
| Choice (in 25s) | .... |
| Fancy (in 25s) | 13 |
| Extra fancy (in 25s) | 14½ |
| Oil dipped (in 25s) | — |
| Soda dipped (in 25s) | — |
| Bleached Sultanas | |
| Oil dipped (in 25s) | 10 |
| Little Sun-Maids, 5c pkgs, six 24s, case, f. o. b. obbing points | 3.65 |

| | | |
|---|---|---|
| Layers | | |
| 3-crown, | 5-lb. | .80 |
| 3-crown | 10-lb. | 1.50 |
| 3-crown | 20-lb. | 2.90 |
| 4-crown, | 20-1s. | 3.15 |
| 4-crown | 12-2s. | 3.75 |
| 6-crown, | 5-lb. | 1.40 |
| 6-crown, | 4-5s. | 5.30 |
| Vineyard Run, | 80-lb. | 9.00 |

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼ @11½ | 15 @15¼ |
| 40-50s | 9 @ 9¼ | 12¼ @12½ |
| 50-60s | 8 @ 8¼ | 10¾ @11 |
| 60-70s | 7¾ @ 8 | 10 @10¼ |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @11¼ | @11½ |
| Choice | @12 | @12¼ |
| Extra choice | 13 | @13½ |
| Fancy | @14¾ | @15¾ |
| Extra fancy | @16¼ | @17¼ |

**Peaches, 1922, California Peach and Fig Growers' Assoc. new price list:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Choice | @12¼ | @12½ |
| Extra choice | @13½ | @ ..... |
| Fancy | @15¾ | @16¾ |
| Extra fancy | @17¼ | @18¼ |
| Practically Peeled— | | |
| Choice | @13¼ | @13½ |
| Extra choice | @14½ | @ ..... |
| Fancy | @16¾ | @17¾ |
| Extra fancy | @18¼ | @19¼ |
| 11-oz Cartons, 60 per case | 7.00 case | |
| 2-lb Cartons, 24 per case | 8.25 case | |
| 5-lb Cartons, 10 per case | 8.50 case | |

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | @ 9½ |
| Choice | @12 |
| Extra choice | @13½ |
| Fancy | @15½ |

**Apples, 1922 Packers' Quotations f. o. b. Cal.:**

| | In 50s |
|---|---|
| Choice | @9¾ |
| Extra choice | @10 |
| Fancy | 11@11¼ |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | 18@20 |
| Slabs | 18@19 |
| Choice | 23@24 |
| Extra choice | 24½@25½ |
| Fancy | 27@29 |

### ALMONDS

California Almond Growers Exchange practically sold out. Independent packers prices are:

| | |
|---|---|
| Nonpareil | 23 @25 |
| IXL | 22½@24 |
| Ne Plus Ultra | 20 @22 |
| Peerless | 14 @16 |
| Drake | 14 @15 |
| Languedoc | 13 @15 |
| Hard Shel | 10 @11 |

### HONEY

White Hawaiian honey offered at 7 per lb. f. o. b. San Francisco. Few sales No. 1 Star Thistle honey reported from Northern California at 8 per lb.

### BEANS

California Bean Growers Association selling prices, 100 pounds, for choice recleaned California beans (1922 crop) in carloads, f. o. b. California common shipping points on October 21, 1922:

| | |
|---|---|
| Large Whites | 6.25 |
| Small Whites | 6.00 |
| Pinks | 6.80 |
| Mexican Reds | 5.60 |
| Red Kidney | 6.60 |
| Bayos | 7.00 |
| Henderson Bush Limas | 9.50 |
| Cranberry | 7.15 |
| Blackeye | 5.00 |

### HAY AND FEEDSTUFF

Under date of October 21, A. W. Scott Co. says:

Receipts 444 as compared with 961 previous week. Light receipts caused by car shortage and embargo on shipments in various sections of the country and reduced receipts have strengthened prices so that the average values are a litttle higher than a week ago. Export and coast shipments continue steady but light. Inquiries active. Interior and country trade quiet. Alfalfa has not been doing as well this week. Difficulties of transportation and very light demand from consumers have prevented trading and while there has been no change noticeable in price, market has dragged.

| | |
|---|---|
| Barley, Ground | 34.00@36.00 |
| Rolled | 32.00@34.00 |
| Oats, Rolled Feed | 42.00@44.00 |
| Bran | 34.00@36.00 |
| Millrun | 35.00@37.00 |
| Middlings | 44.00@46.00 |
| Linseed Meal | 58.00@60.00 |
| Coconut | 33.00@36.00 |
| Alfalfa Meal | 28.00@30.00 |
| Cottonseed Meal | 50.00@56.00 |
| Molasses Beet Pulp | 43.00@45.00 |
| Milo | 42.00@45.00 |
| Corn Meal or Cr. Corn | 39.00@41.00 |
| Scratch Feed | 45.00@47.00 |

### GRAIN

Prices S. F. Grain Exchange, October 9, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 1.95@2.00; feed, 1.85@1.95.

Barley Feed, 1.37½@1.42½; shipping 1.44@1.55.

Oats: 1.60@1.85.

Corn: Colored Milo, 1.80@1.95; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.67@1.70.

## Snappy Notes on Livestock

By A. L. Spellmeyer

Steers still average fat here 7.50, good heavy cows 5.50, veal calves 7.'0, hogs 10.50 and lambs 13.00. Demand is for heavy steers and some heavy cows. Calves and common cows oversupplied. Hogs and sheep in strong demand.

Feeder trade f. o. b. country has slackened, and thousands of yearling steers are now waiting sale at 5 cents in Arizona, together with a considerable offering of twos up steers at 5 to 5.25 and thousands of stocker cows at 3 cents and light grass fat cows at 4. These offerings will close in 30 more days if the high range country of Arizona has snows, and California demand that rain will surely bring will then have difficulty in filling.

Colorado is offering heavy fat cows at 4.10 to 4.40 and that means 5.60 to 5.90 Los Angeles. Utah cows 1100 pounds coming in are costing 5.50 to 5.75. One string of cows sold at 6 cents to a packer but the speculator paid 5.50 and they weighed 1200 pounds average.

California buyers are urged generally by the livestock men here to attend the opening of the stockyards and secure lots of feeder and stock cattle to suit their requirements. Good lambs and hogs and heavy steers will find ready sale at fair prices, it is claimed, when stockyards open, but there is a surplus of yearlings and cows that the country should absorb during this period when ranges are making final shipments for this fall. A California buyer who has feed now or prospective can fill needs for one car or a hundred now from Arizona and New Mexico, either through stockyards or through order buying. The man who doesn't buy these cheap cattle will be sorry, for it's surely going to be a wet year and a good one here in California with a beef demand far greater than supply in sight for heavy fat cattle. Los Angeles alone between November 1 and July 1 will use over 200,000 fat cattle.

The commission exchange for the Los Angeles Union stockyards has been formed and comprises about 20 firms. Among this number are five men who have been local managers for various packing houses, and some six others are also favorably known in previous yards in commission circles. The exchange contemplates upon completion strict rules to govern ethics of trading. At the organization meeting Friday there was a general desire to join with other livestock exchanges in having the department of agriculture set commission rates.

It was considered impossible to adopt lower rates than those prevalent in competing markets and secure a reasonable cooperation. The American National Livestock Association is now suing for a return to pre-war rates and I am told the department of agriculture will probably set rates in the near future, but the new exchange made it clear it was a general desire to conform to government rulings.

### VETERINARY

(Continued from Page 461)

have broken in time or would it be more likely to have killed her?—Subscriber, San Marcos.

It was a fatty tumor, just fat gathering in an uncommon place. Seen occasionally in animals or birds. It is not a disease. Why the fat accumulates in uncommon places we can not understand. If you had just split the skin and peeled it out and stitched it up it would have healed in a few days and that would have been the end of it. It caused her no trouble only the extra weight to carry.


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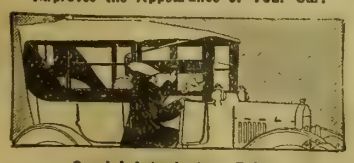

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### WEATHER REPORT

San Francisco, October 14, 1922.

| Stations | Rainfall— Week | Season | Norm. | Temp.— Max. | Min. |
|---|---|---|---|---|---|
| Eureka | 1.66 | 2.06 | 1.92 | 66 | 48 |
| Red Bluff | 3.10 | 3.40 | 1.12 | 82 | 50 |
| Sacramento | .23 | .23 | .54 | 84 | 50 |
| San Francisco | 1.66 | 1.66 | .44 | 72 | 52 |
| San Jose | .18 | .18 | .52 | 78 | 44 |
| Fresno | .01 | .01 | .44 | 92 | 52 |
| San Luis Obispo | T | T | .63 | 86 | 50 |
| Los Angeles | 0 | T | .13 | 90 | 57 |
| San Diego | 0 | .01 | .13 | 88 | 58 |

### WEATHER REPORT

San Francisco, October 21, 1922.

| Stations | Rainfall— Week | Season | Norm. | Temp.— Max. | Min. |
|---|---|---|---|---|---|
| Eureka | 0 | 2.14 | 3.03 | 70 | 46 |
| Red Bluff | 0 | 3.96 | 1.81 | 82 | 54 |
| Sacramento | 0 | .45 | 1.03 | 84 | 50 |
| San Francisco | 0 | 2.72 | 1.06 | 81 | 54 |
| San Jose | .01 | .63 | .93 | 84 | 40 |
| Fresno | 0 | .01 | .71 | 84 | 52 |
| San Luis Obispo | 0 | .05 | 1.21 | 88 | 48 |
| Los Angeles | 0 | T | .48 | 74 | 54 |
| San Diego | 0 | .01 | .37 | 68 | 58 |


# Nothing the Matter With California

California's fame in crop production has traveled 'round the world.

In variety California stands unequalled, producing 102 separate and distinct crops.

In quality the products of California's fields, orchards, groves and vineyards measure up to the highest standards conceived by the best agricultural practice in the world.

In quantity, measured in terms of production per acre, per farm and per state, California yields greater farm wealth year in and year out than any other state in the Union.

These notable achievements have been due to the enterprise, the ingenuity and the hard work of California people. No other state has such a complex variety of farm problems—so many crops, so many plantings and harvests, and such a wide variety of soils and possibilities.

And California has progressed. No other commonwealth can boast of such great cooperative marketing agencies—nor of so many successful agencies that connect its producers with the markets.

When farming in the wheat belt, the corn belt and the cotton belt was suffering from adverse marketing conditions, marketing agencies of the California producers were pouring steady streams of gold into the Golden State, maintaining its reputation and its credit and fulfilling the predictions of its staunchest admirers.

California's problems are not the problems of those states that have not progressed so far in scientific farming.

There always has been and there always will be a distinctly different agriculture in California.

Realizing that the production of 102 kinds of crops, on many kinds of soils and under many conditions, requires almost unlimited thought, study and investigation, it has been the policy of California Cultivator to meet the problems of California food producer by securing the services of writers and contributors from all sections of the state who are not only familiar with California conditions but who are especially distinguished and efficient in the particular subjects concerning which they write.

Sixty-two men and women from among California's ablest agricultural writers prepare the reading matter that appears in California Cultivator. This staff will answer in the columns of California Cultivator any question pertaining to crop production, stock, dairying, poultry, bees—any farm problem or legal matter, to which there may be an answer, free of cost.

No other farm paper in America, regardless of the number of subscribers served, answers so many farm questions.

A state farm paper like California Cultivator, devoted exclusively to a specific section of the United States and its problems, and thoroughly organized to cover that section with all its complex agricultural problems, found nowhere else in the United States, is best prepared to furnish service and reading matter for that section.

## FREE SERVICE

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Covers California Farming

**Los Angeles** **San Francisco**

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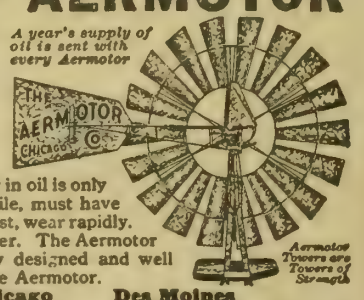


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Practically every farmer who is doing business in America today is up against a situation which is taking a large part of his legitimate profits.

Whatever you raise—hogs, wheat corn, eggs, beef, dairy products, garden stuff—you're fighting against disorganized market conditions, erratic public taste, manipulation, and the lack of the effective coöperation which might whip the business of farming into line for real profit.

No wonder the farmer works long hours every day only to find a slim bank balance (if any) at the end of the year—even this year with bumper crops!

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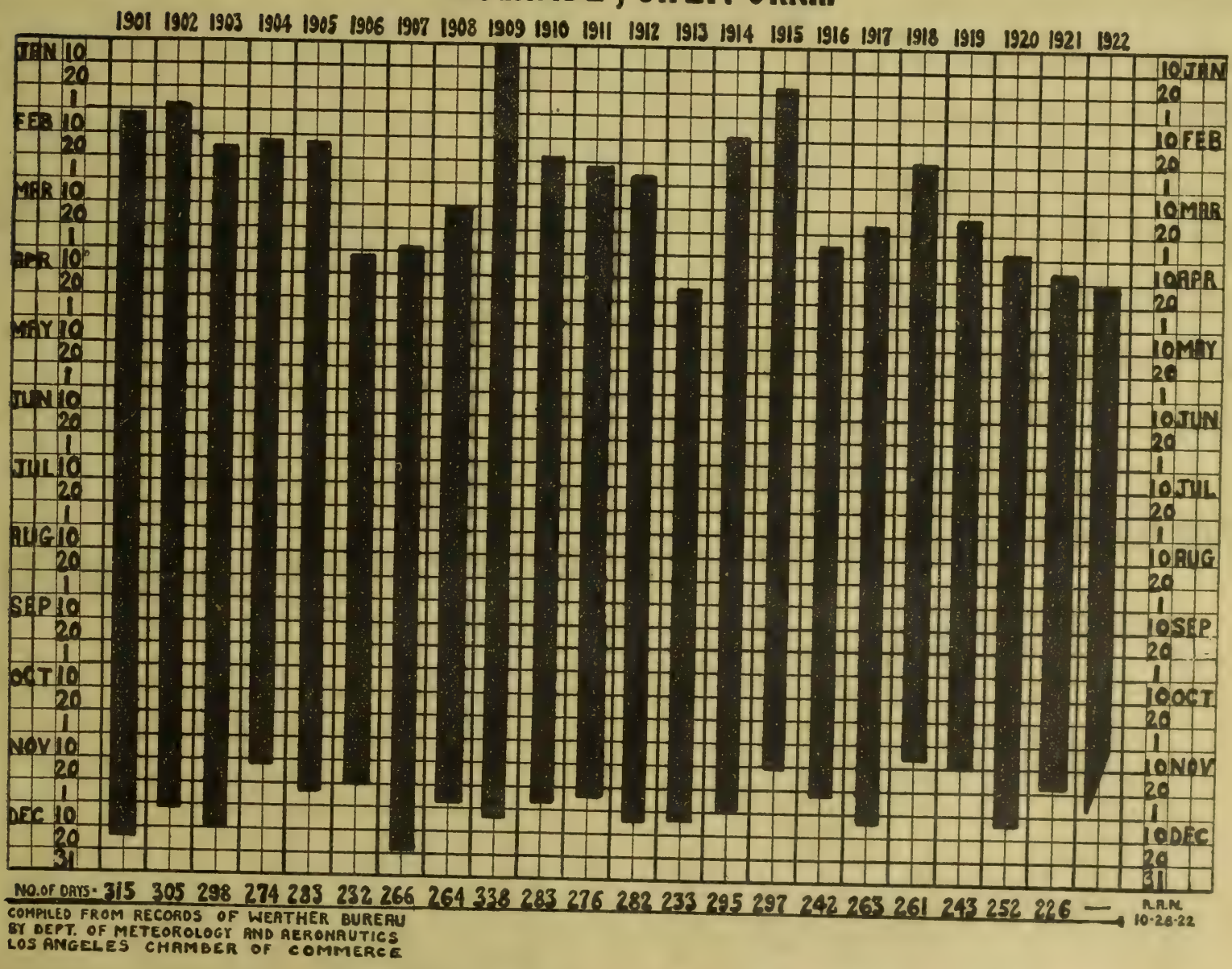
# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — November 4, 1922 — No. 19


# Temperature Records for Twenty-two Years

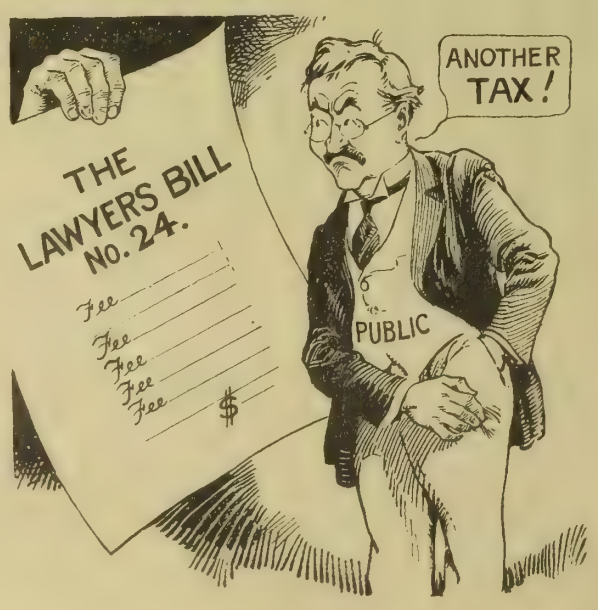



The black columns show the length of the growing season for each year since 1901. The top of the column corresponds with the date of the last day with a temperature of 32 showing the date of the last frost of the winter. The bottom of the column indicates the date of the first frost of autumn.

# You Don't Want a Lawyer
## (and His "Fee")
# Between You and Your Banker or Business Advisor

The following organizations have officially denounced the "Lawyer's Bill" and asked their members to vote and work for its defeat:

**California State Grange**
**California Federation of Labor**
**Brotherhood of Locomotive Engineers**
**Brotherhood of Locomotive Firemen**
**Order of Railway Conductors**
**Order of Railway Switchmen**
**San Francisco Chamber of Commerce**
**California Bankers Association**
**Fifty-Four Local Boards and Associations of Realtors**




**If you want to PAY for it, vote for it**

Thousands of people—including many lawyers—come to BANKERS and BUSINESS MEN for advice upon business matters.

Most of the advice given is LEGAL advice. Every contract and every property right rests upon the LAW. Everyone is supposed to know the law, and bankers and business men often know as much about ordinary business law as many lawyers. MORE than some lawyers.

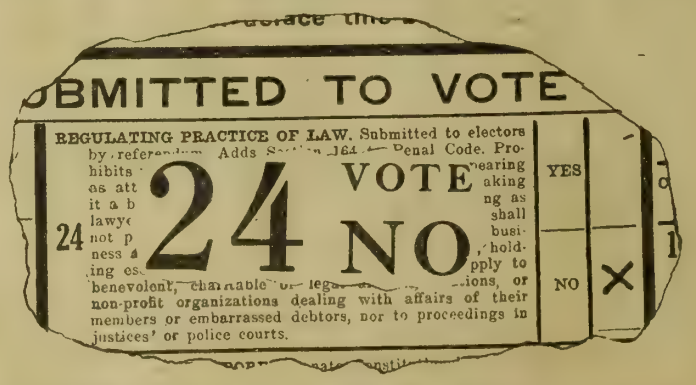
This advice by bankers and business men is ordinarily given FREE and is usually sound. The proposed bill makes it a crime to continue it.

LAWYERS prepared the Bill, designed, planned, intended for one sole purpose: to cut the people off from sources of advice upon business matters in which matters of law are involved, except one source—GO TO A LAWYER and pay him a fee.

LAWYERS introduced it in the Legislature, LAWYER-politicians "pushed it through" to a LAWYER-governor, who signed it.

## KILL the LAWYERS BILL

**Easy to Find It. Top of Sixth Page on the Official Ballot**


SUBMITTED TO VOTE
REGULATING PRACTICE OF LAW. Submitted to electors by referendum. Adds Section 164 to Penal Code. Prohibits ... appearing as att... taking it a b... ng as lawy... shall not p... busi- ness a... holding es... apply to benevolent, charitable or legal ... ions, or non-profit organizations dealing with affairs of their members or embarrassed debtors, nor to proceedings in justices' or police courts.
24
VOTE
24
NO
YES
NO
X

**CALIFORNIA BANKERS ASS'N**

# California Cultivator

Vol. LIX, No. 19 | Los Angeles, November 4, 1922 | One Dollar Yearly


# Frost and Fumigation Temperature Records

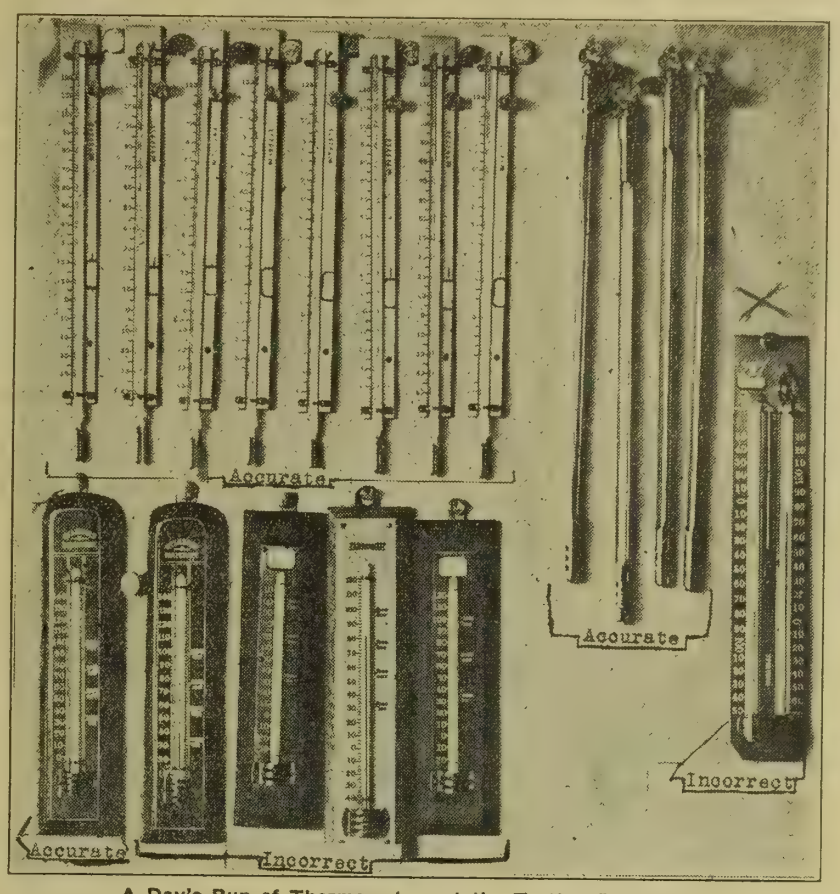
## For Protection From Frost and Insect Pests

By Dr. Ford A. Carpenter, Manager Department of Meteorology and Aeronautics, Los Angeles Chamber of Commerce

"When shall we begin to get ready for frost?" and "When may we safely fumigate?" These are questions asked during the autumn and spring by the orchardists in California. These queries may only be answered after studying accurate temperature records.

It is manifestly a waste of time and effort to take temperatures with inaccurate thermometers; the first requisite is a dependable thermometer. During the past two years the instrument testing department of the Los Angeles chamber of commerce has certified over 600 thermometers. Half of these were used in frost protection and half in fumigation. There were more than twice as many thermometers submitted for test as were found fairly accurate. When one considers the large number of worthless thermometers that have been in use in the citrus groves it is no wonder that there has been such a useless expenditure of fuel oil in frost protection or the unnecessary loss by low temperatures. These losses aggregated huge sums in the past and are slowly lessening owing to the better class of thermometers now to be found in the orchards.

It may be a matter of considerable satisfaction to California citrus growers to know that owing to the demand for accurate instruments, the proportion of dangerous instruments decreased from 27 per cent during the first year's tests to 10 per cent at the close of the present year. It is believed that within a very few years all of the inaccurate thermometers used by orchardists will have been discarded and their places taken by dependable instruments.




**A Day's Run of Thermometers at the Testing Department**

Out of a dozen thermometers sent in for test, as shown by the top row, all were sufficiently accurate to be given a certificate and a seal. A small leaden seal is shown attached to the top of each thermometer-tube. Five ordinary thermometers were brought in by one orchardist and four were found to be incorrect. The thermometer with the "X" above it was in error 6°; this kind of instrument is more often inaccurate than accurate.

### Frosts—First and Last

The weather bureau has always dealt most liberally with Southern California horticulturalists. In no other section have better equipped cooperative and regular stations been established and maintained. The federal government realizes the importance of the fruit industry and has always extended every legitimate aid to the citrus orchardist. This is shown by the network of weather stations in California and the long and satisfactory records of meteorological observations. One of the best of the cooperative stations is that at Riverside. Riverside has no earlier autumn, or later spring frosts than other localities and it may safely be used as a criterion of frosts generally in the citrus regions of California south of the Tehachapi. The uninterrupted record of 22 years makes a most interesting and valuable study. In order to present the data in a graphic form studies of the growing season are depicted in chart on cover in the form of parallel columns, each column representing by its length the last date with a temperature of 32 degrees in winter and the first date with the same height of the thermometer in the autumn.

The earliest frost at Riverside occurred within the first ten days of No-

(Continued on Page 474.)

# A Real College of Agriculture

By C. B. Messenger

A COLLEGE of agriculture is much like the humans who enter into its making. It is in swaddling clothes; it learns to stand, to walk, to run, though perhaps with some tardiness; ultimately it may talk. It has its moods, its ups and downs; it may even be a bit temperamental.

Today, Tuesday, October 24, 1922, the College of Agriculture of the University of California is very happy. It is upstanding, very straight and talking fluently. It is dedicating two great, well equipped buildings, one to horticulture one to dairy industry. The regents, the dean, the directors, the faculty all are happy because of better equipment and better opportunity for instruction, more, because the people of California have recognized work already done and the need for better work yet to do.

The last legislature appropriated nearly a half million for the two departments, horticulture and dairying. The buildings are completed and equipment is nearly all installed. They are both now dedicated and functioning in California education. They are constructed of hollow tile with reinforced concrete frame and are thoroughly modern in every respect. They were planned after a thorough study of similar buildings at other institutions.

### The Dairy Industry Building

The dairy industry building is a two story structure 234 feet long and 60 feet deep, with a dairy manufacturing wing running back from the east end of the main building 206 feet. This wing will provide facilities for a large creamery laboratory which will be used for teaching advanced students and those electing practice work in butter making, cheese making and ice cream making and in market milk and milk condensing. It will also provide facilities for investigation of the problems relating to the manufacture of high grade dairy products. A milk and cream receiving station, a student cheese laboratory and refrigerating, ice making, storage and machinery rooms are also provided.

### The Horticultural Building

The building has two stories with basement in one end. On the first floor are the offices of the botany division, class rooms and laboratories. There is an auditorium with seating capacity of 250.

On the second floor are offices, research laboratories, departmental libraries of the divisions in this building. In addition to being used as a reading room, informal classes will meet here for round table discussions. Chemical, histological, and general research laboratories are in this building. The divisions will be fully prepared for an intimate study of such problems as sour sap, frost and pest resistance of plants, pollination and sterility, root stocks and pruning.

Some of us who saw the dedication of these fine structures today could not refrain from looking backward. We recalled the days when Dr. Hilgard and Prof. Wickson were practically the only faculty and the faculty was housed in the little old shed of a barn by the stream flowing through the campus at Berkeley. That constituted the "Cow College."

Then came the purchase of nearly 800 acres at Davis and the real beginning. That was less than a score of years ago. That I might tell Cultivator readers I came up to view the site and tell of the work beginning. It was a great barley field of very raw land. A tank house was already built and the creamery under way. To reach the farm I was told to "go down the road a ways." "You'd better take a stick to poke the hogs out o' way." The fences and corrals for pig sties were moss covered and tumbling, no sidewalks, deep dust, dying vineyard —everything wrong.

In writing my story then I subdued the discouraging and boosted as best I could, but it was heartbreaking to think of taking boys from attractive farm homes and "educating" them in the midst of such surroundings.

Today the repellent features are gone. Tasteful cottages, green lawns, paved streets have come in the town of Davis. There are a score or more of fine buildings on the university farm. They are well equipped and well manned.

It may well be a proud day for the College of Agriculture of the University of California.

# Agricultural News Notes of the Pacific Coast

## Northern California

Orland has shipped six carloads of almonds.

Pacific Coast eggs, best quality, sold in New York last week at 74 cents.

The California Wool Growers will meet in annual convention at Stockton, November 16-17.

Prune and apricot growers of the state will meet in convention at Berkeley, November 13-15.

Almonds are selling well and growers are urged to clean up the orchards and get fruit into the market.

Yolo, Colusa and Solano Wool Growers will hold their annual election at Woodland, November 10.

Charles E. Humbert of Cloverdale has been elected state director for the Sonoma County farm bureau.

The Canning Peach Growers Association has raised its size limit on No. 1 peaches from 2¼ to 2⅜ inches.

Boys and girls who have engaged in agricultural work held a convention at University Farm at Davis last Saturday.

Glenn County has a new Mutual Insurance Company. Membership is now 120, mostly of farm bureau members.

The 55th convention of the California Fruit Growers and Farmers will be held at Sacramento, November 21-23.

Tehama County reports 400 feeder lambs weighing approximately 60 pounds sold recently for 11¼ cents per pound.

Wool growers meetings for November are: November 4, Marysville; November 6, Fresno; November 8, Bakersfield; November 10, Woodland.

On October 12 there were 11,801 cases of eggs in cold storage at Santa Rosa; last year, 1496 cases; in Petaluma, 20,988 cases; last year, 22,763 cases.

A hemp manufacturer from St. Paul has been discussing with Livermore Valley ranchers possibility of raising hemp in sufficient quantity to justify building a factory.

County and state highway commissions are cooperating with the federal bureau of roads in making traffic census of the state to be used in future road building.

Frank W. Brandstatt of Yuba City was adjudged high winner of the Sutter County peach contest. His score was 97.474 on orchard yield of 24 tons, 591 pounds to the acre.

The Central California Wool Growers Association has completed arrangements for holding the 1922 convention of the California Wool Growers Association at Stockton, November 16 and 17.

It is announced that the $1,300,000 advanced to rice men of the Sacramento Valley last year by the war finance corporation has all been paid back. Agreement has been made to advance $1.50 per sack on this seasons crop.

A conference of fruit growers is called at the University of California, Berkeley, November 13-15. Pear Day will be November 13; Prune Day November 14 and Apricot Day November 16. In connection there will be a fruit show held in Hilgard Hall.

## Central California

Lindsay is to have a chrysanthemum show on November 8.

Turlock shipped nearly 1,000 acrs of watermelons this year.

Santa Cruz closed a most successful agricultural fair last Saturday night.

Modesto grape shippers were relieved by receipt of 16 refrigerator cars on October 20.

"Better roads into Sequoia and Gen. Grant national parks" is the slogan of the San Joaquin Valley.

The second annual Pacific Dairy Products show will be held at the auditorium in Fresno, November 13 to 18.

The Turlock-Modesto irrigation districts are planning for a celebration and festival when Don Pedro dam is completed.

Concrete bases for the steel towers of the Turlock irrigation district's power lines are finished as far as Fowler's Corner.

Fresno County's Pork Day, held last week at Kearney Park, resulted in the sale of 852 porkers at an average of slightly more than $10 per hundredweight.

Fresno ranked fourth in bank clearings of the state, with a gain of $1,239,-464, according to report of last week by the California Development Association.

An eradication campaign against the puncture vine in the Valley counties was discussed at the quarterly conference of the San Joaquin Valley Supervisorial Association at Visalia.

Clovis, Fresno County, up to October 1 had shipped 1055 cars of fresh deciduous fruits. From 20 to 30 cars are now being sent out daily but only half the number of reefers needed can be secured.

A resurvey of boundary lines between Merced, Madera and Fresno Counties has been finished. It will add approximately 1,000 acres of land to Merced County which was formerly accepted as a part of Madera.

Growers of table grapes in Stanislaus County say that car shortage has caused them serious loss. About 90 per cent of the wine grapes have already been handled and these make up about three-fourths of the county's crop.

Word comes from Hanford that the movement of refrigerator cars with Eastern shipments of grapes has not averaged more than 25 daily from King's County. If cars had been available 100 cars would have been moved daily.

In the San Joaquin Valley there are five or more cities seeking new federal buildings. $750,000 is the appropriation requested for a new post office building at Fresno, the present structure being inadequate for the needs of the community. Reedley is asking $100,-000; Modesto, $150,000, and $150,000 is requested for Visalia.

The San Joaquin Valley Supervisors Association met recently with farm bureau agents and county horticultural commissioners to plan for an eradication campaign on puncture weed. W. C. Jacobsen of the state bureau of pest control and J. B. Woodson of the state highway commission were named as advisers to the committee which will lay out plan of action.

## Southern California

Escondido is still sending out grapes in carlot shipments.

Antelope Valley deciduous fruit growers institute, November 9.

A bond issue of $100,000 is proposed for Pomona to provide new sewer system.

An apple festival was held by the Woman's Club of Yucaipa, October 27 and 28.

The annual election of the Los Angeles County farm bureau will be held November 16.

Serious fires have burned over hills and mountains in San Bernardino County the past week.

Sales of alfalfa hay are reported from Oxnard at $18. Most of it is trucked to Los Angeles.

The Legend of Tahquitz is the title of the desert play to be staged at Palm Springs, November 4 and 5.

An exhibit of fruits of the Victorville section was made at the dedication of the highway on October 12.

Brant Rancho of Owensmouth was awarded perfect score, 100 per cent, in the milk contest at Santa Cruz fair.

The state highway commission has its own force of men working at Point Magu on the Oxnard-Capistrano highway.

Three hundred San Diegans made an auto tour last Sunday to Henshaw Dam on the headwaters of the San Luis Rey.

The apricot growers institute at Ventura, October 27, was largely attended by growers from all over Southern California.

The Oxnard Citrus Association shipped 25 carloads of lemons during September. 100 cars will be the shipment for the season.

The Redlands Horticultural Improvement Society is planning for its usual fall flower show. The date has not yet been determined.

The rain of last week was doubly welcomed by the fire fighters who have been combating flames on widely scattered ranges.

A new highway is to be put through the Santa Anita ranch from Pasadent to Monrovia. It will parallel the Foothill Boulevard.

According to the federal reserve bank at San Francisco California's oil fields produced the record figure of 406,838 barrels per day during September.

The new evaporator plant at Yucaipa is turning out peaches and apples. The apples are put out in rings, and quartered for the higher class trade.

Pasadena's Flower Show held at Hotel Raymond, October 26-28, was the fifteenth annual and brought out a wonderful display of flowers and a great crowd of visitors.

Proposed sites for the agricultural college of the Southern Branch, University of California, are now being investigated by the committee appointed by Governor Stephens.

An irrigation development is soon to be started in the foothills above Pleasant Valley, one mile north of Camarillo, Ventura County. This will provide water for about 1,000 acres.

## The Coast and General

The White Mountain section of Arizona reports water scarce and stock failing.

The second annual Pacific Northwest Fruit Exposition will be held at Seattle, November 11-19.

Continued dry warm weather in Arizona is helping to produce a superior quality of sweet potatoes. Digging has begun.

A government survey of 100 citrus farms in Polk County, Florida, reports net return of 12 per cent on an average capital of $25,000.

Pastures the country over are generally short due to lack of moisture. Northwestern ranges, however, are reported in better than normal condition.

Orange picking in Plaquemines Parish, Louisiana, is in progress with the crop larger and of better quality than last year when 50,000 crates were shipped.

United States weather bureau office at Phoenix reports: "The Colorado River is unusually low at Yuma, the entire stream going into the irrigation canals of the Imperial Valley."

The government railroad from the wharves at Seward will be opened through to Fairbanks, Alaska, by January 1, a distance of 467 miles, nearly equal that from Washington to Boston

Sales of New Zealand free wool from July 1, 1921 to March 31, 1922 amounted to 615,168 bales of which 413,954 bales have been sold in New Zealand and 201,214 bales sold in London auctions.

Sweet potatoes are yielding fairly well in Virginia and a good crop is reported in Indiana and Illinois. Yields are unsatisfactory in Arkansas and in Louisiana the production is said to be less than last year.

There will be a large supply of foreign walnuts available for the Christmas trade, in fact, it is only reasonable to suppose that 35 per cent more foreign walnuts will be imported to America this year than last.

The crops of foreign walnuts are generally of better quality than for the past several seasons. Foreign production is about 35 per cent in excess of normal, and prices in this country, new duty added, are about 11 per cent less than last year.

The output of canned salmon from Alaska this year will be about the average of the past 10 or 12 years, something over 4,000,000 cases. The salmon industry ir Alaska is the source of a steady and considerable demand for timber from the national forests for box boards, piling and timbers and supports a number of local sawmills.

The wheat crop for all Europe, exclusive of Russia, is now reckoned at 235,000,000 bushels below last season's outturn, based on returns from 20 of the more important producing countries. Estimates for barley, based on 18 of the chief producing countries, show a decline over the crop of last year of about 50,000,000 bushels. Striking losses in percentages are shown as follows: Germany, 30 per cent; Netherlands, 30 per cent; Italy, 23 per cent; Denmark, 20 per cent; Spain, 16 per cent.

# Frost and Fig Trees

By Ira J. Condit, Horticulturist
California Peach and Fig Growers

MATURE fig trees are seldom seriously injured by frost in California. Young fig trees, however, are very susceptible to frost injury either in the fall before the foliage is shed, during the winter, or in early spring after the buds have started into growth. No figures are available showing the extent of the damage although numerous cases can be cited where extensive plantings of young fig trees have failed on account of repeated frost injury. Many more instances could be given of growers who have planted other fruit trees or left land unplanted on account of the difficulty of bringing young fig trees into bearing. Thousands of fig trees have been frozen to the ground for several successive seasons before they finally reach sufficient size and maturity to escape injury or are dug out as cumberers of the ground.

The fig tree, however, is not alone in its susceptibility to frost. Severe frost injury to young walnut trees is a common occurrence in California and of sufficient import to cause the publication of two circulars by the state experiment station. Frost injury to trees and fruit of the lemon, grapefruit, and orange is of such common occurrence in various parts of the state that the subject of frost protection and orchard heating is a very necessary one for the citrus grower to study. While the freezing of young fig trees is a discouraging feature of orchard production, it is by no means an injury peculiar to the fig tree or one that cannot be overcome to a certain extent.

### Injury to Fruit

Fig trees produce fruit both on new and old wood depending upon the crop and the variety. The brebas, or first crop figs, appear in early spring on wood of the previous season's growth, in fact they are present on the wood during the winter as fruit buds in the axils of the leaf scars. Severe winter weather may injure these buds so that they fail to push out in spring. The most common form of injury, however, comes from spring frosts occurring after the trees have begun to show leaf and fruit development. Such frosts occurred in the San Joaquin Valley on April 4, 1921, and April 8, 1922, injurious effects being noticed on both figs and grapes. Caprifigs were from one-fourth to one-half inch in diameter and in some districts every fig on young trees was killed. In other cases the figs were apparently not affected at first, remaining green and plump for several days; many however, eventually turned brown at the tip and later dropped off. Others were undoubtedly so seriously injured that they were incapable of caprification even though they remained on the tree. Breba figs of such varieties as the Mission and Kadota are sometimes seriously injured by spring frosts in the same manner. Since the main crop of figs appears on new wood it is seldom, if ever, susceptible to frost damage.

Mamme caprifigs set on the trees late in the season and remain during the winter. They are, therefore, very susceptible to frost damage. The real conditions which affect the hardiness of mamme figs are not thoroughly understood. Authentic records have been made of mamme figs surviving winter temperatures as low as 14 or 15 degrees Fahrenheit and yet the mamme crop is frequently seriously injured if not entirely ruined by much higher temperatures. Conditions other than temperature, such as humidity and the state of the blastophagas inside the galls, undoubtedly enter into this matter of hardiness of the mamme crop.

### Injury to Foliage

The leaves of fig trees, both young and old, are occasionally injured by early fall frosts. Light frosts do very little damage except to the most tender growth and probably hasten the dormancy of the leaves. Heavy frosts, however, kill the leaves, causing them to drop prematurely. In such cases the twigs and branches are usually frosted to a greater or less extent and such injury is much more serious than simply loss of foliage.

### Injury to Wood

As just stated frost injury severe enough to kill the leaves usually kills the branches from a few inches to several feet back of the tip. Such wood injury usually occurs as the result of early fall frosts before the leaves drop and the wood matures. Killing frosts thus occurred on November 18, 19, 20 and 21, 1921 in the San Joaquin Valley, orchard temperatures going as low as 23 degrees Fahrenheit in some sections. Serious injury followed not only to fig trees, but to walnut, apricot, peach and lemon trees. Numerous young fig trees were found to be killed back to the main trunk or clear to the ground, such injury being very apparent a few days after the freeze or at least by December 1. Frozen trees are usually pruned back heavily during the winter or early spring. On unpruned trees the injured wood dries out and cracks open; splitting of the wood at the crotches is common and in many cases the trunks of young trees split open lengthwise.

In older trees damage from fall frosts is not so readily apparent. In fact, the full extent of the frost injury of November 1921 was not realized until the spring and early summer of 1922 when the dead and dying branches showed up plainly in the tops. White Adriatic fig trees, both in orchards and border rows, were for some unexplained reason more seriously injured as a rule than trees of other varieties.

As a result of tip injury to six year old Calimyrna trees at Clovis in April, 1922, the dormant buds along the upright branches were stimulated and an abundant growth of laterals was secured during the remainder of the season. Such lateral growth showed an unexpected beneficial result in thickening up the usual naked upright branches of the Calimyrna trees. On Adriatic trees the killing of the tips resulted in forcing out a superabundance of small weak laterals which made the trees unnecessarily thick. Tip injury to bearing Adriatic and Calimyrna trees in many cases seriously reduced the vigor of the tree and the resulting crop.

Following the heavy frosts of April 1922 young fig trees in some sections were very slow in pushing out buds. The new growth which had appeared before the frost was entirely killed and both the bark and wood of the branches was more or less seriously

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# This Month in the Vegetable Garden

## Northern California

By A. R. Gould

IT will be necessary this month to devote as much time as possible to soil preparation and it will be a wise plan to study conditions carefully and refer to the records of your crops and as to how the plots were planted during the last season. You can then determine what to plant for the coming season also as to the treatment of those plots used for tomatoes, potatoes, etc, as these, if troubled with fungus disease, should be limed and on no account should the same crop be planted on them next season. Trenching of all the plots is very important and good farmyard manure should be dug in.

The slight rains have as yet made little impression but if the ground is thoroughly cultivated before the heavy rains set in there will be no lack of moisture for some time to come. See that all the dried refuse from the various plots is burned or buried and all crops such as squash, pumpkins etc. stored away for winter. Any green tomatoes may be picked and placed on a shelf to ripen.

### Onions

The seed bed for all early varieties must be prepared without delay and richly manured. Have the surface very well pulverized. The following may be sown. Extra Early Pearl, White Bermuda, White Queen and Crystal White Wax. The ground should be pressed firmly after sowing and after germination has taken place a dressing of soot will be beneficial and ward off insect attacks. The seed beds should be in an open situation and the seed sown thinly in rows 18 inches apart.

### Rhubarb

This is a very useful crop to grow and fairly easy. It is however a heavy feeder and delights in a stiff loam and farmyard manure. Trenches should be dug and heavily manured to a depth of two feet and the soil well mixed at the top of the trench before the roots are planted. Roots should be placed at least two feet apart in the row and the rows must be four feet apart to allow for proper cultivation. Secure roots of Wagner's Crimson Winter, Myatt's Victoria and Strawberry. The old established plots may be renovated and some of the clumps be divided and replanted.

### Peas

Sowings of the early varieties may still be made on well prepared ground. The best dwarf types are Little Marvel, Premium Gem and Blue Bantam. Tall early varieties are Alaska, Gradus and Thos. Laxton. The rows should be at least 2½ feet apart and the seed sown thinly.

### Beans.

Cultivate between the rows of the Broad Windsor variety sown last month. A successional sowing may also be made now.

### Swiss Chard

Make a sowing of this excellent vegetable in rows two feet apart. Giant Lucullus is the best variety. It requires fairly rich soil and plenty of water.

### Lettuce

Sow Los Angeles, White Paris Cos and May King in rows 20 inches apart and keep the plot well cultivated between the rows.

### Cabbage

Plant out this useful winter crop 12 inches apart in the rows, which should be at least two feet apart, and select a cloudy day for these operations. Where poultry are kept a surplus is always valuable.

### Turnips

Sow for succession, White Egg, Purple Top and Early Snowball on rich soil.

### Strawberries and Raspberries

Keep the hoe busy between strawberry rows and plant up new plots which must be very well trenched with manure. Plant well rooted plants in rows 12 inches apart, while the rows should be 2½ feet apart. Brandywine, Oregon Everbearing, Magoon and Banner are good varieties. Raspberry canes may soon be cut back leaving them about three fee' high. Remove all dead wood or old canes and where the clumps are too thick, divide and replant. Best varieties to grow are Ranaree, a new red which is a vigorous grower and fruits over a long period, St. Regis, Cuthbert, Golden Queen and Superlative. From a commercial standpoint there are no other small fruits more profitable to grow than these berries. and an acre well planted and cared for will give very encouraging returns.

## Southern Arizona

By M. E. Bemis

A FEW days ago I visited the truck gardens of Doby Brothers adjoining Phoenix. These enterprising gardeners are making things grow in a way that is a delight. Just now and for some weeks to come they are setting out cauliflower. Incidentally they will be harvesting cauliflower very shortly from May plantings. This is an achievement that old gardeners said was impossible. The cauliflower here is from the seed saved in their own gardens from selected plants, and a part of their success they attribute to the seed.

Onions were planted some time ago and they will be transplanted during November. Last season they produced 11,000 pounds of onions to the acre from seed planted in the drill. Some that were transplanted did especially

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## EDITORIALETTES

The cover of this issue of the Cultivator is not intended to be artistic or even pictorial. It is intended to give a fund of information at a glance, and in conjunction with Dr. Carpenter's article on the third page it will help one to an understanding of some of the problems of frost and fumigation injury.

* * *

The irrigators of Salt River Valley in Arizona are now most happy in securing the season's irrigation water without any cost whatever. Hydro-electric power generated below the dam is proving so profitable that it is paying for upkeep and distribution costs. Energy developed during the month of July totaled almost 10,000,000 kilowatt hours. This power is sold to the big copper mines and is also used for pumping water for irrigation purposes. Revenue from the sale of power is used to pay for cost of operating the Salt River irrigation project. In about ten years power should pay off the cost of all irrigation and power works, and the farmer will then get his water supply absolutely free.

## CALIFORNIA NATIONAL

The management of the California National Stock Show recently held in San Francisco gives assurance that the success of this year's event guarantees continuance of the show. Financially it was a success. As an aid to advancement and accomplishment of greater things along livestock lines it was an even greater success.

Plans are under way for a "bigger and better show in 1923."

Awards made at this year's show will appear in next issue.

## SWAT 24

Measure Number 24 "Regulating the Practice of Law" on next Tuesday's ballet may well receive a negative vote. It is possible that when some of us "render legal service" we do not render best of service to our friends. It may be "unlawful practice of law," but to ask voters of the state to make a preferred class of attorneys is unwise—it is unfair.

The farmer has never yet asked protection from the backyard lawyer-farmer who grows a pumpkin or roasting ear in his garden.

The farmer might say that gardening should be stopped and the farmer should be licensed and given exclusive rights to supply vegetables.

"The physician is licensed?" Yes, but human life was at stake and quackery must be stopped. No such serious situation confronts us as to law practice. Until farmers are admitted to the preferred class oppose such measures.

Vote no on No. 24.

## STATE HOUSING ACT

In our article last week, under the heading, "Shingle Roofs," we referred to the above measure as "Number three" on the ballot whereas it is Number five. By this time most of our readers will have received their copy of the "Amendments and Statutes" to be voted on, but we doubt if many have or will take time to read this particular measure since it occupies some 51 pages of closely printed matter and, unless our voters have developed rather more than ordinary legal ability they probably would not grasp on first reading just what the measure really intends to cover. Anyway when the members of the immigration and housing commission cannot agree on the measure we think it best to vote against it until the objectionable parts are corrected and all jokers removed.

The article by Peter B. Kyne, author of "Cappy Ricks," appearing elsewhere in this issue, under the heading "Shingle Bill" should be read by all. It is written in his characteristic style and is to the point.

## AMENDMENTS AND STATUTES

We are not going to suggest the advisability of voting intelligently on the various and diversified measures or constitutional amendments which are to be decided at the election next Tuesday. Presumably all voters have in hand the 140 page fine-type book which is sent out by the secretary of state. It is unthinkable that every voter in the state should read that book entirely through and there are few other than trained attorneys who would be able to understand the legal verbiage. There are some, however, which mean much to the wealth of California, and so far as possible thorough study should be given of the intent of these amendments and statutes. The voters of California have determined that the power of the initiative and referendum should be in their own hands. Having accepted this duty the trust should be performed. Number 1 on the ballot is

**Veterans Validating Act**—Permits state aid with money or credit to United States army or navy veterans to be used in acquiring or developing farms or homes.

**2, Prohibition Enforcement Act**—Declares unlawful all acts and omissions prohibited by 18th amendment to federal constitution and by the Volstead Act.

This is the Wright act passed by the last legislature and signed by the governor and referred back to the people because of petitions circulated after its passage. This is one of the shortest of the various measures to be voted upon and its entire reading is possible within a very few minutes. It will enable California officials to aid in support of the constitution of the United States. Financially it will add to the funds in the treasury of the state because of fines collected. Whether one likes the 18th amendment, or the Volstead Act, or not, the law of the land should be supported or else it should cease to be the law. Encouraging violation of the law can only lead to disaster.

**3, Veterans Welfare Bond Act.**—Provides for issuance of not more than $10,000,000 of bonds to carry out provisions of Validating Act, No. 1, given above.

**4, Land Settlement Bond Act.**—Authorizes creation of state debt to the extent of $3,000,000 to carry out the purposes of the land settlement act of 1921. We understand this is to provide a revolving fund which ultimately would be returned to the state treasury as settlers on the land complete the amortization period. This fund makes possible the extension of the work already carried on by the state land settlement commission of which Dr. Elwood Mead is the head. It will open a great opportunity for the farmer with limited means, will cost the taxpayers nothing, will aid in development of the state. Vote yes.

**5, State Housing Act.**—Regulates construction, alteration, maintenance, etc. of some buildings throughout the entire United States and of dwellings in incorporated cities. Is being opposed by many because of its "No shingles to be used in cities" requirements. This act is so outrageously extended, covering 104 columns of very fine type, that no one could understand in the time between now and election day. Vote no.

**6, Title Insurance.**—Authorizes legislature to classify counties by population for the purpose of regulating title insurance. No suggestion other than to apply for Torrens title and trust the state rather than companies.

**7, Exemption of Veterans from Taxation.**—Extends present exemption from taxation on $1000 worth of property to veterans released from active duty under honorable conditions, if their total property owned (including wife's) is less than $5,000.

**8, Municipalities.**

**9, Municipal Charters.**—Neither of these concern farmers.

**10, Taxation of Publicly Owned Utilities.**—If passed will tax publicly owned water works, hydro-electric plants and any public service utility.

**11, Regulation of Publicly Owned Utilities.**—Railroad commission would be given jurisdiction over publicly owned utilities. From recent utterances of the railway commission it appears that management of public utilities will be far safer when under entire control of the municipality. Vote no.

**12, State Budget.**—Those qualified say that the federal budget has been a wonderful step in advance. It makes for efficiency and common sense management. Vote yes.

**13, Judges Salaries.**—Provides that state shall pay $3,000 annually instead of half the salary as at present.

**14, Local Taxation.**—Enables legislature to provide methods of taxation of foreign securities at different rate from other property.

**15, State Taxation.**—Approves the King tax bill and provides as to taxation. Too lengthy for discussion here.

**16, Chiropractic.**—Provides for licensing chiropractics.

**17, Use of Streams.**—Permits the state irrigation districts, cities, counties or other political subdivisions to cooperate with each other in developing water or electric power, or permits flood control of streams. Vote yes.

**18, Municipal Public Works.**—Authorizes municipalities to cooperate in acquiring public utilities.

**19, Water and Power Act.**—Creates board appointed by governor, subject to recall, and provides for issuance of bonds not exceeding $500,000,000 for development and distribution of water and electric energy.

**20, Osteopathic Act.**—Creates board of osteopathic examiners appointed by the governor, to have power to license and issue certificates.

**21, Prohibiting Special Laws.**—Declares legislature shall not pass special or local laws creating irrigation, reclamation, drainage or flood control districts, but shall provide for organization and government of such districts by law.

**22, Absent Voters.**—Permits registered voters, absent from precinct because of occupation requiring travel or because of military or naval service to "vote by mail."

**23, Deposit of Public Moneys.**

**24, Regulating Practice of Law.**—This bill is because of the effort of lawyers to prevent banks, trust companies, or "unlicensed persons" from practicing law. Presumably the California Cultivator would be an "unlicensed person" in the eyes of this law and the maintenance of a column in which legal questions are answered would be impossible if this act is passed. It is possible there are objectionable features in this mattter of promiscuous giving of legal advice. Notwithstanding that it appeals to us that the attorneys are not entirely unselfish in this matter of retaining to themselves exclusive jurisdiction in the matter of law. Vote no.

**25, Judges Pro Tempore.**—Provides that attorneys may select member of the bar to try case as judge pro tempore. The judge must be approved by superior court in which he acts. Those who know say this is desirable and may be voted yes.

**26, School District.**—Permits formation of school districts situated in more than one county and issuance of bonds by such district. Vote yes.

**27, Initiative.**—Amends former constitutional act and requires increase in number of signatures of qualified electors necessary to initiative petition "when such petition relates to assessment or collection of taxes or provides for modification or repeal of this proviso, that such number be 15 per cent of all votes cast for gubernatorial candidates at last preceding election, instead of 8 per cent as now required." To simplify the above wording means that 15 per cent of the voters must sign an initiative petition. This would prevent some of the objectionable measures brought forward and at the same time put a heavy burden of expense on others which may be meritorious.

**28, Prohibiting Vivisection.**—Prevents vivisection of living creatures for experimental or pathological investigations or other purposes. The University of California maintains that if this initiative act should be passed it would prevent much experimental work and experimental feeding with animals. Livestock men as a rule also oppose it because of its jeopardizing their interests.

**29, Land Franchise Taxation.**—This is the old time single tax measure which has been before the voters for years. Every farmer should oppose it to the utmost. The burden of taxation is already too heavy on our lands. This would mean, and is intended to mean, practical confiscation of the lands to the state. Vote no.

**30, Franchises.**—Gives railroad commission exclusive power to grant franchises for street and interurban railways. This takes from the municipality the right of controling its own streets and gives great power into the hands of the railway commission. It is perhaps little concern of the farmers, but at the same time it appeals to us that municipalities may be permitted control of their own streets.

# Fruit Growers Conference

By W. V. Cruess

Pear, prune and apricot growers plan to convene at the state university, November 13-15, to discuss problems of vital importance to these industries. The meetings will be held under the joint auspices of the Prune and Apricot Growers Association, the Pear Growers Association, and the college of agriculture. The meeting place is Hilgard Hall on the university campus.

### Pear Day, November 13

The pear growers met at the university last year in a two day session and were so well pleased with the results that they have decided to journey to Berkeley a second time.

Their program will include the following subjects. The names of some of the speakers are tentative and subject to revision:

9:30 a. m., Pear Blight, Professor F. C. Reimer of Oregon, Leonard Day of university farm and others. 11:30 a. m. to 4 p. m., Question Box, 1:20 p. m., Review of Past Pear Season, F. T. Swett and Alan White, 2 p. m., Transportation of Fruits, E. M. Sheehan, 2:30 to 4 p m., California Future and Quality Fruits, Alden Anderson, E. C. Dixon, E. Chace and others. 6 p. m., banquet. 8 p. m., ten minute talks by Director C. M. Haring of the experiment station; C. H. Bentley of California Packing Corporation; Donald Hunter, president of students round table; V. T. McCurdy of San Jose; and James Mills, Sr. of Hamilton City. The pear growers will meet again on November 14 to discuss unfinished business and questions brought up during meetings of November 13.

### Prune Day, November 14

Although the prune day program is designed primarily for prune growers, it includes several papers of interest to other growers as well as study of the following list of topics will prove:

9 a. m. to 12, The Fruit Show and Round Table, Donald Hunter. Control of Prune Thrips, Prof. E. O. Essig and Horticultural Commissioner L. R. Cody. Control of Red Spider, Prof. E. R. deOng and Commissioner H. P. Stabler. Irrigation of Deciduous Fruit Trees, Prof. F. V. Veihmeyer; Dr. LeRoy Anderson of San Jose, and E. H. Clarke of Saratoga.

1:30 to 4:30 p. m., Prune and Apricot By-Products, H. Hamlin and W. R. Scott of San Jose. Dehydration of Prunes, Prof. A. W. Christie; Floyd Bohnnet of Campbell; Nathan Lester, Santa Clara; Henry Wheatley, Napa, and W. R. Kingman, Cupertino.

Question Box on prune growing. 7:30 to 9 p. m., Address, R. G. Sproul, comptroller of the university. Relation of the Quarantine Service to California Horticulture, G. H. Hecke, director state department of agriculture. Root Stock Studies in Europe, illustrated lecture by Prof. W. L. Howard, recently returned from year's study of this subject in Europe.

### Apricot Day, November 15

9 to 12 a. m., Sour sap of Deciduous Fruit Trees, Prof. Ralph Smith of Berkeley, and W. L. Quinn of Saratoga. Pruning the Apricot, Prof. W. L. Tufts. Discussion by growers.

1:30 to 3:30 p. m., Brown Rot of the Apricot, B. A. Rudolph, Mountain View experiment station. Brown Rot in Monterey County, T. Mayhew, farm adviser. Brown Rot in San Benito County, W. J. Tocher, farm adviser. Brown Rot in Alameda County, C. J. Robinson, farm adviser. Discussion by several growers.

3:30 p. m., Question Box.

### The Fruit Show

In Hilgard Hall, where most of the sessions will be held, there will be on display several hundred varieties of fruits from different districts of the United States. In addition, there will be two large rooms filled with canned, preserved, dehydrated and otherwise preserved fruits and fruit products. Many new and promising fruits will be on exhibition.

The meetings are open to anyone and everyone interested in pears, prunes or apricots.

# Sutter County Peach Growers Contest

The list of awards made at the third annual peach growers' contest shows some interesting figures and indicates what is possible in the way of production where proper care is given and soil and climatic conditions are ideal.

The following list shows the names of the prize winners together with the acreage productions:

### Tuscans

Two year and up to three year old trees—1, John Storm, Yuba City. 339 lbs per acre. 2, S. Severini, Live Oak. 100; 3, H. T. Hosford, Yuba City, 44.

Three year and up to four year old trees—1, O. R. Mitchell, Yuba City, 3 tons, 1802 lbs per acre.

Four year and up to five year old trees—1, O. R. Mitchell, Yuba City, 3 tons, 1802 lbs per acre; 2, Aaron & Brown, Yuba City, 1 ton, 1822.

Five year and up to six year old trees—1, L. H. and Alice Woodworth, Yuba City, 9 tons, 1378 lbs per acre.

Trees of any age—1, A. F. Soderlund, Yuba City, 16 tons, 1702 lbs per acre. 2, Harry L. Holst, Tudor, 14 tons, 1450; 3, J. G. Kussenberg, Yuba City, 13 tons, 1634; 4, Mr. and Mrs. L. D. Baun, Yuba City, 13 tons, 299; 5, Fred Kopp, Yuba City, 12 tons, 1294.

### Midsummers (Various Varieties).

Two year and up to three year old trees—1, G. C. Galbraith, Yuba City, 1711 lbs per acre; 2, F. L. Hutchinson, Yuba City, 1529; 3. John Storm, Yuba City, 427.

Three year and up to four year old trees—1, Mrs. L. Haume, Live Oak, 6 tons, 852 lbs per acre. 2, O. R. Mitchell, Yuba City, 6 tons, 788.

Four year and up to five year old trees—1, Walton and Hexter, Yuba City, 9 tons, 473 lbs per acre.

Five year and up to six year old trees—1, J. S. Johnson, Yuba City, 22 tons, 380 lbs per acre. 2, G. F. Rednall, Yuba City, 11 tons, 1092.

Trees any age—1, J. S. Johnson, Yuba City, 22 tons, 380 lbs per acre. 2, A. F. Soderlund, Yuba City, 22 tons, 91; 3, C. A. Johnson, Yuba City, 20 tons, 1509; 4, F. B. Clark, Gridley, 20 tons, 1404; 5, Walton and Hexter, Yuba City, 20 tons, 891.

### Phillips

Two year and up to three year old trees—1, F. L. Hutchinson, Yuba City, 362 lbs per acre. 2, John Storm, Yuba City, 177.

Three year and up to four year old trees—1, E. B. Estes, Live Oak, 3 tons, 1284 lbs per acre. 2, L. M. Buvee, Yuba City, 2 tonsfi 1569.

Four year and up to five year old trees—1, Walton and Hexter, Yuba City, 8 tons, 590 lbs per acre.

Five year and up to six year old trees—1, C. F. Rednall, Yuba City, 12 tons, 1067 lbs per acre. 2, Aaron & Brown, Yuba City, 10 tons, 20.

Trees of any age—1, Frank Brandstatt, Yuba City, 24 tons, 591 lbs per acre. 2, H. S. Queen, Yuba City, 21 tons, 1295; 3, A. F. Soderlund, Yuba City, 20 tons, 1508; 4, C. A. Johnson, Yuba City, 20 tons, 829; 5, F. L. Hutchinson, Yuba City, 19 tons, 416.

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# Shingle Bill

By Peter B. Kyne

There be three things that interest me profoundly. Yea, four. The way of a man with a maid, the way of a serpent on a rock, the way of an eagle in the air and the way of the ingenious person who framed the state housing act, familiarly known as the "Shingle Bill", No. 5 on the ballot at the November election, and then slipped the infamous bill past the noses of the lumber interests of California, through both houses of the legislature and up to Governor Stephens for his signature. Wherefore, we are saddled with the expense of a referendum election on the state housing act.

Somebody has referred to this bill as "a woodpile wrapped aroung a Nigger". At any rate, the clause that outlaws the use of shingles for roofs is cunningly tucked away in a wilderness of verbiage that seems fairly to drip with pity for the misinformed who use shingles and thus subject themselves to a hitherto unsuspected fire risk. Under the slogan of "Safety First", the state housing act would not only render building more expensive, but it would, by vicious legislation, outlaw the manufacturers of shingles and substitute patent roofing, alleging as an excuse for such mendacity that fire risks are thereby greatly reduced.

The question is: Are they? Not so you'd notice it. Shingles are made from two singularly non-inflammable woods, redwood and red cedar. Neither of these woods contains the slightest percentage of resinous products, and experience has demonstrated that they are extremely slow to ignite from such chance sparks as may fall upon them from an adjacent conflagration.

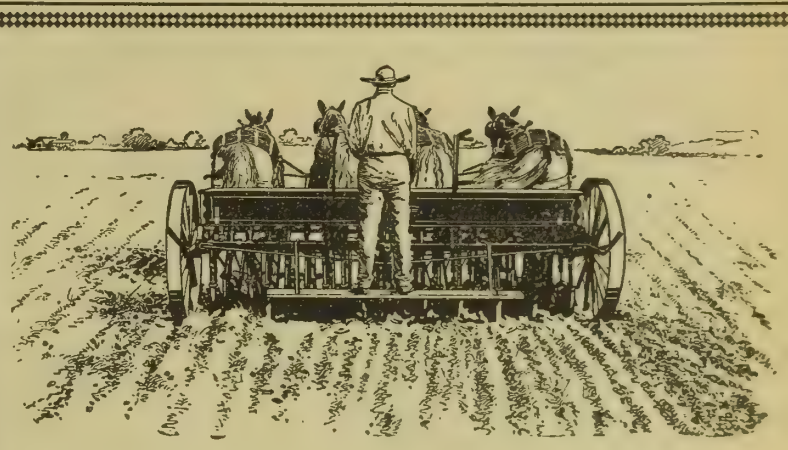
The shingle industry is one of the oldest in California. Millions of dollars are invested in it, thousands of people draw their sustenance from it. It is a cheap, popular, durable and time honored roofing material, popular with the masses and never before spoken of disrespectfully, not even by firemen! The state immigration and housing commission has hastened to its defense by publicly repudiating the state housing act when their attention was called to the pious hypocrisy of the alleged intent of the bill.

The state housing act, if passed, will place California entirely at the mercy of the manufacturers of patent roofings. Wherefore, if competition is the life of trade, it would seem the part of wisdom, if not common justice, to preserve the modest shingle yet a little longer and not relegate it to the limbo of forgotten things at (I suspect) the behest of some extremely adroit competitors.

Down wid 'em!

---

Two new branch associations of the California Wool Growers Association have been formed, the Humboldt Wool Growers Association with Wm. Perrott of Loleta as president, and the Mendocino, Sonoma and Lake Counties Wool Growers Association, Casper Ornbaun, San Francisco, president.

# Protect Your Investment

It costs real money to prepare good seed-beds. It costs real money to have a fertile soil, but no matter how fertile your soil nor how good the seed-bed, if the seed is not properly put in the yield is bound to suffer. The returns on your investment will be seriously reduced. Safeguard it by using a dependable grain drill.

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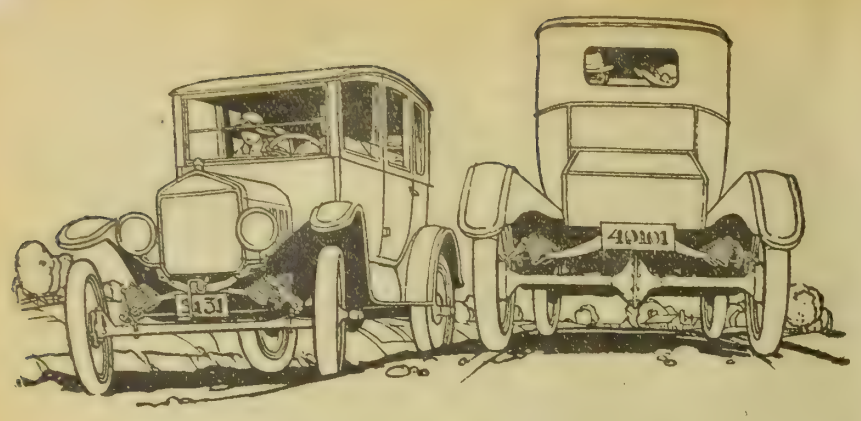

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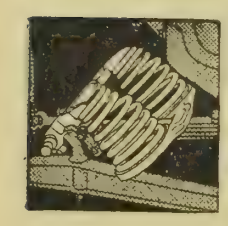

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### VEGETABLE GARDEN FOR NOVEMBER IN SOUTHERN ARIZONA

(Continued from Page 469.)

well in quality and for that reason they will probably transplant the entire crop this year.

They will gather beets, turnips and radishes next month from plantings early in September, and they will continue to plant these as well as carrots and the various other vegetables. The list of plantable things for November includes beets, carrots, lettuce, onion seed and onion sets, parsley, parsnips, peas, radishes, spinach, turnips, cabbage plants and cauliflower plants.

A considerable acreage has been put out this season to winter lettuce, but whether it will be greater or less than the acreage last year cannot be said at this time. It is reported that the acreage of lettuce in the Imperial is considerably larger than last year From general observations without having made any accurate survey I am inclined to think that the number of American gardeners is on the increase There are numbers of gardeners who have done well. Usually it is those who stick to one or two varieties, or at least do not attempt to grow everything that can be grown. In the case of the Doby Brothers just mentioned the older brother is an expert irrigation engineer and keenly observant as well. He is giving very careful attention to all gardening problems and is on the job all the time. The younger brother is likewise on the job all the time, but a part of his job is the sales end, and this is an extremely important part of the business. When the marketing is done for the day he is back in the field. This is the kind of team work that counts in any business.

As usual there are many who are planning the home garden, and many others that ought to who will not Those who do say it pays big dividends on the amount of time and money expended.

# This Month in the Ornamental Garden

## Southern California

**By Ernest Braunton**

THOUGH bulb planting began in October, the real bulb month throughout the state is November. It is really safe now to plant any and all kinds of bulbs. Never plant bulbs in dry soil, have it as damp as it can be worked, and do not overwater bulbs until tops are up and leaved out. Too much water on inactive bulbs will rot them.

Rotting of bulbs in general begins at the crown or root area on the lower side, for that part gets the most water and often sets in mud. But in true lilies, bulbs that have scales, decaying vegetation in soil often starts heart rot. Unless soil is fairly loose and well drained make hole for each lily bulb, drop in a little clean sand, set the bulb upon it and drop another handful of sand on top of bulb so it will settle down among the scales. This will prevent entrance to the heart of soil containing decaying matter. Plant lily bulbs six inches deep.

Bulbous plants are not the only ones that suffer from excess soil moisture during the colder months; nearly all plants do. Now is a good time to prepare soil for later planting by digging it up as deeply as possible. You cannot stir it too deeply. You should stir it to a greater depth than any roots will go during winter. Then you will know that excess water can drop below the root zone and not imperil plant life through stagnant soil water, the latter being at all times poisonous.

**Seed Sowing**

Seeds sown now will bring an abundance of flowers for early spring, just as the cold weather is passing away. Sow candytuft, clarkia, larkspur, leptosyne, gypsophila, calendula, centaurea, poppies and stocks. Any hardy annuals or perennials may be sown now.

Nothing gives more return for the investment at this time of the year than a sowing of mixed California wild flower seeds. Sow them broadcast, rake the surface well and let the rains bring up the seeds. As a forerunner to this sowing it is well to water the soil well two or three weeks before seeds are sown. The watering will start all weed seeds and the surface may be hoed to kill them. Then when the flower seeds start they will have no competition from weeds.

In practically frostless sections or if a warm sheltered spot be found this is a good time for propagating herbaceous plants. Some of these, such as heliotrope and begonia, are injured by even light frosts but if sheltered will readily root from cuttings in a box of sharp sand. Coleus, fuchsia, impatiens, marguerite, and others of this class will also root easily now. Roses that have been dormant or partially dormant, will yield cuttings that are ideal for propagation. Use no wood smaller than a lead pencil, not more than six inches long, and put below soil all but one or two buds. Do not force cuttings into soil, but make holes for them with a stick slightly greater in diameter. It may be that in pruning rose bushes the surplus wood may be used, but in pruning cut away all wood smaller than a pencil.

## Northern California

**By A. R. Gould**

WE are now approaching the busy season in this section of the garden and should be making our plans for transplanting, laying out new grounds and general reconstruction. Many of the beds and borders will require cleaning out and preparation of the soil for a rearrangement of the planting. This will apply especially to the perennial borders. Very often the shrubbery has been closely planted and should be thinned out. A general scheme should be outlined and a plan drawn up to work by to avoid mistakes.

It is a good plan to make note of your favorite shrubs and use them as effectively as possible in groups. Borders may be left in front of the groups for planting with flowers. Berried shrubs such as Crataegus coccinea and Lelandi, cotoneaster pannosa, C. accuminata, and C. horizontalis are all beautiful. The berberis also are worthy of a place in any garden and they are all very hardy. Flowering shrubs are deutzia, spirea, ceanothus, Philadelphus, or mock orange, abelia, and we must not forget the flowering ornamental peaches, cherries and apples. Groups of ericas make good showing. Tamarix, a very graceful pink blossoming shrub, is most effective in a group, as also is the Spanish broom which flowers for quite a long period during the summer months. Subjects suitable for hedge plants are Lonicera niteda, English and California privet, California cherry and pittosporum eugenioides and English box. An important fact to bear in mind is to prepare the soil before planting as nothing will thrive in poor soil for long and a hedge is an important feature of the home grounds, hence it is necessary to dig a trench at least two feet deep and mix thoroughly with manure. Monterey cypress should only be used as a hedge or windbreak on an extensive place as it is a very heavy feeder and needs lots of room. Many mistakes have been made by planting this in small gardens.

**Bulbs**

This is planting time for bulbs. First come the snowdrops and crocus and freesias, then narcissus or daffodils, hyacinths and tulips. Then follow on gladiolus, montbretia and Watsonias. There should be no delay in planting the first two groups. The beds must be well prepared if good results are expected. Narcissus are very satisfactory for naturalizing in the lawn under trees. A very fine bulbous flower of purple and pale blue is babiana, growing six to eight inches high and unfortunately not very often seen in our gardens. It will grow, however, in almost any situation. Among others which we seldom see in our gardens,

in spite of the fact that they are natives of this western coast, are the calochortus in wide range of color. They should be planted three inches deep in fairly good garden soil.

We shall deal later with liliums which comprise a large group and should be more largely represented. The muscari is a dwarf type of flower resembling a hyacinth and blooms in blue and white shades. It makes a very beautiful show if massed in the border or naturalized in the lawn.

**Flowers for Winter and Spring**

If a general sowing was made last month of foxgloves, Canterbury bells, snapdragon, viola, pansy, columbine, godetia, clarkia, primula, Sweet William, cineraria, etc., they will soon be ready for transplanting to boxes, and attention should be given to watering after they have been removed from the seed bed or during the dull days many tender seedlings will be lost through damping off. Calendulas will be the first to plant out to the beds and borders and will furnish bloom for all the winter. Seeds sown directly in the ground where they are to flower, such as nemophila and California poppy must be thinned out to 5 or 6 inches apart.

**Dahlias**

The tubers of these should be dug and stored for the winter. Label them before digging and note color, etc.

**Sweet Peas**

Seed may still be sown in well prepared trenches and the ground well cultivated around those previously sown as these should be several inches high. If the birds are troublesome cover plants with netting.

## WEED KILLERS

That it is possible to kill weeds through use of chemical sprays is a matter of common knowledge. How to kill weeds in growing crops, such as cereals, lawn grass, etc., and not seriously injure the crop, is a more difficult matter, but it can be done.

One of the most serious problems with which the farmer has to deal is the killing of weeds with underground runners, such as morning glory, Johnson grass, and Bermuda grass. California has thousands of acres lying idle because of serious infestation by these weed pests. Between Los Angeles and the sea the writer last week saw broad acres almost completely covered with wild morning glory or bindweed.

The Cultivator has from time to time published government formulas for weed sprays, but many complain of lack of equipment for properly compounding these sprays, also of the labor and unpleasantness of mixing the materials. There are various commercial sprays now on the market that are mixed according to government formulas, or very close to them, that are very effective. The writer visited fields where one of these had been applied to pests ranging from morning glory to poison sumac or oak. Five different weed pests were apparently killed. Morning glory roots were traced down three feet in the soil and all of them were dead from one spraying applied on the surface.—E. B.

## STORED POTATOES NEED AIR

The discolored, blackish area sometimes found in the center of potatoes and commonly known as blackheart is due largely to insufficient ventilation during storage, according to the potato expert at the New York agricultural experiment station at Geneva.

Where potatoes are to be stored at temperatures below 45 degrees Fahrenheit, it is said to be safe to pile them to a depth of six feet without danger of producing blackheart in the potatoes on the bottom of the pile. If the storage place has a temperature of 50 degrees or more, as is usually the case in most home cellars, it will be unsafe to pile the tubers to a height of more than three feet if they are to be kept longer than three or four weeks.

Potatoes stored out of doors in pits also developed symptoms of blackheart, due to insufficient ventilation. Small outdoor pits are said to be fairly well ventilated, however, and it is not thought necessary to make any special provision for ventilating them. Large pits or storage cellars should have ventilators which extend down into the potatoes if the best results are to be obtained.

Potatoes affected with blackheart are low in vitality and sprout feebly, if at all. Severely affected tubers should not be used for seed, but those that are only slightly affected may be used, as the trouble is not transmitted through the seed.

## KEEP PLANTS VIGOROUS

A plant in vigorous health is almost immune to disease and partially so to attacks of insect pests. Agriculturists of all classes have noted that the weaker plants are first attacked or, what is more certain, insect pests multiply much faster on plants in poor health. Therefore good culture and care, a well balanced supply of food and drink, is the best insurance against the ordinary ills of field, orchard and garden.

Thirty-two agricultural club boys and girls from Willows and Orland were awarded trip to the university farm at Davis to attend convention held October 19-21.


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Herbicide is a triumph of modern science. It is a combination of chemicals, which, when sprayed on the foliage, permeates the entire sap system of the plant, and kills it root, branch, seeds and all. Inasmuch as the seeds, also, are killed, your next season's crop of weeds will be lighter and eventually you will banish them entirely.

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Herbicide is tried, tested, proven. It cannot fail to remove noxious weeds in the cheapest and most effective manner known. Now is the time to kill them. Enrich your land by removing worthless weeds which sap the soil.

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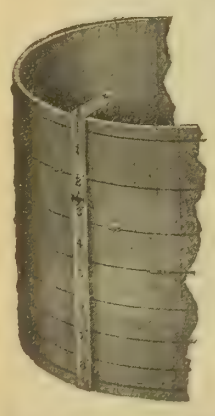

said a prominent rancher to his neighbor, who was talking about buying some tanks and pipe, "I would send for the book of the Pacific Tank & Pipe Company. It has saved me lots of money and trouble. It will do the same for you. These people have made

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## FROST AND FUMIGATION; TEMPERATURE RECORDS FOR PROTECTION FROM FROST AND INSECT PESTS

(Continued from Page 467.)

vember (1918) and the latest winter frost in the second decade in April (1913). It may be some satisfaction to know that the last seven years have been notable for comparatively short growing seasons, and last year was the shortest season of which there is record; no other year approaches it in the matter of late spring and early autumn frosts. The average date of the first damaging frost in the citrus region of Southern California is approximately December 1, although the forehanded orchardist, a fortnight before this date, will clean up his oil pots, store his fuel oil and overhaul his temperature records and note the danger spots in his groves. No other form of crop insurance pays so well as preparedness in frost protection.

### Thermometers for Fumigators

For several years past the horticultural commissioners of many of the southern counties have seen the growing necessity of accurate temperature observations preceding fumigation of the citrus groves. Several instances occurred where serious loss mounting into millions of dollars was occasioned by unfavorable weather conditions which had been translated into favorable conditions by inaccurate and worthless thermometers. This led to an investigation into the kind of thermometers the fumigators ordinarily used in their work. It was found that cheap and poorly constructed thermometers were the rule and not the exception. To remedy this the horticultural commissioners of Los Angeles, Orange, San Bernardino and Riverside Counties incorporated into their regulations governing fumigators operating in their counties provisions that "The foreman of each fumigating crew shall be equipped with a thermometer properly tested within the range of 28 to 100 degrees," and "The United States bureau of standards, Washington, D. C., and the department of meteorology of the Los Angeles chamber of commerce, are properly equipped to test thermometers. The seal and certificate of either of these offices will be accepted. A nominal fee is charged for this service." The response of the fumigators was hearty, and the recommendations of the county horticultural commissioners were carried out with alacrity, so that within a few months after the suggestions as to thermometers were published practically all of the fumigators equipped themselves with dependable instruments. Heretofore temperature observations were merely guesswork so that there does not exist at present definite data as to the limits of temperature, either high or low, at which fumigation may be safely conducted. Now that dependable thermometers are being used to check up operations the close of the present season ought to solve in a general way at least many of the perplexing problems as to the influence of temperature on fumigation.

### Temperature Limits in Fumigating

From the information already obtained this season it would appear that temperatures at which it is safe to fumigate vary with the distance from the coast. This clearly indicates the necessity of considering the humidity as well as the temperature of the air. Data as to both temperature and humidity are obtained by the use of thermometers. The simplest and the most satisfactory method of observing the percentage of moisture in the air is by the use of a whirled psychrometer. This is an instrument comprising two accurate thermometers placed side by side. One of the thermometer bulbs is covered with muslin which is moistened with pure water and both instruments are rapidly whirled. The difference in reading between the wet and dry thermometers shows the evaporating power of the air, which, by the use of tables, is converted into percentages of relative humidity.

Experienced fumigators admit that it is not possible with the meager data at present available to set a definite maximum temperature limit for fumigation practice under which fumigation would be safe and beyond which injury would probably occur. Owing to the smaller amount of moisture in the air it is safe to fumigate in Riverside and San Bernardino Counties when the temperature is 85 degrees. In eastern Los Angeles County the temperature limit is 80 degrees, and in the citrus districts south of Los Angeles proper, and in Orange County fumigation with temperatures above 75 degrees is considered unsafe. It has been surmised that the tree is injured by high temperature when the air is dry because its individual resistance is then low. Neither is it possible to set a definite limit to minimum temperatures, but it is a generally observed practice for fumigators to refrain from fumigating when the temperature of the air is much below 50 degrees. Owing to the reduction in pressure in contact with outside air the liquid gas used in fumigating has been known to form ice on the weeds or foliage in close proximity to the spray nozzles and the diffusion of the gas is greatly retarded. One authority states: "The molecular activity of the gas is great and since the dosage for each tree is computed on a basis of maximum diffusion to be secured almost immediately after application any retardation such as might be caused by freezing of the gas would prevent proper diffusion. By the time the ice is vaporized the gas already formed has leaked out through the tent walls."

It is the general impression among entomologists, fumigators and field investigators, as well as orchard owners, that the time of hit or miss methods in the matter of protecting against insect pests has long since passed. The very existence of the citrus industry depends upon effective destruction of insect pests. Temperature and humidity are such important factors in combating these enemies that systematic observation and study of weather conditions in relation to fumigation is of considerable importance. Los Angeles County Horticultural Commissioner H. J. Ryan pertinently remarked: "Obviously when the actual danger point in fumigation is so much a matter of theory and conjecture (although based on actual experience) it is doubly important that accuracy in the matter of temperature readings be made as certain as possible."

## AVOCADO ASSOCIATION WILL MEET

The semi-annual meeting of the California Avocado Association will be held at St. Ann's Inn, Santa Ana, on Saturday, November 4. There will be a special display composed largely of the hardier thin skinned Mexican types, under direction of R. Agnes McNally of Altadena. Members or others having fruits available for the display are cordially requested to communicate with Miss McNally and to reserve fruits for this purpose.

At 11:00 A. M. Dr. J. Eliot Coit will discuss "How to Make the Avocado Tree Bear." The luncheon at 12 o'clock will include at least two avocado courses and be open to all interested in avocado growing. Reservations must be made prior to November 1. At 2 o'clock Dr. A. B. Stout of Pomona College will give an address on "Pollination to Make the Avocado Tree Bear." Then will come a talk on fertilization by K. A. Ryerson, assistant farm adviser of Los Angeles County.

Following these principal addresses will come five minute papers, on the same subject, "How to Make the Avocado Tree Bear," by C. V. Newman, Manager San Joaquin Fruit Co., Tustin; T. J. Walker, Orchardist, San Fernando; Dr. H. J. Webber, University of California; E. C. Dutton, orchardist, Anaheim; Robt. W. Hodgson, farm adviser, Los Angeles County; C. F. Kinman, U. S. Dept. of Agriculture.

## CERTIFIED SEED POTATO GROWERS WILL MEET

The certified seed potato growers of California will meet at Sacramento during the Fruit Growers and Farmers Convention, November 21-23.

The world production of cacao in 1921 was reported to be 431,000 short tons as compared with 407,000 short tons in 1920 and 280,000 short tons in 1913.

## FROST AND FIG TREES

(Continued from Page 469.)

injured. One peculiar effect of the frost injury was the exudation of small drops of sap upon the surface of the bark, giving it a rough, pimply appearance. Some of the least injured trees showed early signs of growth and soon pushed out vigorous buds. Hundreds and thousands, however, gave no evidence of recovery either in branches or trunk for weeks following the date of injury, April 4. Even as late as June 3 large numbers of trees were still leafless, and some of the growers cut them back to the trunk or even to the ground, hoping to force out a better crop of suckers. While there is a general belief that young fig trees are never killed by frost, many cases were found where roots as well as top succumbed to the injury.

### Sour Sap

The fig tree is not as a rule susceptible to the condition known as sour sap. A considerable number of trees, however, showed unmistakable signs of sour sap both in 1921 and 1922 as a result of stagnation of the sap following frost injury.

### Sunscald

The exposed bark on trunks and branches of both young and old trees is frequently found to be killed in the spring following cold winter weather. Such damage occurs on the south and southwest sides of trees and is due largely to the wider fluctuations in temperature and to more sudden falling of temperature after the sun's heat is withdrawn at sunset. Thermometers inserted underneath the bark on opposite sides of young tree trunks have shown temperatures on March 10 of 32 degrees Fahrenheit on the northeast side and 69 degrees on the southwest side at the same time. On another tree trunk records show a temperature of 92 degrees Fahrenheit on the southwest side on February 20 while the temperature on the northeast side was 35 degrees Fahrenheit. Rapid cooling of exposed bark after sundown in many cases in California to below the freezing point, seems to account for winter sunscald.

### Occurrence of Frost

A distinction should be made between a frost and a freeze. A freeze as distinguished from a frost is marked by the transference of large bodies of cold air from other regions or elevations and may be accompanied by wind; a frost is due to a local cooling of air and occurs during calm weather. Freezes are ordinarily the most destructive to plants and frequently strike foothill locations which are commonly considered less subject to frost injury than the open valleys. Thus, fig trees in some foothill districts suffered just as severely from the spring freeze of 1922 as trees in lowland plantings. As a general rule, however, foothill orchards are safer from frost injury than those in the valley.

Records of the earliest dates of killing frosts in the fall and of the latest in the spring are valuable data for growers and prospective planters to have for their own particular locality. For example, weather bureau records at Fresno show the following data: Average date last killing frost in spring, February 22. Latest date of last killing frost, April 14, 1890. Average date of first killing frost in autumn, December 2 Earliest date of first killing frost, October 31, 1919.

Orchardists are more concerned with extreme than with average temperatures. Extremely low temperatures, however, are of comparatively rare occurrence in proven fig districts; it is the frequency of such temperatures which limits the production of some of our fruits to certain districts. Each district is practically forced by experience to learn for itself whether the production of trees or fruit is so hazardous as to render the variety unprofitable or whether methods of frost protection will render its production possible in spite of frost.

### Factors Influencing Hardiness

Variety. It can be stated in a general way that the trees of practically all our commercial fig varieties are tender and more or less commonly subject to severe frost damage. The stage of maturity of the individual tree, its habit of growth and recuperative powers are undoubtedly of greater significance in this connection than is variety. In large plantings where all the commercial varieties of both edible and capri figs have been grown only minor differences in varietal hardiness have been noted. Young Mission trees seem to be particularly tender on account of their late maturity and the production of smaller succulent branches. The Adriatic tree produces short stubby branches which are more inclined to harden up early. Calimyrna and Kadota trees have suffered severe injury during the past two years and have shown no special characteristics of hardiness.

Individual trees here and there in fig orchards commonly escape frost injury while neighboring trees are killed to the ground. There is no direct evidence that this character of hardiness is inherent in such trees and not due to external environment.

### Maturity

The state of maturity of fig trees at the time of frost occurrence undoubtedly has a greater influence on the extent of the damage than any other factor. Succulence of growth invites severe frost injury. Maturity of foliage and buds is an insurance against injury.

### Soil Moisture

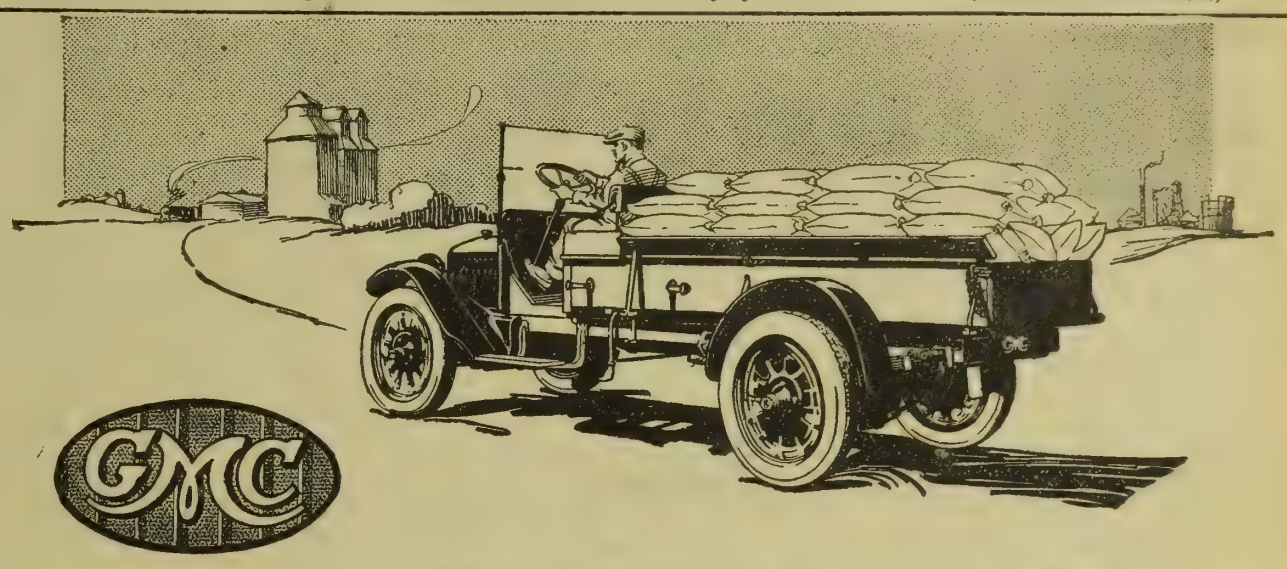
Soil moisture, more than any other one factor, influences fall maturity of fruit trees. An abundance of soil moisture, coupled with moderate temperatures, is favorable to continued growth of fig trees. In some foothill districts fig trees continue to grow until the middle of November and green leaves function for a month or six weeks later. A gradual reduction of soil moisture during the fall months, namely September and October, induces normal maturity. Insufficient moisture during the summer and fall months may cause premature dropping of the leaves, exposure of the branches to sunburn, and a general weakening of the entire tree. Such weakened trees are not only susceptible to severe winter injury but lack recuperative power if injury occurs.

### Vigor of Tree

Healthy trees, like healthy human beings, withstand disease better than weak individuals, and frost injury is a form of disease. Any soil or cultural condition which produces vigorous growth and healthy foliage should up to a certain limit, not only render the tree less susceptible to severe frost injury, but, what is probably more important, enable the tree to recuperate vigorously following such injury. As already pointed out, vigorous growth late in the season should be avoided especially with young fig trees.

Most young fig trees are naturally vigorous. For various reasons, bearing trees are often inclined to lose vigor and show signs of distress. The discovery of the causes of such distress should be the aim of every intelligent grower for it is a very evident fact that healthy Adriatic trees have suffered very slight frost damage during the past severe season in comparison with weak trees.

(Continued next week.)

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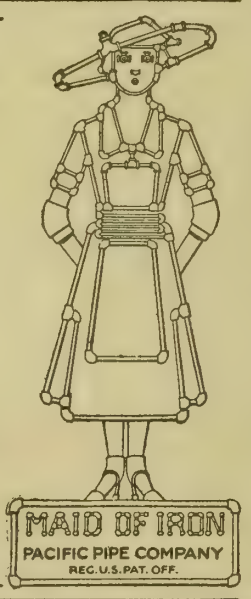

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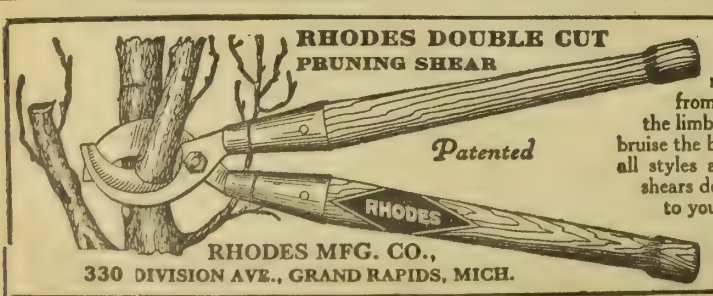


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# Legal Queries

Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.

### Minor Child

A boy 19 years of age, who has for some time past made his own living, desires to know if his father can collect his wages and can forbid him from marrying?—Subscriber, Kelsey.

Until the boy is 21 years of age, in order for him to obtain a marriage license it will be necessary for him to present to the clerk the consent, in writing, of his parents. The father and mother of an unmarried minor child are equally entitled to its custody, services and earnings.

### Affixed to Land

Over a year ago a party who stayed with me set out a number of grape cuttings and installed a stationary pumping engine. Has this engine become a fixture so that it cannot be removed?—Subscriber, Woodlake.

When a person affixes his property to the land of another, without an agreement permitting him to remove it, the thing affixed, except in certain cases of tenancy, belongs to the owner of the land, unless he chooses to require party who affixed it to the land to remove it.

### Manufacturer Liable

I purchased an automobile from a dealer. A few days later, on account of a latent defect in the car, I met with a serious accident. Could the manufacturer of the car be held responsible?—Subscriber, Fresno.

One who sells an article of his own manufacture thereby warrants it to be free from any latent defect not disclosed to the buyer, arising from a process of manufacture and that neither he nor his agent in such manufacture has knowingly used improper materials therein. From the foregoing code section it appears that a breach of warranty has occurred and the manufacturer can be held responsible for damages therefore.

### Water Rights

An irrigation company which takes water from a certain large creek wishes to stop all farmers along this creek and subsidiary creeks from taking any water. Can this be done?—Subscriber, Elk Creek.

Presumably, the inquirer is a riparian proprietor and as such has a right to take water for use upon lands along the banks. This right, however, is limited by the corresponding obligation that such water be placed to a beneficial use and is further limited by the fact that a prior appropriation of the water may have been made. If the irrigation company made an appropriation of the waters prior to the time of your beneficial use, it might prevail. It would, however, necessitate an examination of the particular facts in order to definitely answer this. A method has been prepared by the state whereby these conflicting rights may be thoroughly investigated and determined. In order to invoke this method you should lay your complaint before the state water commission and undoubtedly a special investigator will be sent to ascertain all the facts and make the appropriate order.

# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Bean Weevil

What should I do to save my bean crop from insects?—Subscriber, Napa.

Presumably our inquirer is asking as to protection against the weevil which infests beans after they are harvested and in storage. The best treatment for this has been found to be the gas of carbon bisulphide. Carbon bisulphide is a liquid which evaporates quickly when exposed to the air, forming a heavy and inflammable vapor of great penetrating power. In using the material for fumigation it is essential that it be placed at the top of the room in a shallow container in order that the heavy vapors as they are driven off will thoroughly diffuse through the air contained in the space to be fumigated. The proper amount to use depends upon the type of room being fumigated and ranges up to about 5 pounds to 1000 cubic feet in ordinary rooms where the walls and floor have not been made especially tight, even 10 pounds per 1000 for larger room or other than small, tight bin. Where possible 48 hours' exposure to gas should be secured. The best results are obtained by doing this work when the temperature is above 75 degrees Fahrenheit. Be sure and keep any light or fire away from this gas.

### Alfalfa in Orchard

Does it hurt young fruit trees to have alfalfa between and continually watered?—Subscriber, Burbank.

Many orchardists grow alfalfa between trees, and with trees set far apart so that strip of clean cultivated soil may be maintained next to trees such culture may be harmless and even beneficial. Care should be taken to keep the ground near trees from getting water-logged. Alfalfa, however should not require irrigation oftener than at intervals of 20 or 30 days. When the trees get older one good heavy crop of the alfalfa may be turned under by the use of sharp steel mold board plow. Of course it goes without saying that the manure made from alfalfa cuttings in the orchard should be returned to the soil.

### Feeding Goats

What is the best feed for milk goats?—Subscriber.

Alfalfa hay before the animals most of the time, with a half and half mixture of bran and rolled barley at milking time has been my goat's ration for two years and she has never had a sick day nor gone dry except when she was dried up before kidding. Another goat owner says that instead of bran and barley alone at milking time she made it one-third bran, one-third rolled barley and one-third dry beet pulp, and she never feeds more than a quart at a meal. Alfalfa, instead of being before the goats all the time, is fed three times a day, but they are given all they will clean up at one time. The salt cake is an important item in the ration of milk goats and fresh water should be before them at least three times a day.

### Pears on Apples

Will you kindly tell me if demonstrations have proven that pears can or cannot be successfully grafted (or budded) onto apples? Which would be preferable, budding or grafting? If yearling apples were to be grafted over to pears, which would be best, to cut entire head of tree off and insert one scion, or to put in several in the limbs?—Subscriber, Greenfield.

Apples and pears can be budded or

grafted on each other but we question the success of the operation from a commercial standpoint. For some reason there seems to be a lack of affinity between the two as repeated trials of working apples on pear root show unsatisfactory results both in growth and productiveness. In our opinion you would get much more satisfactory results by taking out your apple trees and planting pears grown on their own root. At first thought this would seem to be a waste of time as well as trees but it is better to do it now than to spend money experimenting and then after two or three years find that the experiment was a failure and the trees have to be pulled out after all. Grafting is the best method of working over deciduous trees and, in the case of your yearling apples, it would be best to cut off the entire top and insert the grafts in straight stock.

### Heifer Sucking Cow

To help your subscriber, Arroyo Grande, Page 345, September 30, '22, "Heifer Sucking Cow," I submit the enclosed description of halter that cured two cases for me. Use heavy strap halter with strap across forehead and strap around the nose. Nose strap a little large. Make a board three-eighths by two inches, long enough to extend from forehead strap to end of nose. In nose end put three or four sharp lath nails. Put board under forehead piece and nail. Nail lower end to nose strap outside. Fasten a pad under board half way to forehead strap to hold nails just off nose. As she attempts to suck nails will punish her.—J. F. Butterfields, Riverside.

### Red Spider

Can you give me a remedy, also preventive measures, for red spider on red raspberries?—Subscriber, Santa Cruz.

The best preventive of the destruction caused by red spider is sulphur. It is sometimes applied in the form of a wet spray by using the commercial lime-sulphur solution. Others prefer the dry dust application, sometimes in the form of pure sublimed sulphur, or hydrated lime one-quarter, sulphur three-quarters. Kaolin and other carriers are also used.

### Various Questions

I have heard figs would grow from slips. How is it done and what time of the year? When is the best time to transplant roses and blackberries? When should alfalfa be sowed for the best results?—Subscriber, Claremont.

Figs grow readily from ripe wood cuttings. The cuttings may be 10 or 12 inches long of fully ripened wood taken off when the tree is entirely dormant. Some granulate the lower end by tying the cuttings in bundles and burying bottom up so as to cover with four or five inches of sandy soil. This may be done in December or January, and after the granulation is completed the cuttings may be carefully placed in the nursery row and given water and cultivation for one year. Transplant roses and blackberries almost any time, but the best time is perhaps when entirely dormant. Seeding of alfalfa depends upon locality and frost conditions. At Claremont it is probable it would be all right to sow at once. This would probably give opportunity for a good start before possibility of frost injury. February or March seeding usually gives good results.

### Budding Figs

Please advise as to whether I can successfully bud or graft three year old Brunswick figs with Mission figs. When and how should work be done?—Subscriber, Petaluma.

Figs are very easily grafted and you should have no difficulty in working over. January or February are the best months to do this work. We believe the wedge or insert graft is the best. The limbs are sawed off the same as in any other method of grafting and a V shaped piece of wood cut out from the edge of the stock, taking care to have the edges perfectly smooth. The scion is then cut on one side into a wedge shape so that it will fit snugly into the notch in the stock. A little practice will soon enable a workman to cut these so that they will fit perfectly and good results will be accomplished. Of course it must always be borne in mind that the bark of the scion must join the bark of the stock or there can be no union. If the limbs are two or more inches in diameter where sawed off two or three scions should be inserted in each limb. After they are inserted they should be securely tied with strong string and all exposed parts covered with grafting wax. The scions should be from two year old wood and cut before they make new growth. Some prefer tip scions but this is not absolutely necessary. Do not fail to whitewash the trees in order to prevent sunburn. For more complete information on fig grafting see our article in the Cultivator of February 14, 1921, Page 646.

### Apricots and Alfalfa

What is best way to grow apricots and alfalfa together? I plan to make panels 30 feet wide and plant trees 25 by 30 but am afraid if I plant on borders they won't get enough water. If I plant alongside border would flooding water hurt the trees? Mayflower peaches also do well here, ripening early. The only objection to growing orchard here is the frost.—Subscriber, Daggett.

You would get better results to leave a four or six foot border on which to plant your trees and arrange to irrigate and cultivate the trees separately from your alfalfa. Your trees would not do well if planted where they would be flooded every time you irrigate your alfalfa. Frost will not hurt apricots or peaches provided it does not come after blooming time in the spring. Any of the nurserymen advertising in the Cultivator will be glad to advise you as to best varieties to plant in your locality.

### Dust Spray

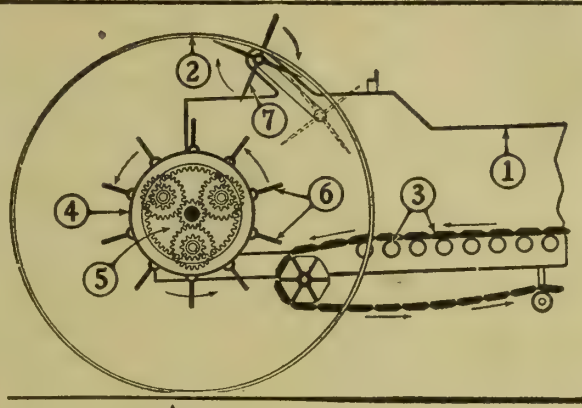
Can scales, San Jose and oyster shell, be successfully killed on apples and peaches with dust spray in place of lime-sulphur solution? Is salt added to this solution a benefit and how much salt to 50 gallons?—Subscriber, Petaluma.

We do not think that dust spraying will kill the scales in question. Salt has a tendency to make the spray adhere more closely to the tree and is thus supposed to add to its effectiveness. However, it is not considered of enough importance to justify the expense. About 12 pounds of salt to 50 gallons of solution is the amount used.

### Sugar Beet Lime

What is sugar beet lime?—Subscriber, Petaluma.

Sugar beet lime is ordinary lime used in process of extracting the syrup from beet pulp. It contains a small percentage of nitrogen, phosphoric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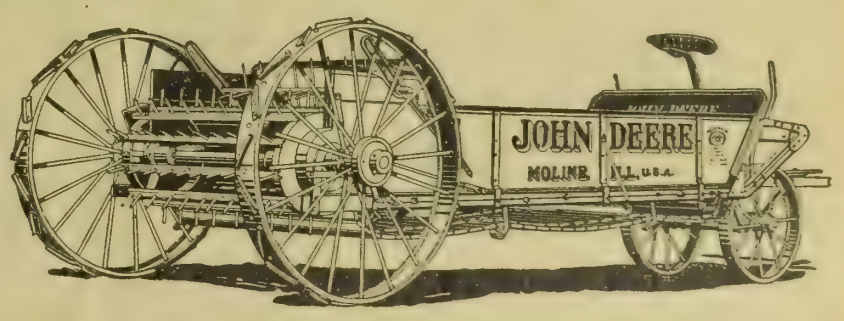


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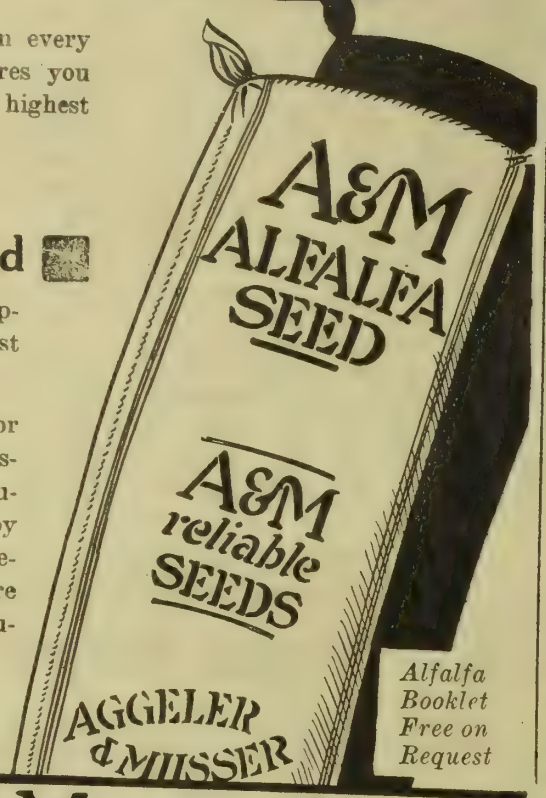


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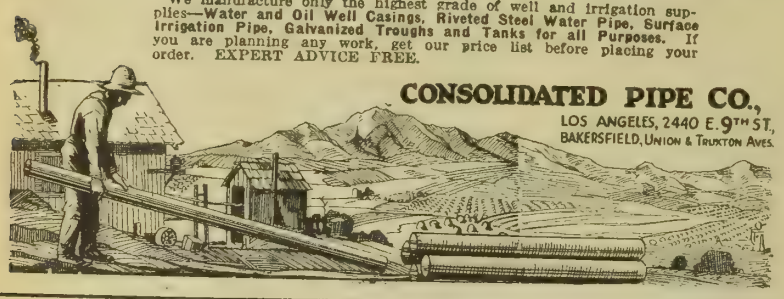

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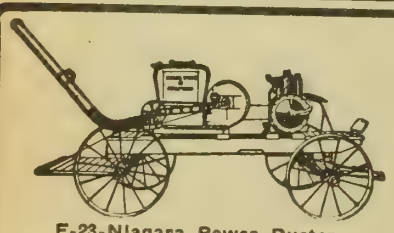

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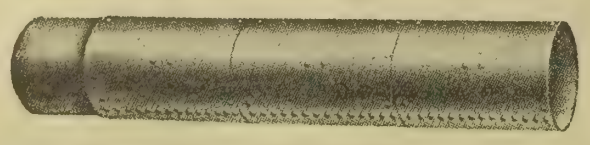

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### Cutting Back Walnuts

When should I cut back walnuts that were set out late in March? When planted we were advised to cut back other fruit trees but leave the walnuts till fall. Was this right?—Subscriber, Lamanda Park.

Cut back your walnuts any time after they become dormant or have shed their foliage. The only pruning necessary on young trees is to cut out such limbs as are not needed to form a well shaped head.

### Cory and Burbank Thornless

I planted thornless blackberries last spring but do not know whether they are Cory or Burbank. Is there any way I can tell which variety they are? Is there any difference in care of the two?—Subscriber, Lamanda Park.

There is a very marked difference in the foliage of the Cory and Burbank thornless blackberries. The Burbank has a somewhat smaller leaf, more nearly smooth and only slightly notched on the edges whereas the Cory leaf is very heavily notched and the ribs more distinct, extending back to the base of the leaf. Also the Cory leaf is green on both sides while the Burbank is green on top and a silver gray, similar to an olive leaf, underneath. The Burbank variety requires very severe pruning. To get best results only the last season's canes should be left and these cut back to four feet and the laterals on same shortened in to one foot in length.

### Shipping Strawberry Plants

A friend in Terra Bella wants to send me strawberry plants but I have heard they can't be sent from one county to another. Please advise.—Subscriber, Lamanda Park.

We know of no quarantine being in effect on strawberry plants from Tulare County but they must be accompanied by an inspection certificate from the horticultural inspector of the district in which they are grown, showing them to be free from disease. Have your friend call up the local inspector and he will look over the plants and advise the necessary procedure for shipping them.

### Not Bees

Please tell me through Cultivator what the enclosed bees are. They bore into ground and I am told lay the eggs which hatch wireworms.—Subscriber, Anaheim.

The wasp like flies sent are of no economic importance and but very lightly touched upon by entomologists. They are in no wise related to wireworms.

### Planting Asparagus

When should asparagus be planted and how and when should rock salt be applied?—Subscriber, Claremont.

Planting may be done from December to April, but the first named month is preferable. The application of rock salt is not common and it is seldom used by commercial growers. Barnyard manure or cover crops are grown to provide humus before fields are planted. For fertilizer after planting nothing will produce better results than an annual autumn dressing of barnyard manure. A complete balanced fertilizer is usually applied to force the crop just as the first shoots appear. Nitrate of soda proves a splendid stimulus and should not be in less quantity than 500 pounds to the acre. Acid phosphate and muriate of potash are exceptionally beneficial to asparagus.

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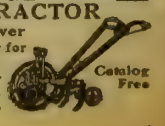


Catalog Free

### Growing Plants for Sale

How should I go about raising plants and seeds for market? Can you give me the name of a reliable firm that I could deal with? Do I have to get a license, if so, where?—Subscriber Oakdale.

No license is needed. Dealers like to see plants and seeds growing before they buy stock. You may supply plants without inspection, but no reliable dealer will take grower's word merely for anything about a seed supply. He must see the plants and fruits or vegetables while they are growing, perhaps several times, otherwise he does not know what he is buying therefore cannot conscientiously sell it with a guarantee. Consult your nearest large seed dealer and learn what he wishes to buy. He must be near enough to visit you occasionally until your reputation is established as a careful and intelligent seed grower.

### Borers in Sycamores

I have some young sycamore trees that are badly infested with white worms. The bark is split in places the splits full of white worms and the wood dies where they work. Is there anything I can do to save my trees?—Subscriber, Oakdale.

You do not say if worms are borers. If they are only just within bark and merely harbored in such hiding place they are easily killed. Saturate the area with crude oil, using a small brush. If they are borers, a common trouble in sycamores, there are two methods of dealing with them. You can find where they are working by the sawdust they turn out, or cut away with a sharp knife until run or bore is found. Then, with an oil can having a long slender spout squirt crude oil into the holes. A better way, used in local parks, is to carry small oil stove or lamp. Heat one end of a wire red hot and stick in bores or holes as far as it will go. This is the most effective and most economic means of dealing with the sycamore borer.

### Callas

What is the best time of the year to plant callas? How deep should the bulbs be planted?- Are they best out of doors or in house? How many bulbs should one bulb make in a season? Will a bulb be good for more than one season? What kind of soil is best for them? Is there a lily by the name of Kelloggi and where can I get it?—Subscriber, Modesto.

Very early spring is best for planting as foliage and flowers are injured by frost. Plant three to six inches deep according to size of bulbs. They grow best out of doors. Increase is entirely dependent on water and fertilizer supply; they require much of both Bulbs are good "forever," the largest and best for market are above five years old. Best soil is sandy loam and best climate is near coast. Flowers and foliage "burn" in interior valleys. Callas require cool climate and we would not advise attempt at commercial culture in your section of state The Kellogg lily is not commonly handled by dealers but may be obtained from Carl Purdy, Ukiah.

### Berries Not Bearing

My Himalaya blackberries set fruit but for two years fruit has failed to ripen. What effect does crude oil in the irrigation water have on the soil? Has any person or corporation the right to turn crude oil or sewage in a stream?—Subscriber, San Jose.

Without knowing your soil and treatment we can hardly answer your first question intelligently. Lack of water would perhaps be a factor but it may be lack of balance in fertilizing. An excess of nitrogen could cause such condition. Crude oil is very detrimental to all plant growth. No one has the right to turn oil, sewage or anything of that nature into any stream.

### Sulphate of Iron

Is sulphate of iron good fertilizer for peach trees?—Subscriber, Petaluma.

Sulphate of iron is a good fertilizer but should be balanced by other elements. Usually it is used in solution with nitrate of soda, to feed some plants, but even then needs superphosphate and sulphate of potash to make a complete plant food. Sulphate is not much used on plants except by experimenters. It is not present in commercial fertilizers.

### Ants in Rhubarb

Please tell me what will kill ants that destroy rhubarb. I have some guava bushes from which the outside bark is peeling off; what should be done with them?—Subscriber, El Cajon.

The government ant poison, so often recommended and formula printed in Cultivator is best for ants. We suspect however, that death of plants is due to root aphis on rhubarb. Look on roots for the ashy-gray woolly insects. Tobacco juice or dust or any nicotine solution is a good destroyer of these insects. Outer bark peels from guava trunks naturally, as it does from some species of eucalyptus. We do not think anything is wrong with plants.

### Coastal Fruit Trees

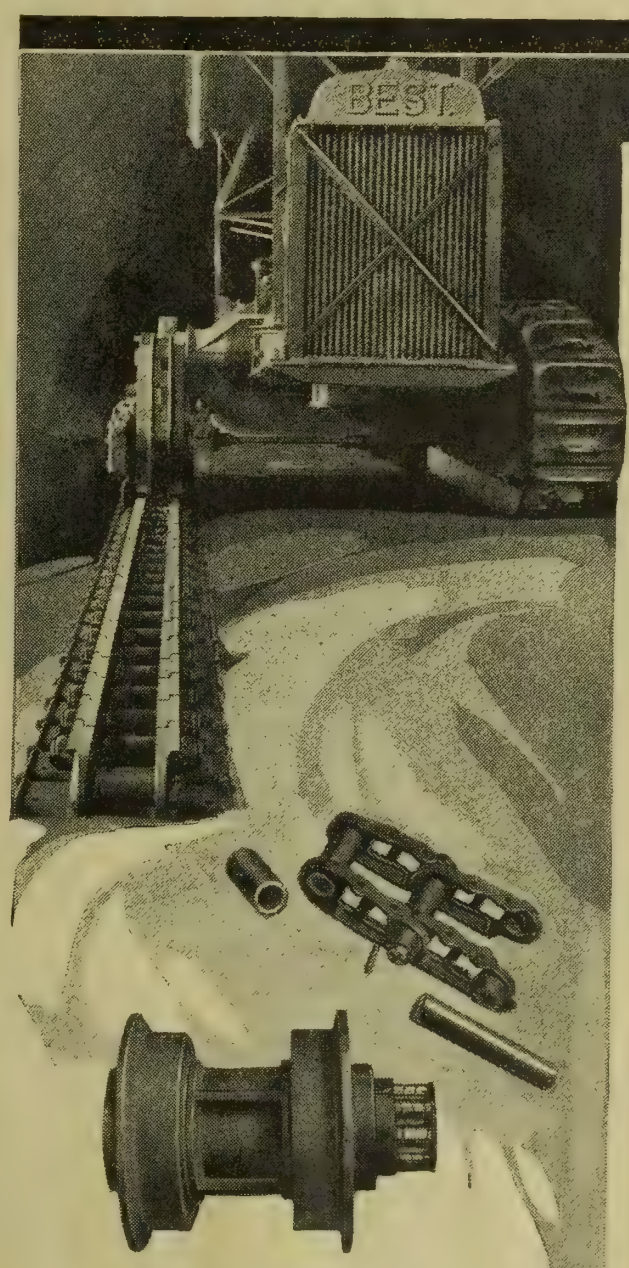
Is it advisable to plant a family orchard one mile back from Monterey Bay, behind windbreaks, and would you print a list of suitable trees? Soil is sandy. Also what gooseberry would do best in sandy bottom land?—Subscriber, Marina.

We see no reason why you should not be able to have a good family orchard but you must not expect that anyone can give you a prescription to exactly fit your case. Such sections have a climate that is peculiarly local. Find out from planted places within a range of ten miles up and down the coast what fruits have done well under soil and conditions similar to yours. That is the best guide. An experienced gooseberry grower says the Oregon Champion should be the best one for the south end of the state. Any nurseryman advertising in the Cultivator will gladly send you a catalog and mark those varieties of fruits usually shipped to your section of the state.

### Oranges in Florida

Can you let me know the approximate number of acres in Florida planted to late oranges, both bearing and nonbearing? I mean the varieties that correspond to our Valencias.—Subscriber, La Jolla.

We have no available information on the acreage of the different varieties of oranges growing in Florida. The United States census for 1920 gives the following figures on the orange production of Florida: Trees of bearing age, 3,645,811; nonbearing, 2,311,571; boxes harvested, 5,930,422. The Florida orange crop is practically all harvested before our Valencias are ready for market so even their late varieties do not come in competition with ours.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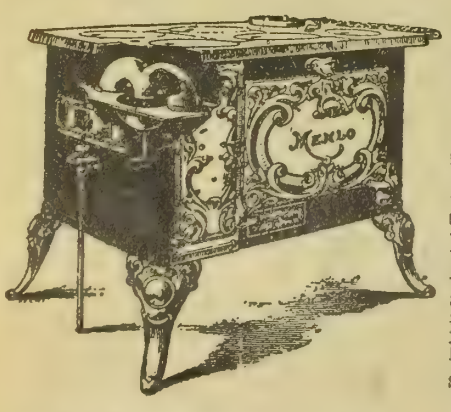


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# Household Department

### "LET'S GO!"

"There isn't any business," wailed the sad and gloomy man;
"I haven't made a dollar since the armistice began."
But I couldn't help reflecting, as I heard his story through,
That the hopeful, cheerful hustler seems to have a lot to do.

I've been in business places where the air was thick with gloom,
And the men were sad and solemn like the mourners at a tomb,
And there wasn't any business or an order coming in—
And, there never will be till those fellows start to grin.

"There isn't any business"—aren't you weary of the cry?
Men have caught the gloomy habit; they sit around and sigh;
But the hustler, I have noticed, who has quit his easy chair,
And is confidently working, seems to gather in his share.

It is time to get the business, it is time to hustle out,
With a man's faith in the future—much too long we've scattered doubt,
Much too long we've sobbed and whimpered, much too long we've talked of woe,
Now it's time for optimism and the hopeful phrase:
"Let's Go!"

### CALIFORNIA DRIED FRUITS AND NUTS IN MANY APPETIZING COMBINATIONS

LAST week a subscriber requested recipes for different ways of using dried fruits and nuts, the recipes to be sent with Christmas packages. Here are some contributed in former years by Cultivator household readers which we consider the best ever:

#### Do Not Stew Dried Fruits

Save time, fuel and fruit flavor by the following method of preparation:

For fruits that have been sulphured as peaches, apricots, apples and pears wash thoroughly and let the last washing be on a sieve so that no particle of sand shall remain. Next cover the fruit with three or four times its own bulk of water, in which let it soak for at least 12 hours, or until it has reached the bulk which it had before drying. Now pour off and throw away the unabsorbed water and drain the fruit thoroughly on a colander, thus getting rid of most of the sulphur compounds and excess of acid. Meanwhile, prepare sufficient syrup of sugar and water to cover the fruit. Place the drained fruit in a dish and over it pour this bubbling, boiling hot syrup. Let stand till cold and it is ready for the table.

The amount of sugar used in the syrup must necessarily vary with the acidity of the fruit and the taste of the consumer. For apricots two parts of sugar to one of water is usually satisfactory. If a very rich syrup is used you will have preserves.

For making pies and puddings the drained fruit is used precisely as if it were fresh fruit. No stewing is necessary.

For such fruits as raisins and prunes, which have not been sulphured, it is not necessary to discard the water in which they have been soaked It may preferably be used in preparing the boiling syrup to pour over the fruit.

#### Walnut-Fruit Butter

Grind one teacup of walnut kernels fine and follow by one soda cracker. Mash one cup of pulp of dried fruit prepared as above for the table and mix thoroughly with the ground walnuts and cracker. If not sufficiently moist add a little of the syrup until the mixture has the consistency of jam. This is particularly fine when made of apples, raisins, figs or prunes. Sandwiches filled with this are fine for the school or picnic lunch. Fresh fruits may be used when in season, in which case sugar must be added to suit the taste.

#### Dried Peach Butter

Stew dried peaches, thoroughly mash and put through sieve. Add one-third as much sugar as fruit. Add spices to taste.—Mrs. C. W. Opple, Orosi.

#### Mock Cherry Pie

Where fresh fruits of all kinds are so plentiful and easily obtainable as in Southern California dried fruits are sometimes overlooked. There are many ways of using these, either alone or in combination, that give variety and add to the healthfulness of the diet. All dried fruits require soaking and very slow careful cooking. A little salt added while cooking serves to restore original flavor. Prunes may be soaked and cooked very slowly then sweetened slightly. To many tastes they are sufficiently sweet. Then add whipped cream and you have a fine dessert.

One cup cranberries, one cup sugar, half cup seeded raisins, chopped, a little water. Bake in deep pie pan.—Mrs George F. Herrick Riverside.

#### Dried Peach Pie

Cook dried peaches until tender, chop fine, sweeten to taste, add a teaspoon of nutmeg to each pie. Bake with strips across top instead of upper crust.—Mrs. J. W. Brown, Goshen.

#### Dried Apple Cake

Soak two cups of dried apples over night. Drain and chop fine and boil two hours in three cups of molasses. Let the mixture cool, then add two cups of seeded raisins, cloves, cinnamon and allspice to taste. Mix with cake batter made of one and a half cup brown sugar, one-half cup of melted butter, four eggs, four and a half cups of flour, two and one-half teaspoons of soda and bake.—Miss Mary J. Harvey, Santa Rosa.

#### Prune Whip

Stew 24 prunes until soft, let cool, mince very fine, beat the whites of six eggs until very dry, as you would for angel food; then add six tablespoons of powdered sugar. Now stir in very carefully the minced prunes. Bake 45 minutes in a pudding dish set in a pan of hot water. Serve with whipped cream.—Mrs. F. O. Roberts, Kerman.

#### Prune Whip

One-third cup prunes, whites of five eggs, half cup sugar, half teaspoon lemon juice. Pick over and wash prunes, then soak several hours in cold water or until soft. Remove stones and rub prunes through a sieve. Add sugar and cook five minutes. The mixture should be of the consistency of marmalade. Beat the whites of eggs until stiff, add prune mixture gradually. When cool add lemon juice and pile lightly on a buttered pudding dish. Bake 20 minutes in a slow oven. Serve with boiled custard sauce or whipped cream.—Mrs. E. J. Pearson, El Centro.

#### Dried Apricots with Dumplings

Select about 30 halves of dried apricots, wash well and soak in cold water. When soaked so as to look quite like the fresh fruit cover well with water and add sugar and cinnamon to suit taste. Put on to cook and when boiling well drop in dumplings made of one coffee cup of flour, one heaping teaspoon of baking powder, pinch of salt and enough milk to make thick enough to drop nicely from the spoon. Cover and boil about 20 minutes but be very careful they do not scorch. Serve warm with cream or a sauce made of whole milk, sugar and spice. This recipe will serve six people. A favorite with farm hands.—Mrs. B. B. Barnes, Laton.

#### Dried Peach Shortcake

Pour boiling water over one pound (or less) dried peaches; allow to stand a few minutes, then the skins will slip off easily. Boil peaches with one cup of sugar, and water to cover, until tender, then mash. They should not be too juicy. Make a rich biscuit dough. Roll out in two equal parts to fit an oblong dripping pan. Put in one layer (one-half inch thick) grease top, place second layer on first, bake. When ready to serve, remove shortcake from pan, lift off top layer, butter, spread peaches between layers and on top. Cut in squares and serve with whipped cream, plain sweet cream, or a sauce made as follows:

One and one-half cups brown sugar, one tablespoon corn starch, add two cups boiling water, one-half tea-

## The Cultivator Patterns

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**4105. Girls' Coat.**—Cut in 4 sizes: 6, 8, 10 and 12 years. A 10 year size requires 3¾ yards of 44 inch matrial. Price 10c.

**4129. Ladies' Negligee.**—Cut in 4 sizes: Small, 34-36; Medium, 38-40; Large, 42-44; Extra Large, 46-48 inches bust measure. A medium size requires 6¼ yards of 27 inch material. Price 10 cents.

**4133. Child's "Play Dress."**—Cut in 4 sizes: 2, 4, 6 and 8 years. A 6 year size requires 3¼ yards of 36 inch material. Price 10 cents.

**4121. Ladies' Dress.**—Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. The guimpe will require 2⅝ yards of 36 inch material and the dress 3¾ yards for a 38 inch size. If the guimpe is made with short sleeves it will require 1⅞ yards material. To make the guimpe and dress of one material requires 6⅛ yards 36 inches wide. The width of the skirt at the foot is 2⅝ yards. Price 10c.

**4115. Girls' Dress.**—Cut in 4 sizes: 8, 10, 12 and 14 years. A 10 year size requires 2¾ yards of 32 inch material. Price 10c.

**4131. Ladies' Two Piece Undergarment.**—Cut in 4 sizes: Small, 34-36; Medium, 38-40; Large, 42-44; Extra Large, 46-48 inches bust measure. A 38 inch size requires 1⅝ yards of 36 inch material for the Drawers and 1⅝ yards for the Chemise. Price 10c.

**3711. Boy's Suit.**—Cut in 4 sizes: 3, 4, 5 and 6 years. A 6 year size requires 3⅜ yards of 27 inch material. If made as illustrated trousers and collar will require 1⅞ yards of material and blouse 1½ yard. Price 10c.

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**PATTERN DEPARTMENT**
**California Cultivator** **Los Angeles**

spoon cinnamon, and a little allspice, cloves and nutmeg. Cook until slightly thick. This makes a very substantial dessert.—Mrs. O. H. Payne, Goshen.

### Prune Shortcake

Remove pits from stewed prunes and mash smooth. Sweeten and flavor with allspice. Bake two layers of shortcake. When cool spread the prunes between the layers and on top. Top with frosting. Do not spread the prunes on until time to serve.—Mrs. B. W. Hays, Patterson.

### California Raisin Pie

To one pound of seedless raisins add one half cup sugar and one pint water. Stew until done. Add strained juice of two lemons and two beaten eggs. Thicken with dry bread crumbs. Bake with one crust. When done cover with whipped cream or meringue.—Mrs. Clara Brons, Fresno.

### Delicious Filled Cookies

Two cups sugar, one cup shortening, one cup milk, two eggs, seven cups flour, four level teaspoons baking powder. Flavor to taste. Roll thin, put a tablespoon of filling on one cooky, place another on top and lightly press edges together.

Filling: Two cups chopped raisins, two cups chopped walnuts, two cups sugar, four level tablespoons flour, two cups boiling water. Let come to a boil, add juice of a lemon, cool and spread.—Mrs. Annie Martin, Campbell.

### Fruit Rolls

Two cups flour, two teaspoons baking powder, half teaspoon salt, sifted together. Add two tablespoons butter and two-thirds cup milk. Knead well and roll to quarter inch thickness. Brush with melted butter and sprinkle with sugar and cinnamon, half cup raisins and two tablespoons citron chopped fine. Roll like a jelly roll and cut into pieces about three inches long and bake in a hot oven about 20 minutes.—Mrs. C. A. Jenks, Hanford.

### Raisin Fritters

One cup of yeast or bread sponge, half cup warm milk, salt to taste, three eggs. Beat all together and add flour to make a thick batter. When light add one cup seeded or seedless raisins. Let rise again and fry in hot lard, using a tablespoon to take the batter up with and cutting or scraping it with a knife to give a smooth oblong shape (the fritters should be about the size of an egg when done). Serve warm. Those left over may be heated in the oven and rolled in powdered sugar, but we tthink they are good enough without it.—Mrs. A. J. Regier, Wasco.

### Stuffed Spare Ribs

Place one side or one-half the desired amount of spare ribs in a baking pan hollow side up and fill center with a mixture of three cups of dried apples and one cup of raisins, soaked and cooked soft, then drained. Lay the other half of ribs, hollow side down, over this. Sprinkle salt and pepper to taste over top, put enough water in pan to keep from burning and bake in a rather hot oven about one hour or until done, according to thickness of meat.—Mrs. A. H. Stockdale, Pasadena.

### Jellied Prune Ring

Soak one-third of a pound of prunes over night in cold water. In the morning simmer slowly until soft, stone them and cut in pieces. To the prune juice add enough boiling water to make two cups of liquid. Pour it over two and one-half tablespoons of gelatine dissolved in a half cup of water, then add one cup of sugar and four tablespoons of lemon juice. Strain, add the cut prunes and pour in a ring mould. Turn out when thoroughly chilled, fill the center with whipped cream sweetened and flavored with vanilla. Garnish the base of the dish with well plumped cooked prunes and whipped cream squeezed through a pastry tube.—Mrs. D. D. Dettweiler, Alta Loma.

### Prune Roll

Prepare a good biscuit dough, using, say, two cups of flour to four level teaspoons of baking powder, a pinch of salt and a teaspoon of sugar. Sift these together, then with the finger tips work in about one-third cup of

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shortening. Add sufficient milk to make a dough that will roll nicely. Roll about one-half inch thick and spread with pitted, stewed prunes, then roll up, the same as for jelly roll, moisten edges and press together. Place in baking pan and pour around it some of the juice from the stewed prunes, sprinkling over a little sugar, and bake until brown and well done through. Serve with whipped or thick cream.

### Date Pies

One cup sugar, half cup butter, quarter cup milk, yolks of three eggs, one cup of dates (seeded, ground and cooked), three-quarters of cup of English walnuts, one teaspoon vanilla. Make rich pie crust, line gem pans, put two tablespoons of filling in each crust. Bake until crust is light brown. Cover top with meringue of whites of three eggs well beaten and cup of sugar and vanilla.—Mrs. C. N. Ellis, Indio.

### Date Pudding

One cup chopped dates, one cup English walnut meats, one cup sugar, two eggs, four tablespoons cracker crumbs, three tablespoons milk, one teaspoon baking powder. Mix all thoroughly. Steam one and one-half hours. Serve with whipped cream or ice cream.

### Date Salad

Steam dates over boiling water a very few minutes. Remove seeds and place in each a walnut kernel. Put on ice and chill thoroughly before serving. When ready to serve place dates on very crisp lettuce leaves and pour good salad dressing over all. This combination is delicious.—Mrs. C. B. Lewis, Thermal.

### Date Pies or Tarts

One cup of sugar, half cup of butter, third cup of milk, one cup of seeded dates, three-quarters of cup of English walnuts, ground, yolks of three eggs, one teaspoon of vanilla. Grind the dates and cook in a little water until tender and almost dry. Mix sugar and butter well togeher, add yolks of eggs, milk, dates, walnuts and flavoring. Line gem pans with rich pie crust, place a tablespoon of filling in each gem pan and bake. Cover each pie with meringue, place in oven and brown.

Meringue—Three egg whites well beaten, one cup of pulverized sugar, flavoring to taste.

### Date and Nut Loaf

One pound dates (after stoning), one pound walnut meats, one cup flour, one cup sugar, half teaspoon salt, two rounding teaspoons baking powder, four eggs (yolks and white beaten separately), one teaspoon vanilla.

Mix salt and baking powder with the flour, add to dates and walnuts, add sugar and mix thoroughly again, add egg yolks then fold in the whites and add the vanilla. Pack into a loaf tin lined with buttered paper and bake in a slow oven one hour. This cake wrapped in paraffin paper will keep indefinitely and improve with age.

### Date Tapioca

One-half cup tapioca, one cup sugar, three oranges, one lemon, one pound dates.

Stir tapioca into three cups of boiling water and cook in a double boiler until clear. Mince dates, add sugar and mix with the pulp of the oranges and the juice and grated rind of the lemon. Put layer of tapioca in well buttered baking dish, then the fruit mixture. Cover with the remainder of tapioca and bake half an hour. Cover with meringue and brown delicately. Serve perfectly cold with cream.

### Mocha and Date Cake

One cup of sugar, half cup of strong coffee, half cup of dates, chopped fine, half cup of walnuts, chopped fine, two eggs, one and three-quarters cups of flour, one-third cup of softened butter, one and one-quarter teaspoons baking powder, one teaspoon vanilla.

Beat sugar and egg yolks together eight minutes, add butter then other ingredients, beaten whites last.

Filling—One-third cup butter, one and one-third cups powdered sugar, one teaspoon grated chocolate and vanilla to taste. Add strong hot coffee, drop by drop until right consistency to spread on cake. Beat hard.—Mrs. Bruce Drummond, Indio.

### Fruit Bread

Three pounds dried prunes, 1 pound dried pears, ½ pound dried figs, 1 pound raisins, ½ pound citron, 1 pound currants, 1 pound nuts, ½ cup shortening, 2 yeast cakes, 1 teaspoon cinnamon. Cook prunes and pears, drain off the juice, put through the chopper with the citron and figs, put back in kettle, add raisins, currants, nuts and cinnamon. Make a sponge as for bread; let it rise, mix dough with juice, add the warm fruit, salt and shortening and flour to make a stiff dough, let it rise, put in pans, let rise again and bake about 1 hour in a moderate oven. Do not let it chill.

### Loaf Candy

Three pints white sugar, one and one-half pints cream, one pint light colored syrup, one quart nuts, one teaspoon vanilla. Cook until it forms a soft ball when tried in cold water. Take off of fire and beat hard until it begins to get cold, then pour the nuts in and beat together. Pour into a deep pan so it will make a loaf. You will find this is a delicious candy and will keep for months.—Mrs. J. H. Paul, Eagle Rock.

### California Pralines, a Southland Dainty

One pound brown sugar, water to dissolve. Boil till nearly brittle, then add one cup of cream, let boil up again and add juice of one orange, boil again and add one tablespoon of butter. Beat like caramels and pour over one pound of English walnut meats and grated rind from the orange. Beat to a cream, then drop small pieces on greased pans to harden. Glucose or corn syrup may be used with the sugar to insure smoothness.—Mrs. E. Carrithers, Laguna Beach.

### Turkish Delight

One ounce gelatine, one-half cup cold water, two cups granulated sugar, one-half cup boiling water, grated rind of one orange, juice of one orange, juice of one lemon, one-half cup chopped nuts, fruit coloring if desired.

Add cold water to gelatine, let stand until dissolved. If sheet gelatine is used break in pieces before adding cold water. Put sugar and boiling water in saucepan, bring to boiling point, add gelatine and let simmer 20 minutes. Add coloring if desired. Strain, add nut meats and turn into pan rinsed in cold water. Let stand until cold, remove to board, cut in cubes and roll in powdered sugar.—Josephine Herrick, Colton.

### California Creams

Three cups white sugar, one and one-half cups water, one cup walnut meats, lump butter size of walnut, one teaspoon vanilla flavoring. Put sugar in a pan over a slow fire, let it melt and brown a light brown. Watch closely as it must not burn. Add the water and butter. Boil this, without stirring, to the soft ball stage, remove and stir until thick and creamy, adding nuts and flavoring. Turn into a platter and mark into blocks.—Mrs. S. D. Teel, Santa Ana.

### Delicious White Nut Candy

Two cups granulated sugar, two cups of milk, one-half cup butter, three-fourths cup chopped English walnut meats, one-half cup chopped figs, one tablespoon vanilla or almond extract. Put the milk, butter and sugar into a saucepan by the side of the fire until the sugar is nearly dissolved. Then boil until the syrup forms a hard ball when tested in cold water, or 250 degrees by a candy thermometer, then take the pan from the fire, add the chopped nuts, figs and extract and beat until the mixture begins to get sugary. Pour at once into buttered tins. Mark into squares with a knife, and when cold break into pieces.—Anna Moss Keyes, Lakeside.

### Walnut and Date Loaf

Three-fourths cup of water, two cups of sugar, one-fourth teaspoon of cream of tartar, vanilla.

Directions: Put the sugar, cream of tartar and water in a saucepan and stir thoroughly. Then boil the mixture without stirring until it forms a soft ball in water. Remove from fire and pour in a wet bowl and let stand until nearly cool, then beat with a spoon to a soft creamy mass, knead with the hands until it is soft and smooth and mix in the vanilla. Have cut up in small pieces a cup of walnut meats and dates mixed, and knead into this fondant. Then cut into slices.—Mabel Peterkin, Orange.

### Boston Loaf Candy

Three and one-half cups sugar, one and one-half cups milk, one cup corn syrup. Boil until it forms a lump in cold water—not quite so hard as for taffy. Take from fire and beat until it begins to stiffen. Add nuts, cocoa or coconut or simply pour into buttered tin. Cut into squares when cold.—Mrs. Charles Catlin, Saticoy.

### Fruit Paste

One cup dried figs, one cup raisins, one cup dates, one cup walnuts. Put each ingredient through a meat grinder three times. Mix all thoroughly, knead with the hands and roll out an inch thick. Cut into cubes. These may be dipped into chocolate if one prefers. This fruit paste has the advantage of being not only a delicious candy but a wholesome food as well.—Caroline C. Condit, Berkeley.

### Fruit Fudge—Chocolate Dipped

One and one-half cups granulated sugar, one cup maple syrup, one and one-half cups pure corn syrup, one-half cup thick cream or one-third cup milk and one-fourth cup butter, one cup of fruit—figs, candied cherries and apricots—cut in small pieces, one-half cake sweet chocolate for dipping.

Stir sugar, maple syrup, corn syrup and cream until sugar is melted, cover and let boil three or four minutes, then uncover and let boil, stirring occasionally, until when tested in cold water a soft ball will form. Remove from fire to cool. Then add the fruit and beat until it becomes thick. Pour into pans lined with waxed paper. In


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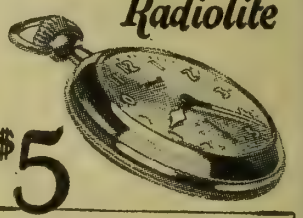

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about 15 minutes cut into squares and dip these in melted sweet chocolate.—A. Butcher, Healdsburg.

**Maple Panoche**

Grate one pound of maple sugar, add one cup milk. Stir over the fire until the sugar is dissolved and then boil until the syrup forms a soft ball when dropped in cold water. Take from fire, stir for a moment until it begins to thicken, then add hastily half pint pecan meats and turn the mixture into a square greased tin. When partly cold mark into small squares with greased knife.—Jesssie G. Storer, Beaumont.

**Date Pudding**

One cup chopped dry dates, 1 cup chopped nuts, 1 cup sugar (scant), 3 eggs (well beaten), 1 teaspoon baking powder, 9 level tablespoons flour. Bake in shallow tins about 20 minutes in slow oven. Serve with whipped cream. Will serve about eight. The dates and nuts should be chopped fine but not ground.—Mrs. J. H. Yetter, Los Angeles.


# New Lamp Burns 94% Air

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**A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal-oil).**

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## HOUSEHOLD QUERIES

**When You and I Were Young Maggie**

Would you please print in the Cultivator the words of Sweet Maggie.. A line goes like this—"Let us sing of the days of old Maggie, when you and I were young."—Subscriber, Fowler.

WHEN YOU AND I WERE YOUNG, MAGGIE

I wandered today to the hill, Maggie,
To watch the scene below,
The creek and the creaking old mill, Maggie,
As we used to, long ago,
The green grove is gone from the hill, Maggie,
Where first the daisies sprung;
The creaking old mill is still, Maggie,
Since you and I were young.

CHORUS

And now we are aged and gray, Maggie,
And the trials of life nearly done;
Let us sing of the days that are gone, Maggie,
When you and I were young.

A city so silent and lone, Maggie,
Where the young and gay and the best,
In polished white mansions of stone, Maggie,
Have each found a place of rest,
Is built where the birds used to sing, Maggie,
And join in the songs that we sung,
For we sang as gay as they, Maggie,
When you and I were young.

They say I am feeble with age, Maggie,
My steps are less sprightly than then
My face is a well written page Maggie,
But time alone was the pen.
They say we are aged and gray, Maggie,
As sprays by the white breakers flung;
But to me you're as fair as you were, Maggie,
When you and I were young.

## AMERICAN WIVES OF ALIENS STILL AMERICAN CITIZENS

Under provisions of the new alien naturalization law Americans who marry aliens will not lose their citizenship even though their husbands do not become naturalized. County clerks and federal naturalization officers have recently been informed of the new law which is now in effect.

Some of the essential features of the act of September 22, 1922, regarding the citizenship of American women are:

1. An alien woman marrying an American citizen after the passage of the above act, or any woman whose husband is naturalized after said act, may become naturalized by filing the usual petition of naturalization and complying with all the requirements of the naturalization laws, with the following exceptions: (a) No Declaration of Intention is required. (b) Only one year's continuous residence in the United States, Hawaii, Alaska or Porto Rico, immediately preceding the filing of her petition is required.

2. Any woman who before the passage of the above act, on September 22, 1922, was an American citizen and lost her United States citizenship by marriage to an alien, may become naturalized by filing the usual petition for naturalization and complying with all the requirements of the naturalization laws, with the following exceptions: (a) and (b) as in paragraph 1; (c) no Certificate of Arrival required, if during the continuance of the marital relations she shall have resided within the United States.

The act further provides that no married woman whose husband is not eligible to citizenship shall be naturalized during the continuance of the marital status, and that she, herself, must be eligible to citizenship.

The act further provides that a woman citizen of the United States shall not cease to be a citizen by reason of her marriage to an alien after September 22, 1922, unless she make formal renunciation of her citizenship before a court having jurisdiction over naturalization of aliens, but that any woman citizen who marries an alien ineligible to citizenship shall cease to be a citizen of the United States.

The act also provides that an alien woman married to an alien at the time of the passage of the act on September 22, 1922, or who may thereafter marry an alien, may become naturalized by complying with all the requirements of the naturalization laws.

The status of single women is not affected by this law, and women of this class may continue as in the past to file declarations of intention and petitions, for the purpose of becoming naturalized.

## KEENLY APPRECIATED

Convalescent (to a thoughtful friend): "Thanks very much for the brandy peaches. Although the doctor wouldn't let me eat the peaches I enjoyed very much the spirit in which they were sent."

## SUPREMELY HONORABLE

There is nothing more honorable in this world or the next than simple toil. It must be remembered also that the laborerer is worthy of his hire and that the employer is worthy of efficiency on the part of the worker.

## HOPELESS

The manager of a factory asked the foreman if the new man he had hired was making progress. "Progress!" exclaimed the foreman, disgustedly. "Progress! I've taught him everything I know and he is still an ignorant fool." —Boston Transcript.

## YOU BET HE DOES

"You bet I believe in heredity. Why, I have three of the smartest kids you ever saw."

## A PREFERENCE

I'd rather have a real woe
Than care imaginary,
For I can lay a real one low
If I am wise and wary,
But troubles of the fancy, they're
The meanest of the ghoulish,
For when you strike you hit the air—
A process truly foolish. — John Kendrick Bangs.

## GET A HUSTLE ON!

Don't wait for prosperity to return,
That's not the way to greet her;
Get on your seven-league boots, old boy,
And hustle out to meet her.

## CATALOGUE NOTICE

Send 12c in silver or stamps for our Up-To-Date Spring & Summer 1922 Catalogue, containing over 500 designs of Ladies, Misses and Children's Patterns, a Concise and Comprehensive Article on Dressmaking, also Some Points for the Needle (illustrating 30 of the various, simple stitches) all valuable to the home dressmaker.

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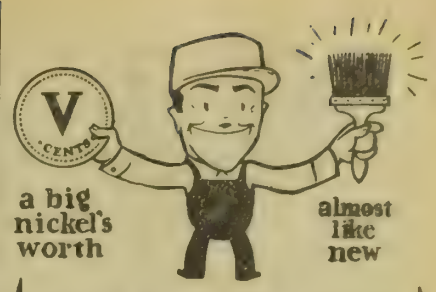
Los Angeles, Calif.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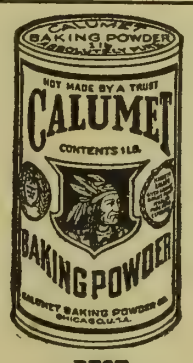


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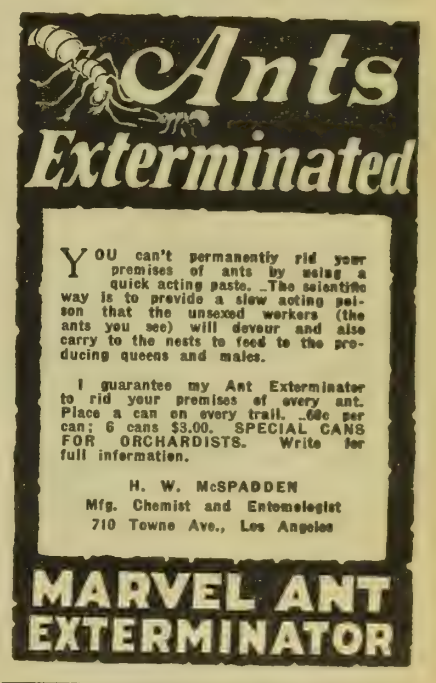
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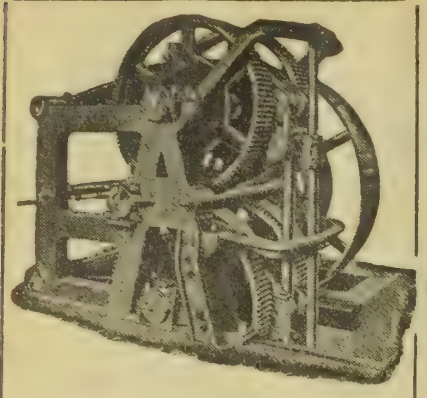

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# Buying 100 Purebred Bulls in 30 Days

By C. L. Hughes

BEFORE noon on Saturday, October 14, A. F. Berri, a Marin County dairyman, signed an agreement to buy a purebred registered dairy bull to replace his grade bull, making the 100th such agreement to be signed in Sonoma and Marin Counties within 30 days, and reaching the original goal set for the Sonoma-Marin purebred dairy bull project.

This project was initiated by the dairymen of the two counties through their respective farm bureaus and was placed in charge of Noel Negley, the recently appointed dairy specialist of California agricultural college, who carried out the plan with the cooperation of the two farm bureaus, practically all of the banks, business organizations, schools, and even churches of the two counties.

The writer is making no attempt in this article to render a report of this project, which will come in due time from the proper authorities, but as one of the workers in the ranks for nearly two weeks during the campaign he feels that possibly a few observations from the actual field may be of interest to dairymen in other sections and to breeders of purebred dairy cattle generally.

The demand for purebred registered bulls, coming as it did from the dairymen of two counties which have been conspicuously backward in this respect, seems particularly significant, and their working out of plans to secure the right sort of bulls was interesting to say the least.

The plan included the actual buying of the bulls by a committee of two responsible and capable dairymen from among their own ranks, aided by an expert secured from the staff of California college of agriculture. Thus did they assure the maintenance of the substantial standards of quality set up for bulls to qualify for purchase, and let it be stressed right here that most of these buyers are members of cow testing associations and that their demand for bulls out of dams that have produced 400 pounds butterfat in a year, or its equivalent, is based upon a standard of production which they believe necessary to improve their herds now that they are weeding out the unprofitable cows through testing.

Let me say that these buyers for the most part either had very fair ideas as to the price such bulls would command or else were open to reason on the subject, but their ever present dettermination was to secure bulls with the right quality.

Consider too that the bulls sold in this campaign, which I have since been told reached a total of 112, all went to replace scrub, grade, or otherwise inferior bulls in a section that was considered one of the most unpromising fields in California for such a movement, and it becomes apparent that there must indeed have been some strong general sentiment favorable to the situation.

After talking with a considerable number of the men who bought bulls, many of whom have been milking cows in Marin or Sonoma Counties for ten, 20, even up to 35 years, I find that one statement was made perhaps oftener than any other, and usually about as follows: "Well I have been milking cows most of my life, and have been using scrub bulls all that time. Now, when I am about ready to turn the herd over to the boy, I want to see him start right with a purebred bull, for at last I realize that the mistakes I have made in breeding to scrub bulls have cost me a good many thousands of dollars." This feeling on the part of so many of the older dairymen was quite evidently one of the strong forces behind the demand for purebred bulls, and with the splendid start made in this campaign it means that Marin and Sonoma Counties are at last in line for a tremendous improvement in the quality of their dairy cattle, an improvement that meets the hearty approval of some of the oldest dairymen who have learned that the scrub bull proposition is too wasteful a proposition to hand down to their sons.

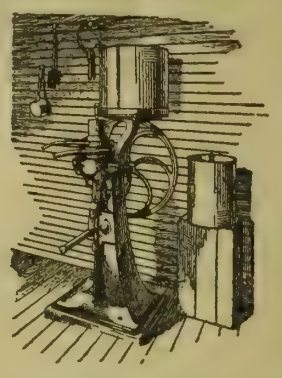
Pure Breds Win

A. F. Berri, (at right), a Marin County dairyman, signing the 100th order for a pure bred bull to replace his grade bull, in the Sonoma-Marin pure bred dairy bull campaign. The gentleman at the left in the picture is W. B. Hopkins, manager of Petaluma Cooperative Creamery, one of the moving spirits in California dairy affairs, and a star "bull salesman" during the campaign.

The breeder of purebred registered dairy cattle is especially interested in the point brought out above, that this large group of dairymen, buying purebred bulls for the first time, showed themselves willing to pay adequate prices for bulls that met their standard of production, and it is something of a shock to realize that not more than one-third of the available bulls that met the other requirements of good health, proper type, and general physical condition were able to qualify on the important point of having a dam with 400 or more pounds of butterfat. Consider too that these buyers stood willing to accept cow testing association records in the absence of breed association official or semi-official records.

The Sonoma-Marin campaign is assuredly only one of many movements that will be initiated in other California counties, and the conditions encountered indicate very clearly that if the breeders of registered dairy cattle in the state are to keep pace with the progress of the dairymen owning grade herds, and actually fulfill their function as sources of supply for bulls that will grade up and improve the production of these herds, they must give immediate attention to verifying the production of their own cows, either through authenticated breed association records or through cow testing association records.

This campaign proved beyond question the actual existence of a tremendous market throughout the state for purebred dairy bulls, a market that until now has been regarded as exceedingly difficult of access. The plaint for years has been that none of the established agencies, such as agricultural papers, the college of agriculture, the public sale, or the numerous livestock shows, have reached any considerable percentage of these possible dairy bull buyers, especially among the very considerable number of foreign born dairymen who do not read English and who stay right close to the job of milking cows and seldom

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if ever take the time to attend a sale or show.

In this plan of purebred bull projects we have an agency that will reach every dairyman, under the most favorable conditions of personal contact, and I do not hesitate in going on record with the statement that the matter is now squarely up to the breeders of purebred bulls to do their part in producing the bulls that will meet the requirements and standards of these campaigns.

Incidentally the working out of this project has confirmed an idea the writer has long held, and which is shared by a large number of California breeders, that in the California college of agriculture we have at hand machinery for the promotion of the better livestock idea, and that the matter of breed preference will take care of itself with such assistance as the various state breed associations are able to render in movements of this kind. The successful working out of the principle involved in this campaign could just as successfully be demonstrated if the object had been the use of registered beef bulls, registered boars, or registered rams.

### COW TALK IN CITY STREETS

The opening of the stockyards at Los Angeles is an auspicious time to make certain patronage for the new yards. New Mexico has thousands of drouth cattle, and one or two districts of northeastern Arizona have felt it dry, but there mountain grazing prevails and a dry year in the summer makes fat cattle, as feed is stronger and there are no flies, but those same cattle returning to a lower country without reserve feed face a dangerous winter, and part must be shipped out. Another favorable indication for yards patronage is the fact that Northern California has had rains and that a good year is almost certain, with stock cattle and feeder demand and the heaviest beef demand and least supply known for years. November is the time that outside range districts must clean up and ship, if they intend to do so before snow, and November is the time California prefers to buy. Also the market faces no surplus of beef in local packing houses, hence each packer can absorb from 100 to 1000 beef, besides the Globe yards can care for 8000 head. Undoubtedly opening prices will be good as it could not otherwise make any favorable impression upon the livestock industry of the Southwest. If yards were glutted and prices slaughtered on the opening of the new market method one can imagine certain things sure to happen later.

The list of commission men to operate in the new yards as given out by the stockyards company includes Charles Hill, W. H. Goodno, Campbell and Stewart, Maurer and Washburn, and Condon, Johnson and Cook, Western Live Stock Co., Foster and Underwood, National L. S. Com. Co., Delmue L. S. Com. Co., Hampton L. S. Com. Co., D. H. Lilywhite E. Karples, and your truly, A. L. Spellmeyer.

### MILKING MACHINE HELPS

There can be little doubt now of the value of the milking machine and the important part that it is playing in the development of more profitable dairying. The contention that milking machines are harmful to cows, that they tend to tear down the udder and render the cows useless, has proven to be generally untrue.

The recent improvements that have been made on the leading makes of milking machines have made it possible for the practical farmer to invest in one with a comparative certainty of securing beneficial results provided he gives the machine care such as all machinery needs.

The list of instructions sent with a milking machine, or any machine is sent for the guidance and help of the user, and an observance of the same will prove to be well worth while. The milking machine, when properly cared for and properly applied, will save at least one man's labor in the milking barn; will produce cleaner milk; will save not only labor but time, and hence will make more money, and when operated according to instructions, will make dairying a more pleasant occupation.

The right use of the milking machine, in the right way, is just one more step toward more profitable dairying, more contented dairymen and more wholesome milk—H. R. Lascelles.

## Livestock News Notes

### LIVESTOCK SALE CALENDAR

November 16, Dispersal, Arthur & Maxfield Holstein Co., Hanford.

The report of the cow testing association in Stanislaus County for September shows 3188 cows tested with 288 producing over 40 pounds fat. The average per cow for the month was 27.2 pounds from an average of 723 pounds milk. F. L. Hogue owns the high cow for the month, a Holstein, which made 90.3 pounds fat from 2382 pounds milk. E. W. Looney owns the second and third highest.

Three cow testing associations in this state are now 100 per cent in the use of purebred sires. They are San Diego, Delhi and Riverside. It is a hard problem to convince some dairymen that a purebred sire is the only salvation of the dairy industry but they are slowly coming to believe it. Excellent work along this line is being done by the cow testing associations, the university, and the dairy council.

The annual convention of the California Wool Growers Association will be held at the Hotel Lincoln in Stockton, November 16 and 17, 1922. W. E. Bristol is the local chairman of the committee arranging for the entertainment of the convention.

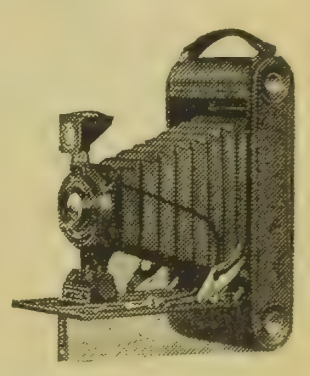
The Kern County cow testing association has completed its first year's work with 930 cows tested for the year. These cows averaged 269 pounds fat for the year with 160 producing over 300 pounds and 36 producing over 400 pounds. The high cow was owned by A. R. Buttles of Wasco and made 508 pounds. It will be interesting to note the improvement this association will make before its next annual report is issued. Very probably many of these cows have gone to the butcher and are being replaced by higher producers as that is the task of the testing association. It costs but little more to feed a 500 pound cow than it does one which gives but 200 to 300 pounds and the cost of care is practically the same.

O. B. Fuller died suddenly, October 18. No man in the Southwest has been more active in cattle circles in the last 15 years. His interests were varied. Coming from Iowa, he and his brother pioneered from Montana to Arizona, ending in California. In addition to large grain and farming operations he handled thousands of cattle. During all his work he was consistently constructive and probably no man did more to help producer cattle prices and stabilize values. He was a man of a great heart and kindly impulse, and quietly did many kind and generous acts of which his associates never knew except by accident.

FROM A KODAK NEGATIVE

KODAK pictures prove your selling arguments. Pictures are practical records of your crops, stock, equipment—records easy to make, vivid, authentic, permanent.

And the farm abounds with pictures for pleasure.



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*At your dealer's for $23*

Eastman Kodak Company, Rochester, N. Y.

# Absolute Dispersal

## Arthur & Maxfield Holstein Co. Herd

## 70 Registered Holsteins 70

## at Public Auction, Wednesday, November 15, 1922

### Kings County Fair Grounds, Hanford, California

To terminate the existing partnership between J. W. Arthur and Wm. G. Maxfield their splendid herd of registered Holsteins will be sold to the highest bidder at public auction.

This is an unusually attractive herd of cattle, among some of their accomplishments the following are noted:

HIGHEST PRODUCING purebred herd in Kings County Cow Testing Association, with an average of 439.23 lbs. butterfat from 13,595 lbs. milk on 21 head, in a ten months' test.

HIGHEST 7 DAY RECORD in Kings County, over 33 lbs. butter on official test.

HIGHEST 365 DAY SEMI-OFFICIAL RECORD in Kings County, with over 1,100 lbs. butter.

HIGHEST PRODUCING COW in Kings County Association, with 702.6 lbs. butterfat from 20,375 lbs. milk in ten months.

THIS ENTIRE HERD HAS PASSED TWO CONSECUTIVE TUBERCULIN TESTS WITHOUT A SINGLE REACTOR.

If you want high producing cows, or heifers and bulls from such cows, make your plans now to attend this sale. It is a choice herd of cattle in excellent physical condition.

TERMS OF SALE: One-third cash, balance in 3, 6 and 9 months to responsible parties who arrange for terms prior to sale with California Breeders Sales and Pedigree Co.

Management

**California Breeders Sales and Pedigree Company**

C. L. Hughes, Sales Manager, Sacramento, Calif.

Auctioneers: RHOADES & RHOADES, Los Angeles, Calif.

**BLACK LEG** 100% PROTECTION FOR LIFE from *one* vaccination with Cutter's Liquid or Solid Blackleg Aggressin. Absolutely safe. Cutter's Solid Aggressin Injectors work just like Blackleg Pill Injectors. If Cutter's Aggressin is unobtainable locally, write

The Cutter Laboratory
"The Laboratory that Knows How"
Berkeley (U.S.License) California

N.B.—Old Style Powder and Pill Vaccines still made for those who prefer them.

SHARPLES PORTABLE MOTO MILKER
NEVER HAS HURT A COW
Inexpensive Operation—Long Life
INVESTIGATE
SEND FOR CATALOG
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Prevent
**Blackleg**
by using
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Scientifically Prepared and Tested
Blackleg Vaccine in Pill Form

Consult your veterinarian or druggist.
Write for free booklet on blackleg. No. 351.

Animal Industry Department of
**Parke, Davis & Company**
DETROIT, MICH.


## CHAFFEY HIGH VICTOROUS

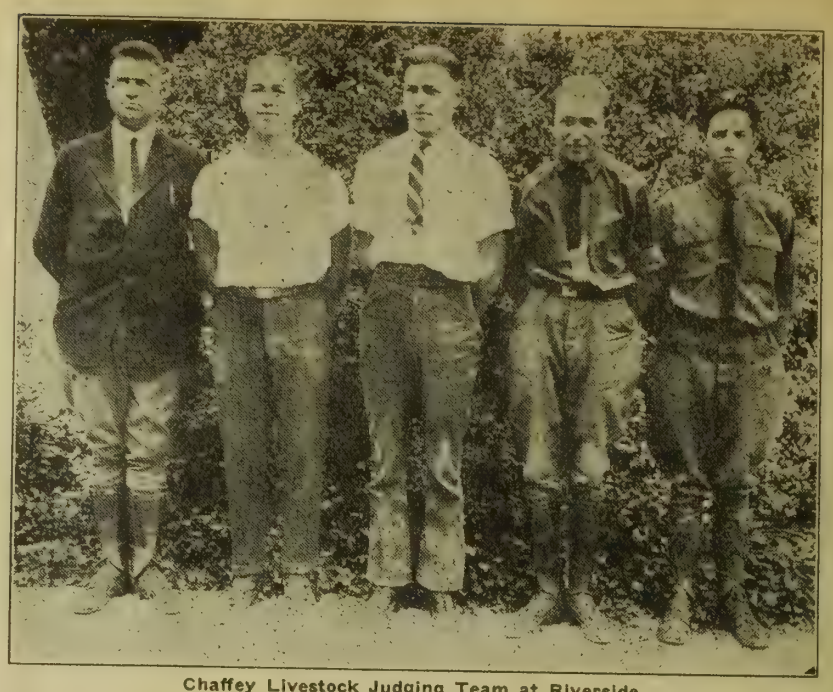
The judging team representing the Chaffey Union High School of Ontario won the judging contest held at Davis on October 27, and will represent California at the Pacific International Judging Livestock Show at Portland on November 4. Salinas High School was second and Esparto, third.

Winners of the contest at the state fair and at the Southern California fair were brought together at Davis to compete for the state championship which resulted in the victory for Chaffey.

For the past year or more the Chaffey boys have been outstanding in livestock judging contests and have not been defeated in the south.

Excellent coaching has helped them wonderfully and they have shown the results of consistent and unfailing work. Situated in a neighborhood full of fine livestock farms they have taken every advantage of their opportunities and it has shown up in their work. Sheep have been their stumbling block generally because sheep are not numerous around Ontario, but the Southern California and Los Angeles County fairs brought some wonderful herds of sheep into their district for a short time and they made the best of the opportunity for studying them.

Before leaving for Portland the team will have the advantage of a few days coaching in and around Davis under the direction of the university farm professors and great things are expected of them in competition with boys from the mountain states and the Northwest.



Chaffey Livestock Judging Team at Riverside

## AMERICANS MODERATE CONSUMERS OF DAIRY PRODUCTS

The United States is one of the largest milk, butter and cheese producing nations in the world, according to the United States department of agriculture, although it is not one of the largest exporting countries in any one of these three products, nor are Americans great eaters of dairy products.

Sweden, which has only one-eighteenth of our population, and only one-fourteenth of our cows, uses 69 gallons of whole milk per capita; and Denmark with about three-fourths as many cows, uses 68 gallons; while the United States uses only 43 gallons.

Not all countries use so much as Sweden and Denmark. Of 11 countries whose per capita consumption of whole milk is given in the new Handbook of Dairy Statistics, the United States comes exactly in the middle, with five higher and five lower, Sweden and Denmark being at the top of the list. The lowest is Italy, with a consumption of only four gallons of whole milk per capita a year; and next comes Great Britain with 22 gallons, or about half as much as our own country.

---

The dispersal sale of the Minor and Thornton Holsteins at Fresno on October 26-27 brought a surprisingly large crowd of buyers. About 90 of the animals were registered and the balance of over 200 were pure bred, but on account of lack of system in keeping records were sold as grades. The top cow of the registered cattle was bought by G. M. Brown of Burr Farm for $300. He also bought a couple of dozen others. R. M. Jessup of Glendale bought ten of the registered animals and McMillen took a like number for one of the state institutions. The top cow of the grades sold for $210 and the general average was around $200. C. L. Hughes of the Cal. Breeders Sales and Pedigree Co. was in charge of the sale and Rhoades & Rhoades of Los Angeles were the auctioneers.

The health fairy doesn't live in a tea or coffee cup, but little folks can see one in the bottom of a glass of milk.


*"The best herd of cows I have ever seen."*
*—John L. Smith.*

In THE HOLSTEIN-FRIESIAN WORLD, Syracuse, N. Y., issue of October 14, 1922, Mr. John L. Smith, nationally known judge of Holsteins, and who judged at Sacramento this year, writes as follows of his visit to Fred Hartsook's great herd at Lankershim, Calif.:

"We figured on a big day at Mr. Hartsook's so got a good start in the morning. Mr. Hartsook met us and we started in to see THE BEST HERD OF COWS I HAVE EVER SEEN. Production with type is his aim and he sure has it in his foundation."

This statement, coming from a prominent judge who has seen nearly all, if not all of the great herds of America and Canada, confirms the judgment of prominent California breeders and judges.

The wonderful quality of this herd is of particular interest at the present time to prospective buyers of registered Holsteins, for the reason that the herd has increased to the maximum size desired by the owner, and from now on regular draft sales will be in order. The first is to take place as follows:

**MEADHART BREEDING FARM**
**Fred. Hartsook, Lankershim, Calif.**
**First Draft Sale—60 Registered Holsteins**
(Selling on the Farm)
**Friday, Nov. 10, at 10 A. M.**

GREAT COWS with large yearly and short time records, many fresh or heavy springers.

SPLENDID HEIFERS, by high class sires and many out of high record dams, both long and short time.

PRACTICALLY EVERY FEMALE THAT SELLS BRED IN CALF TO SIR AAGGIE DE KOL MEAD, THE $30,000 SON OF MISS VALLEY MEAD DE KOL WALKER.

Prospective buyers who want production, type, good health, and the added value of cattle linked up with one of our greatest breeding herds, will find in this offering cattle worthy of their most careful consideration.

Every animal tuberculin tested and sold subject to retest by the buyer; every animal positively guaranteed to be a breeder.

TERMS OF SALE: One-third cash, balance in 3, 6 and 9 months to responsible parties who make arrangements before sale with California Breeders Sales and Pedigree Co.

Write for Catalog now.

Management
**California Breeders Sales and Pedigree Co.**
C. L. Hughes, Sales Manager, Sacramento, Calif.
Auctioneers: RHOADES & RHOADES, Los Angeles

**Meadhart Holstein Herd**

We are trying to have nothing but the greatest in Holstein type and production and experts tell us we are succeeding.

Our show animals won the big share of the prize money at all big fairs in the state this year.

We will sell 60 head of wonderful females at our ranch on Nov. 10. Be there.

Lankershim Calif. — Fred Hartsook — We Will Welcome You

**Only One Bull of Service Age for Sale**

He is out of one of those typey, persistent producing daughters of Toyon Fayne Valdessa, with a yearly record at 2 years of age of 676 lbs. of butter from 14,859 lbs. of milk.

His sire is out of a 36-lb. cow, his grandparents being King Korndyke Hengerveld Ormsby, King of the Pontiacs, Pontiac Clothilde De Kol 2d. (1271 lbs. butter in 365 days), and a 23-lb. 3 year old granddaughter of Prilly.

Only 3 sons on hand from King Korndyke Pontiac Mead, a week to a year of age, all from good yearly record strains, all from cows with good udders and good straight backs.

Guaranteed right in every respect.

This is the Premier Producing Strain of California.

**Los Angeles County Farm — Hondo, California**
Three Miles South of Downey on the Downey-Long Beach Boulevard

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AGENT FOR LARGE RANCH SALE-PURCHASE OR FINANCE
**A. L. SPELLMEYER**
320 American Bank Bldg. or Exchange Bldg. Los Angeles Phone Bdwy 1528 Stockyards after Nov. 1st

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**E Sales Pavilion**
**S Stock Yards at Hynes, Cal**

¶ ¶ ¶

**& RHOADES**
WE CONDUCT SALES OF REG. DAIRY CATTLE GRADE CATTLE GEN. FARM SALES in all parts of Calif. and adjoining States. Satisfaction guaranteed. Write for dates and terms.

**Auction SALE Auction**
**Wednesday, Nov. 8th at 10 A.M.**

**100 Mules**
**50 Horses**

Young, sound, broke, gentle
As good as grows

Consigned to us to be sold by responsible shippers from Utah, Idaho, Colorado and Texas.

This is the first of a series of sales to be held by us on the 1st and 3rd Wednesdays of each month.

**Murphy Horse & Mule Co.**
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747 to 785 Lyon Street
Los Angeles, Calif.

When Writing Advertisers Please Mention the Cultivator.

# Stockyards Are Opened

By Jack Klein

THE opening of the new Los Angeles Union Stockyards on November 1 saw the first unit which had been entirely completed, practically filled with the finest collection of livestock ever brought together in the state. Because it was not known what the market could care for without being glutted it was decided to restrict the shipment for the first day to 60 cars of cattle which were proportioned among the different commission firms constituting the exchange. No embargo was placed on stock but an agreement was made to hold the number down if possible. A shortage of cars developed in Arizona at the last minute and a number of firms were not able to fill their quota.

The first train of stock arrived early Tuesday from Wyoming and Nevada, and when it was unloaded the visitors to the yards, which included a number of the packers, declared it to be the finest ever brought to Los Angeles for sale. Of the 19 cars of Herefords consigned from Jackson Hole, Wyoming, and loaded at Victor, Idaho, 10 cars were to the Campbell and Stewart Livestock Commission Company and nine to the M. K. Parsons Commission Company. A car each of steers and cows was sent down to the new market by P. C. Hanson, president of the Jackson Hole Cattle and Horse Breeders Association, by J. G. Imeson, secretary of the same association and by Bert Charter, Orin Seaton, Charles Wilson, Joe Deyo, J. D. Ferrin, W. S. Winneger, James Boyle, E. H. Martin, Lee Lucas and Mrs. Mary J. Lucas who are members of the same. C. J. Palmer sent two cars of steers. On the same train were a car of cattle and two cars of lambs from Lee Kenner, manager of the Manti Livestock Company at Manti, Utah. Also the Plymouth Livestock Company of Salt Lake City sent two cars of cows. All of this stock was finished in the style demanded in the Middle Western markets and the wise ones sitting on the fences predicted that it would open the eyes of Californians who are used to half fitted range stock being sent in as killers.

The rail birds changed their tune when three cars of mixed Shorthorns and white faces were unloaded for the National Livestock Commission Company by A. Brown and Company of Bishop. These three year olds were the equal of any of the northern animals and many predicted they would top the first day's market. One car in particular was as good as most of those sold in the old established yards. They will have considerable competition as the cattle from Jackson Hole are conceded to be equal to the best raised anywhere and the load of steers from Hanson appeared to be a picked lot.

John Sacra of El Paso and Martin and Hill of Visalia sent in 10 cars of good range animals to the C. H. Hill Livestock Company. These were principally two year olds of good size and of good quality.

A train of cattle, hogs and sheep from Wyoming and Utah which was not expected until late Wednesday also arrived Tuesday afternoon. The cattle consisted of six cars of steers and four of cows from Pinedale, Wyoming. These cattle were consigned by E. L. Plank, Guy Decker and Lou Heneck and were loaded at Rock Springs, Wyoming, after being driven 136 miles from the ranches. They were in excellent condition and show that the country along the line of the Union Pacific is capable of producing some very excellent beef cattle. These cattle were consigned to Campbell and Stewart.

Eight cars of May lambs from the Crane Creek Sheep Company at Ogden, Utah, were also on the train. These lambs were from among 175,000 spring lambs which this big company raised this year and were of top notch quality. They had been grain fed and were in excellent condition. Two cars of hogs from Millard County, Utah, accompanied them. The hogs and lambs were consigned to the Hampton Commission Company.

The first stock into the yards was two cars of hogs from Joe Biddle of Hanford for Manner, Washburn and Condon Company.

### CALIFORNIA'S FIRST UNION STOCKYARDS ARE OPEN

The Union Stockyards at Los Angeles are open. Selling began early Wednesday morning. Promptly at 8 a. m. C. H. Hill Company drove a car of 25 Idaho steers on the scales. The average on the load was 1056 pounds and the price was 9c. They went to Wilson & Co.

Campbell & Stewart began selling the Jackson Hole cattle right on the dot. The Hanson steers went to Hauser at 8½c. Wilson took a number of loads from 8½c down to 8c. Hauser took a car of cows at 7c. The Crane Creek Company lambs were the first sold when Wilson & Co. took 4 cars of clipped lambs at 13¼ cents.

At 10 o'clock no hogs had been sold.

### OPPOSING WATER AND POWER ACT

By J. J. Duell, Manager Kern County Farm Bureau

It will be a rancher's viewpoint that I will give you tonight, said J. J. Duell in discussing the proposed five hundred million dollar water and power act at a meeting of ranchers held recently in Rosamond, Antelope Valley. The ranchers are capable of making up their own minds intelligently, and from much thought on the matter some things are very clear to me, as the farmer's representative. While my ideas are not the same as those of the power companies I can not help but reach practically the same conclusion that they did. The act is not a state or people's project in any real sense but rather a political move fostered by private, personal interests for political motives. An unknown governor will appoint an unknown board for an unknown purpose, all in control of this board, as well as its rates and projects. They will have full power to draw on the state treasury or issue further bonds without asking anyone's permission. So far as the farmers are concerned, they will have nothing to say in the appointment of this board, which would be the result of political strength, principally in San Francisco and Los Angeles. The only voice the farmer will have in the matter will be in evidence when the county assessors and tax collectors call to gather the full quota from the farmers.

While the average amount per capita might be $146, the farmer himself would without any question be charged more than this amount, with slim chances of receiving any benefits whatever from the project and if an opportunity to use state power came his way, the rate he would have to pay would be governed by the board controlled by San Francisco and Los Angeles interests.

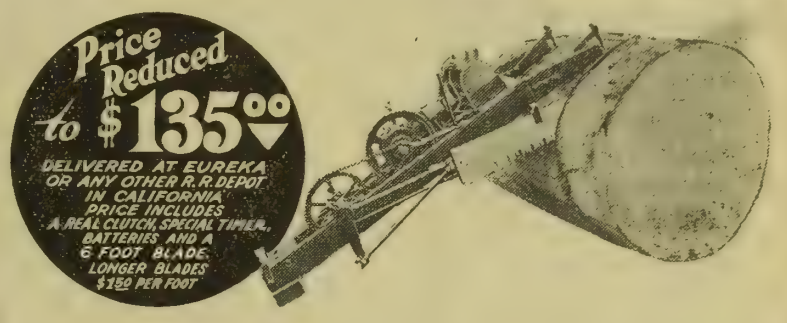
---

Loma Rica and Glen Olive Colonies in Yuba County have set aside a tract of land midway between them for a community recreation center. A dam was built to form a large swimming pool and a small pavilion on its banks. This became the pleasure resort of the district, and it is now planned to erect a hall nearby next year. There is a fine grove of oaks that will be preserved as a park for the neighborhood.


DIAMOND H DRAG SAW

Over 10,000 of This Model in Use

Can be Furnished with Tree Felling Attachment or Demountable Transport


Price Reduced to $135.00
DELIVERED AT EUREKA OR ANY OTHER R.R. DEPOT IN CALIFORNIA
PRICE INCLUDES A REAL CLUTCH, SPECIAL TIMER, BATTERIES AND A 6 FOOT BLADE.
LONGER BLADES $1.50 PER FOOT

Wood Splitting—Pole Saws

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ALL WORK TRACTORS
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carry out the KILLEFER TILLAGE IDEA to perfection. The underground breakage is wide. Far reaching lateral cracks shatter the pan well in to the root system, stimulating its growth without cutting damage.

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MOE'S DOUBLE WALL INSULATED FOUNTAIN

A new high grade fountain, with thick insulated walls. Fresh water at the right temperature makes a healthy flock, and increases the egg yield.

2 Gal. $4.00, 3 Gal. $4.60, 5 Gal. $5.90

Ask your dealer and write for catalogue of Moe's big line of Poultry Yard Fixtures.

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ROUP

It's choking to death thousands of chickens a day. You know the symptoms—face swollen, running at eyes and nose, comb pale, whistle or sneeze when breathing, catarrhal odor. When it attacks your flock—

Stop It Quick with

Conkey's

Roup Remedy

Just put it in the drinking water—chickens doctor themselves. Also use it for prevention.

Conkey's Poultry Tonic
Keeps Hens Healthy—Gets Winter Eggs
It is a Regulator, Laying Tonic, Moulting Powder and Chick Conditioner of the highest type. No cayenne pepper—no filler.
Conkey's Poultry Book is worth 50c to any poultryman. Sent for 6c stamps.

THE G. E. CONKEY CO.
6586 Broadway Cleveland, Ohio

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FOR GREATER EGG PRODUCTION
FULL PARTICULARS IN OUR FREE BOOK
"CHICKENS FROM SHELL TO MARKET"

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FISH BRAND SLICKER
It's the Patented Features
the Special Materials and Workmanship that make the Big Difference

$4.50 EVERYWHERE
A.J. TOWER CO.
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TOWER'S
FISH BRAND

Big Money Boring Wells

One Man One Team

Have water on your own farm. In spare time make wells for your neighbors. It means $1000 extra in ordinary years, double that in dry years. No risk—no experience needed.

Outfits for Getting Water Anywhere
Earth augers, rock drills and combined machines. Engine or horse power. *Write for easy terms and free catalog.*

LISLE MFG. COMPANY
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9 CORDS IN 10 HOURS

BY ONE MAN. It's KING OF THE WOODS. Saves money and backache. Send for FREE catalog No. B25 showing low price and latest improvements. First order gets agency.
Folding Sawing Machine Co., 1005 East 75th St., Chicago, Ill.

When Writing Advertisers Please Mention Cultivator.

# First Lay, Best Pay

By Jean A. Koethen

ONE of the most important problems the poultryman has to solve is the selection of the productive and hence the the profitable pullet as early in her career as is consistent with justice to her and security for himself. If he could go through his flock on the first day of November and say to a certainty which hen will lay and which will not his fortune would be made. As it is, he is forced to wait and watch until time has shown which may be safely culled out of the flock and which will be profitable layers for one, two or three years.

Last year the poultry department of the Sonoma County farm bureau attempted, with the help of two demonstration farms, to prove that early producing pullets are also the heaviest and most consistent layers. Two poultrymen were found who were willing to cooperate in the test, writes Assistant Farm Adviser Melvin W. Buster, one with a flock of 420 pullets and the other with 991. The flock of 420 pullets was culled the 21st of July at 4½ months of age into 140 early maturing and 240 late maturing pullets. A record of their production was kept till the latter part of October when a heavy wind storm wrecked the house and made it necessary to run the two flocks together. According to this record the 140 early maturing pullets made the following per cent of production between the ages of 4½ and 8 months: 4½ to 5 months, 122 eggs, or 8.7 per cent. 5 to 6 months, 1470 eggs, or 34 per cent. 6 to 7 months, 2254 eggs or 54 per cent. 7 to 8 months, 2060 eggs or 47 per cent.

The 280 late maturing pullets laid 4½ to 5 months, 14 eggs, or 5 per cent. 5 to 6 months, 1326 eggs or 15 per cent. 6 to 7 months, 3682 eggs, or 43 per cent. 7 to 8 months, 3220 eggs or 37 per cent.

In other words, one-third of the pullets laid, in the 3½ months, nearly 42 per cent of the eggs produced by the whole flock.

Feed and cost records showed that the 140 early maturing pullets made a net profit of 11 cents per hen while the late maturing pullets for the same period had been carried at a loss of 28 cents per hen. The early maturing pullets had averaged more than a dozen eggs more than the late maturing birds.

### Early Pullets Double Production

The second flock of 991 pullets was culled into approximately equal groups with 495 early maturing and 496 late maturing. Records of this flock, compiled to the end of December, showed an average of 47.8 eggs for the early maturing pullets and 19.2 eggs for the late maturing. The highest production of the late maturing pullets was in September, when an average of 8.6 eggs per hen was secured. The highest production of the early maturing pullets was in October, when an average of 13.1 eggs per hen was reached. In November, when the early maturing pullets laid an average of 8.2 eggs, the late maturing pullets laid an average of 3.4 eggs or less than half.

The above figures are not startling nor conclusive, but they do point to the necessity of careful culling, and the thoughtful reader will immediately ask what was the method of culling followed and how fully can it be depended on.

### Culling for Maturity

Culling of pullets, like the culling of yearling hens, is done with the eye, the ear and the hand. The pullet that is mature at 4½ months has a red, well developed comb, a clear, musical (to the poultryman, at least) voice and glossy plumage. She sings and scratches and may be seen now and again looking for a nest. Perhaps she goes on the nest to see how it fits. She is alert, active and firm of flesh, though not fat. Take her in the hand, and her abdomen feels soft and nicely curved, while her pelvic bones and keel bone are spread well apart. The immature pullet, on the other hand, has an undeveloped comb, the points of the pelvic bones and keel bone are drawn close together, and she behaves more like a growing chick than a laying hen.

Trapnest records made at the Oregon station showed that the hens that made the best record in the year had the best record in the winter period. For example, those that averaged 269 eggs in the year averaged 44.25 eggs to January 31. Professor Dryden, describing the method of culling used at that station, says: The culling of the pullets will be accurate only if certain conditions preceding the culling are observed. First, the different breeds do not come to laying maturity at the same time. Second, the pullets in the flock to be culled should all be of the same age or nearly so. Third, they should have been reared under the same conditions and fed the same ration. "There are several ways in which the picking may be done. With a flashlight the laying pullets, if Leghorns or large combed breed, may be picked off the roost at night. Another way is to use the catching hook and do the work during the day. The most satisfactory way is to use a catching crate. The poultryman with a large flock to cull should know that they are of the same age and have had the same care, and should begin culling when a certain proportion of them are beginning to lay, this depending on whether he wishes to make one, two or more pickings or cullings. If he wishes to make two cullings and the pullets were hatched early in April, he may find in October that 25 per cent of them have the "bloom" which indicates that they are about to lay. These should be put by themselves and will be the very cream of the flock. The second picking should be made about six weeks later, or when about half the flock show signs of laying. In an average flock there will be about 25 per cent that show no signs of laying at that time, judging from their combs and wattles. These should be sent to market. If the poultryman prefers to make but one culling he should do it when about 75 per cent of the flock indicates laying condition.

# Los Angeles County Fair Poultry Awards

When Judge E. C. Brandt of Lee Summitt, Missouri, finished with the big poultry show at Pomona he pronounced it the best he had been called upon to judge this year. He predicted that the 1200 birds shown this time would be doubled for the next show.

Paul C. Kennedy who superintended the exhibit has the utmost confidence of all the breeders, and this year's show was largely a compliment to him. However, the interest was so strong and the treatment so satisfactory that next year's show is sure to be the biggest ever.

The complete list of awards follows:

Barred Rocks—Advance Dahlia Farm, Compton, 1st cock, 1st hen, 1st cockl, 3rd pullet, 1st pen. Golden Fule Poultry Farm, Porterville—1st cockl, second exhibition pullet, first exhibition pullet, 2d cockerel bred pullet, 1st pen. L. B. McNutt, San Gabriel—2d cock, 2d hen, 1st and 3rd pullet.

White Plymouth Rocks—Henry C. Turck, Los Angeles—5th cockl. McNutt, 2d and 3rd cock, 1st pen. H. O. Cady, Los Angeles—1st cockl, 2d and 4th pullet. Mrs. Fred T. White, Chino—1st, 3rd and 5th pullet.

Buff Plymouth Rocks—E. E. Johnson, Los Angeles.—1st and 2d pen.

Partridge Plymouth Rocks—John R. White, Concord.—1st cock, 2d hen, 1st hen, 1st, 2d and 3rd cockl; 1st and 2d pullet.

R. C. Rhode Island Whites—Phil. Lehrback, Los Angeles.—1st cock, 1st hen, 1st cockl, 1st pullet.

S. C. Rhode Island Whites—Geo. Boyes, Pomona.—1st pen. Lehrback—1st cock, 1st hen, 1st cockl, 1st pullet, 2d pen.

Silver Laced Wyandottes—John Jones, Garden Grove.—2d hen, 1st cockl. J. L. Harrison, Pasadena.—1st hen.

Golden Laced Wyandottes—E. G. Teaney, Inglewood.—1st cock, 1st hen.

White Wyandottes—Strathmore White Wyandotte Yards, Oakland.—1st hen, 1st cockl, 1st, 3rd, 4th and 5th pullet, 1st pen. E. G. Teaney, Inglewood—2d hen, 2d cockl, 2d pullet.

Columbia Wyandottes—L. A. Lee, Inglewood.—1st cockl, 1st pullet, 1st pen.

Partridge Wyandottes—Chas. N. Bottigger, San Diego.—2d cock, 2d hen. Teaney—1st cock, 1st hen, 1st pullet, 1st pen.

Black Javas—Turck—1st hen, 1st cockl, 1st pullet.

Jersey Black Giants—E. T. Palmer, Ontario.—1st cock, 1st, 2d and 3rd pullet.

Rose Comb Rhode Island Reds—Leonard Peterson, Pomona.—2d cock, 5th cockl, 4th pullet. Sands Brothers, Pasadena.—1st and 4th cock, 5th hen, 3rd hen, 3rd pullet, 4th cockl, 1st cockl. Lester Payne, Pomona.—3rd cock, 2d and 4th hen, 2d cockl, 1st and 5th pullet, 1st pen. Geo. L. Ashton, Los Angeles.—1st hen. B. M. Billings, Glendale.—3rd cockl. R. M. Tincher, El Monte.—2d pullet.

Single Comb Rhode Island Reds—Dahlia Farm.—4th pullet. E. O. Tucker, Saticoy.—4th and 5th pen. A. G. Lyons, Los Angeles.—3rd cock, 1st hen, 1st cockl, 3rd pullet. Geo. Albert Sly, Los Angeles.—2d cock, 2d and 3rd hen, 3rd pullet. Lawrence O'Neil—4th hen. Ashton.—1st cock, 5th hen, 1st and 2d pullet. A. A. Kirk—5th cock, 2d cockl. J. D. Jackman, Ontario.—3rd cockl. Ferd Heying, Anaheim.—4th cock, 4th cockl, 5th cockl, 3rd and 2d pen. Billings.—1st pen.

Capons—Mrs. M. L. Ames, Dinuba.—4th prize; Pekin & Koenig, 2d and 3rd; Wm. E. Landon, San Dimas, 1st.

Light Brahmas—Mrs. Walter A. Babb.—1st cock, 1st hen, 3rd and 4th cockl, 1st, 2d and 3rd pullet, 1st, 3rd and 4th pen. Robt. H. Walker, Los Angeles.—1st, 2d and 5th cockl, 2d pen.

Black Langshans—O. S. Proctor, Baldwin Park.—1st cock. E. J. Hepp, Orange.—1st pullet.

White Langshans—Hepp.—1st pullet.

Blue Andalusians—G. G. Greenawalt, El Monte.—1st and 4th hen, 2d cockl, 1st cockl, 1st pullet, 1st pen. H. E. Belcher, Los Angeles.—1st cock, 3rd hen, 2d hen, 3rd and 4th cockl, 2d and 3rd pullet, 2d pen.

Dark Single Comb Brown Leghorns—Mrs. P. J. Peltier, Compton.—1st cock, 1st and 2d hen, 1st, 2d and 3rd cockl, 1st, 2d and 3rd pullet, 1st pen.

Light Single Comb Brown Leghorns—Peltier.—1st hen, 1st cockl.

Single Comb White Leghorns—R. M. Bellows, Arcadia.—5th pullet, 5th pen. A. H. Witman, Pomona, 4th pen. Herbert R. Howell, Santa Ana—2d cockl, 3rd and 1st pullet. R. A. Whitaker, Lakeside.—5th and 3rd cock, 2d hen, 1st, 4th and 5th cockl, 2d and 1st pen. Peltier.—2d, 1st and 4th cock, 4th and 3rd hen, 1st hen, 3rd cockl, 4th pullet, 2d pullet, 3rd pen.

Sicilian Buttercups—A. L. Cavanagh, Sawtelle.—2d cock, 1st cock, 1st hen, 2d hen, 1st cockl, 1st pullet, 3rd pullet, 3rd pen, 1st pen. W. A. Duckey, Chino.—4th cockl, 3rd cockl, 4th pullet. James A. Frazer-Duane, Los Angeles.—4th pen. Mrs. K. L. Gregg, Otay.—2d cock, 2d pullet, 2d pen.

Single Comb Buff Leghorns—Manuel Roberts, Concord.—1st cockl, 4th pullet, 2d pen. W. L. Bartholomew, Chino.—1st cock, 3rd hen, 4th, 3rd and 2d cockl, 2d pullet, 1st pullet, 1st pen.

Single Comb Black Minorcas—Frank McConnell, Garden Grove.—2d cockl, 1st pen. J. F. Whipple, San Rafael.—1st hen, 3rd cockl, 1st cockl, 3rd pullet, 1st pullet, 2d pullet.

Anconas—H. D. Lanfair, Sawtelle.—1st cock, 1st, 2d, 3rd and 4th cockl, 3rd pullet. Rose Lawn Ancona Ranch, San Gabriel.—5th cock, 3rd hen, 5th cockl, 2d pullet, 1st pullet, 1st pen. Alvin Block, Costa Mesa.—2d hen. 1st hen, 4th pullet, 5th pullet, 2d pen. A. R. Cooper, Arcadia, 3rd pen.

Silver Campines—Chas. N. Bottiger, San Diego.—1st cockl, 1st pen, 2d pen.

Rose Comb Redcaps—Ernest A. Payne, Ontario.—3rd cockl, 3rd pullet.

Single Comb Buff Orpingtons—W. W. Whitney, Pasadena.—2d cock, 1st cock, 3rd hen, 1st hen, 2d hen, 1st, 2d and 3rd cockl, 5th pen, 1st and 2d pen, 3rd and 4th pen.

Red Speckled Sussex—A. Adderly, San Diego.—1st cock, 1st hen, 1st pullet, 2d pullet.

Single Comb White Orpingtons—Mrs. S. Ratekin, La Verne.—1st cock, 1st pullet.

Laying Yard—Geo. C. England, Inglewood, 1st; R. A. Whitaker, Lakeside, 2d and 3rd; Alvin E. Block, Costa Mesa, 4th; E. A. Weaver, Pasadena, 5th.

Lakenvelders—H. P. Sheets, Pomona.—3rd pen.

French Mottled Houdans—Mrs. B. Hocking, Los Angeles.—1st cock, 1st hen.

White Favorelles—Mrs M. Doherty, Pomona.—2d pullet, 1st pullet.

Dark Cornish Games—George V. Bushnell, Monrovia.—1st hen, 1st cockl, 1st pullet, 1st pen.

Turkos—Dr. Geo. H. Dobson, Santa Ana.—1st cock, 1st pullet, 2d pullet.

Red Cuban Games—C. P. Cunningham, Santa Ana.—1st cock, 1st hen.

War Horse Games—Cunningham.—1st cock, 1st hen.

Black Bare Neck Bantam—Lehrback.—1st cock, 1st hen, 2d hen, 1st pullet.

White Bare Neck Bantam—Lehrback, 1st cock, 1st cockl, 2d cockl.

Golden Head Bare Neck—Lehrback.—1st cock.

Pearl Guineas—David Porter, Pomona.—1st, 2d and 3rd cock, 1st, 2d and 3rd hen.

Poultry Supplies
Incubators
Hovers
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# Poultrymen's Guide

The value of chickens and eggs produced in California (1919 census) was $34,727,935.00. There is poultry on 92,409 farms in the state—78.5 of all farms. January 1, 1920, poultry of all kinds on farms in California numbered 10,811,183, a gain of 4.723,916 since 1910, indicating the rapid and important development of the industry. At the present prices of eggs, hens and baby chicks and the big demand upon hatcheries for more stock it is wise to order early. The representative advertisers whose announcements appear below are recommended to prospective purchasers.

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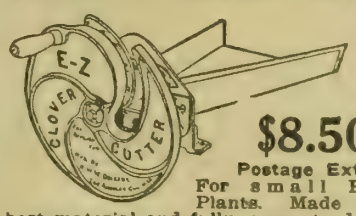


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**Strawberry Plants,** Brandywine, Gibson, Carolina $5 per M. Banner $10—from new planting, all stock inspected. E. A. King, 1158 W. 4th St., Riverside.

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**For Sale**—Rooted grape vines. Y. Lee, P. O. Box 270, Delano, California.

**100,000 Pearl Cauliflower Plants** $2.00 per 1,000. A. E. Nelson, El Monte, Calif.

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**For Rent**—Fully equipped stocked and going poultry ranch and hatchery in the fastest growing poultry section of the state, Stanislaus County, where soil and climate are ideal. Party renting must be able to buy the stock. Will lease for one, two or three years with option of buying. Alfalfa, fruit, berries and asparagus. For particulars address Box FL Cutivator, Los Angeles.

## CATTLE

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aaggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

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### FOR WATER AND POWER ACT

**By John A. Livingston, President Placer County Farm Bureau**

I am for the water and power amendment because I see in it not only tremendous economic advantages but because it assures to the people the retention of their richest resources.

This measure is the biggest thing in the state of California. It will preserve and retain in the hands of the people their great heritage, their water and their power possibilities.

The water and power act will enable any community with the aid of state credit to secure its own water and power system or both if that is desirable. It is bound to give the people both water and power at greatly reduced prices.

According to available statistics under this plan, the people should secure under the proposed system water and power at one-third the present prices charged by the corporations.

This act is of vital importance to the farmers. It will make it possible to convert into fertile farms, lands which are now practically desert or at best but poorly developed. It will people these lands with happy and prosperous citizens, owning their own homes.

This will be accomplished without increased taxation. It will bring about the reduction of taxes by increasing the taxable wealth of the state.

Modesto is a shining example of what the application of water will do to a community. This measure will permit the development of vast areas of land which now cannot be irrigated. The farmers must get behind this act. They must not permit the power companies' propaganda to fool them.


### TREES

**Get My Prices** on Japanese persimmons, Kadota and Black San Pedro figs, Concord grapes, Muscats, Malagas and Thompson Seedless, rooted and Black Monukka cuttings. Nursery stock growing at El Monte, and Vista near San Diego. Easily accessible to Southern planters. Good stock at right prices. Fred W. Kelsey, El Monte, Cal.

**Grafted Walnut Trees** on Northern California black roots, scions carefully selected from best bearing parent trees, grown under expert supervision. First class in every respect. Placentia perfection, Eureka, Payne. Reasonable prices. Los Nietos Valley Nursery, Downey, California. Phone 692.

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**For Sale**—Florida Sour Orange Seed Bed Stock, from fruit growers seed. All leading varieties avocados, grafted Placentia walnuts. Mathers' Avocado Nursery, Pasadena. P. O. Box 585. Phone Colorado 6044.

**Trees and Plants**—All kinds, Berries and Small Fruits a specialty at lowest prices. Over 25 years in business. Send for price list. M. J. Moniz, Berry Specialist, P. O. Box 264, Sebastopol, California.

**For Sale Grafted Walnut Trees** for sea-rus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E 4th Street, Santa Ana, California. Phone 572-W.

**For Sale**—General line of nursery stock and vines. Special attention to the needs of the home lot planter. Send for price list. McFeely Nurseries, Chico, California.

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**For Sale**—Elberta Peach Trees, only 600 left, all 5 to 7 feet high, peach root. F. A. Tetley & Son, Riverside, California.

**Tree Agents** and working partner wanted. Cash Nursery, Sebastopol, Cal.

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**Wanted to Buy** dried fruit and walnuts and honey. Please send samples and state quantity and your idea of price. W. A. Collins, Box 397, Packing House at Santa Fe Depot, Santa Ana, California.

**Wanted**—New crop walnut meats and cull walnuts. Fred L. Mitchell & Son, 214 French St., Santa Ana, Cal.

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# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Sulphured Dog

Our dog had the misfortune to get shut in the sulphur house for about ten minutes. He was very bad for about two weeks but is well again except that he has had spells of coughing. Is there anything that we can give him that will help him? Do you think he will ever be quite right again?—Subscriber, Sanger.

Poor fellow, his throat and lungs will probably be sensitive for some time. Get four ounces of Syrup of Cocillana Compound (P. D.) and give a teaspoon of it once a day while it lasts. He will probably get over it.

### Lump Jaw

One of our milk cows has a lump on her lower jaw that is hard and we fear that it may be lump jaw. We have rubbed it with turpentine and olive oil and it has bursted once but does not disappear. What is the proper treatment for it?—Subscriber Lompoc.

Examine the teeth right over the lump and if any are loose take them out and clean the hole once a day until it heals. Paint the lump with strong tincture of iodine once a day and give her half a dram of iodide of potash in the feed once a day for three weeks. If this does not cure her repeat the treatment after a period of two or three more weeks. The lump will probably be slow in going away as bone diseases do not yield quickly to treatment.

### Leaky Teat

What can be done with a cow with a leaky teat? The leakage occurs only when the cow lies down.—Subscriber, Inglewood.

Very little can be done except to keep her milked out so the udder will not get too full. Any operation that would tend to close the opening would probably do more harm than good.

### Fails to Breed

I have a five year old Holstein cow that I am unable to get with calf. Have bred her four times. What can I do for her? Does it ever happen that a cow will come in heat after she is with calf?—Subscriber, Inglewood.

In very rare cases they do come in heat after being with calf. When she comes in heat again drive or lead her five or ten miles and warm her up well before breeding her.


# Vote Yes on Number 19

## THE CALIFORNIA WATER AND POWER AMENDMENT

The definite movement for the California Water and Power Act started at the convention of the League of California Municipalities held at Chico in 1920. The convention appointed a committee to draft such a measure, which at the 1921 session of the Legislature passed the Senate with only one vote being cast against it. The power company machine succeeded in defeating it in the Assembly by a narrow margin of four votes. Public spirited citizens, in conjunction with the League of California Municipalities, therefore resorted to the initiative. Three months were spent in working out the measure that finally went on the ballot.

GIFFORD PINCHOT, recognized authority on the nation's water resources, and Roosevelt's advisor in such matters, has declared it to be the best measure of the kind ever drawn.

The amendment has the support of men of the type of Senator James D. Phelan, Dr. David Starr Jordan, Rudolph Spreckels, Francis J. Heney, Hon. William Kent, Dr. W. H. Walker and Judge Frank S. Brittain, respectively president and attorney for the California Farm Bureau Federation; Senator L. L. Dennett, state authority on irrigation problems; William Mulholland, builder of the Los Angeles aqueduct; J. M. Henderson, Jr., president Associated Dairymen of California; Wylie M. Giffin, president California Raisin Grower's Association; F. H. Wilson, president California Peach Grower's Association, and the informed California public, loyal to the State and its best development.

The amendment is being vigorously opposed by the power companies and their allies, who are employing newspaper advertising, the mails and every other agency of publicity to misrepresent the amendment to the public. The same group resorted to the same methods of misrepresentation to defeat the King Tax Equalization Bill at the last session of the Legislature. They failed to defeat the King bill, and they will fail to defeat the California Water and Power Amendment.

A vote for the California Water and Power Amendment is a vote for

Lower Rates for Water
Lower Rates for Electricity
Lower Taxes

# Vote Yes on Number 19

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# Poultry Queries

(Conducted by Jean A. Koethen)

### Tomatoes and Melons

Please tell me your opinion as to the harm or benefit from feeding tomatoes, watermelons and cracked acorns to hens.—Subscriber, Los Molinos.

With acorns I have no experience and should be glad to hear from those who have tried them. My impression is that they contain too much fat for a laying ration, unless used very moderately. Tomatoes and watermelons are good in limited quantity but can easily be overdone. For a backyard flock the ordinary kitchen waste is all right, but when either tomatoes or watermelons are fed in large quantities the hens fill up on them and the egg basket suffers. Watermelons are practically all water, and while tomatoes are valuable for the vitamins they contain there is very little egg material in them. Reports have come to this column in other years of whole flocks that stopped laying when fed cull tomatoes liberally. If you want eggs you must give egg material, and that is contained in grain and milk and meat and not to any extent in greens or fruit.

### A Promising Layer

I have a pullet (R. I. Red) hatched in March, that laid her first egg Sunday, September 24. She laid 6 eggs in September, and 13 in October, up to the 16th. If she keeps on she may equal Lady Dryden, the Barred Rock pullet champion, and she has had neither extra care nor lights at 4 a. m. My R. I. Red chicks, just hatched are very light. Will they be darker later on?—Subscriber, Claremont.

They will darken as they get their feathers. No Red chick is red when it comes out of the shell.

### Alfalfa for Hens

Does alfalfa make as good green feed as kale or barley?—Subscriber, Claremont.

Alfalfa is the very best green feed. If you have it you need nothing else from May to October. For winter use either kale or barley. Many poultrymen depend on barley for winter feeding because it grows rapidly and can be cut several times. but a patch of kale is a good thing to fall back on in a dry winter.

### Excess of Protein

I have been feeding my hens the following mash: 600 pounds red bran, 400 red dog flour, 200 ground barley, 300 corn meal, 300 meat meal, 100 oil meal, 100 peanut meal, 100 bone meal, 50 charcoal and 10 salt. About a month ago I added to this 5 per cent dried milk. Yesterday I picked up a dead hen in the yard. Today I found one dead on the roost and have three that do not look right. One has distended crop full of water. I have given the whole bunch a dose of salts. Is my mash too rich?—Subscriber, Van Nuys.

The protein feeds, meat, oilmeal and peanut meal were about 27 per cent of the weight of the mash before you added the dried milk, which brought it up to 32 per cent. This is at least twice as much as you should have. You say, "If I had added whole milk I would not diminish the meat content." Possibly not, though when unlimited milk is available the meat content. is often diminished, but remember, whole milk is 90 per cent water, while dried milk is only 11 per cent water. As this rich mash has no doubt sorely tried the digestive organs of your hens it would be a good plan to take it away from them entirely for a week or so, keeping plain bran before them instead. When you give them the mash again add 50 per cent bran. The dose of salts was all right, and you might give another in a week, allowing one-half teaspoon to each bird. Mix it in a little moist mash so that each bird gets her share.

### Feeding Chicks

Where can I get literature which will tell me how to feed baby chicks? A friend told me to feed only sand and water the first day, then add clabbered milk for a day or two, then chick feed. Is this advice sound? My chicken house faces south but is open. Shall I close it? I suppose the chicks will require a heated hover.—Subscriber, Hemet.

Close the front of your house with tarred paper. It can be removed when the chicks are grown. As you do not say how many chicks you expect I can hardly advise about the hover, but you should certainly have one, and you will find the electric hovers adapted to any house. If you must manage with something cheaper you could get along for this one brooding with a small coal or wood stove and boxes in which the chicks can be covered with pieces of quilt or old blankets. You had better write the college of agriculture at Berkeley for Circular No. 99 (or some later publication, if they have it) on the hatching and rearing of chicks. Grit and water are all right for the first day in the brooder, but I should put chick feed before them the second day in a little tray and keep it before them till they have learned to eat. They can have the clabbered milk in fountains. If you have only a few chicks you will find that the time honored nursery ration of chopped hard boiled egg and dry bread gives them a splendid start. A mash is put before them for a short time each day after the first five or six days but it is not left before them all the time till they are from two to three months old. You will find a commercial chick mash the first three weeks and after that a comcercial growing mash a great saving of trouble, and there are many good mashes on the market.

### Sore Legs

My turkeys have a disease of the legs. When I apply coal oil they swell up and when I scrape them a yellow loose stuff comes off. What is it and how can I treat it?—Subscriber, San Joaquin.

I do not know what this disease can be. If it starts in the feet it may be scaly leg. I am afraid you are making it worse by using kerosene, which is very irritating. If there are loose scales on the feet soak them in warm, soapy water, and rub with balsam of Peru. If only the legs are affected paint with iodine every other day. Iodine is a safe remedy for any kind of sore.

### Roupy Pullets

My six months old pullets have what seems to be a cold. Wattles swell, windpipe becomes choked with a slimy substance, split in roof of mouth is continually filling with corruption, one side of face swells so that eye is closed. House is cleaned and sprayed heavily every week, droppings boards cleaned every morning. There are no drafts on the roosts.—Subscriber, Inglewood.

The swelling of the wattles is unusual, but the disease is evidently roup. If there seems to be an abscess on the swollen side of the face you will have to open it and cleanse with peroxide of hydrogen diluted half and half with water. Then spray all mucus surfaces with the following solution: Extract of witch hazel, 4 tablespoons;


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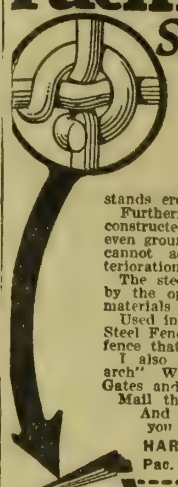

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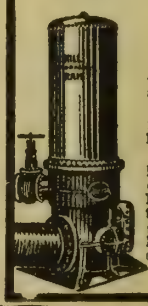
with no cost for pumping. Make it lift itself from lower to higher levels by the powerful, efficient

HILL HYDRAULIC RAM



the pump that's run by water—no fuel, no watching—operates day and night.

Made in 12 sizes, 1 inch to 24 inches, house supply to large irrigation units.

Our engineers will advise you how to install for highest efficiency. Write for Catalog R-2 for irrigation size. R-1 for smaller domestic water supply. Free. Address Seattle Machine Works, 51 W. Lander St., Seattle, Wn.



GLADDING, McBEAN & CO.
SEND FOR PRICE LIST
CLAY PRODUCTS
PERMANENT PIPE FOR IRRIGATION DRAINAGE CULVERTS SEWERAGE
CROCKER BLDG. SAN FRANCISCO
WORKS—LINCOLN, CAL.

liquid carbolic acid, 3 drops; water, 2 tablespoons. Use the spray twice a day till the symptoms abate. An easier treatment is to dip the head twice a day in a weak solution of potassium permanganate. Dr. Salmon recommends washing cavities of nostrils and throat with peroxide of hydrogen diluted 1 to 3 times with water. If the eyes are swollen and sticky they should be washed with a boric acid solution. But you will never rid your flock of roup till you have remedied the cause, whatever it is. You say there are no drafts. Are you sure there is sufficient ventilation and that you have no more birds in the house than can roost comfortably? Crowding of chickens into a poorly ventilated house is one of the most frequent causes of roup.

### Chicken Pox

Recently light colored scabs have formed on the heads of some of our young turkeys and now it has spread to the eyes and they are partially blind. Is this chicken pox? If so, what is the cause, the cure, and is there a preventive?—Subscriber, Chino.

If I could answer all these questions I would be doing the poultry industry a great service. Nobody quite understands the cause of chicken pox. It is very contagious, but some poultrymen believe it has its beginning, in some flocks at least, in digestive disorders due to heavy feeding. For this reason sulphur is sometimes recommended as a cure. The following formula was given me by a turkey breeder of considerable experience who said she had cured some bad cases with it and had never lost a case: Mix and grind 2½ pounds nitrate of soda, 2½ pounds copperas and 2½ pounds Epsom salts. To this add 2½ pounds powdered sulphur, 3¾ pounds dairy salt, 2 pounds carbonate of soda, ½ pound ground ginger and ½ pound carbonate of magnesia. Add 12½ pounds dry bone meal, and 12½ pounds fine charcoal to the mixture. Mix about 5 pounds of the above with 50 pounds mash for 100 turkeys. When this is gone mix 1" pounds of the mixture with 50 pounds mash and then a third time 6 to 10 pounds of the tonic with 50 pounds mash. Carbolated vaseline is rubbed on head and wattles.

### Sick Ducklings

Why do my baby ducklings get diarrhea? I feed them bran, grit, rolled oats, mixed with sour milk, and a very little water.—Subscriber, Maywood.

I suspect it is partly lack of water that makes them sick. Ducklings need water with every meal, but it should not be very cold nor left for them to play in between meals. Their feed should be moistened with water instead of milk. The first day or so after hatching bread crumbs or cracker crumbs scattered on a board with sand is sufficient. When you begin their regular meals on the third day give bran moistened till it is crumbly, with at least 10 per cent sand or chick grit added. Feed this on the board four or five times a day. After a week or ten days a little corn meal may be added and the amount increased till the ration is equal parts bran and corn meal. Never omit the sand in the feed nor the water to wash it down with. Some breeders add chopped alfalfa or other greens to the mash from the start; others give no green the first week, but make it 25 per cent or more of the ration after the first week.

## BABY CHICKS TRAVEL SAFELY TO MEXICO

The shipping of day old chicks has grown to be an important industry. Every hatching season sees an increase of thousands of orders from poultrymen and farmers who appreciate the convenience of having their hatching problems looked after by experts. The baby chicks are shipped in comfortable containers and arrive at their future homes ready to take up the business of growing and producing.

Successful shipments are reported even to points in Mexico. The Superior Egg Farm at Anaheim recently sent by express 34 day old chicks to Empalme, Sonora, Mexico. They left Anaheim at 4 p. m. Wednesday and arrived in Sonora, Mexico, Saturday at 6:30 p. m. Every chick arrived safely and every one lived. Another shipment of 54 left October 3 and arrived in three days, all alive and well. Regulation cardboard shipping boxes were used, no feed being given. California poultry is being sent to within a 75 hour radius of Los Angeles which includes practically everything west of Chicago.

## POULTRYMAN'S CALENDAR—NOVEMBER, FATTENING FOR MARKET

November work with the pullets consists mainly in intensifying the work of the preceding months. Every pullet hatched before May ought to be laying in November, and careful feeding is tremendously important. A good laying mash, a mixed grain feed, abundant greens, are the essentials of the November ration. To this should be added if possible a daily meal of mash moistened with sour milk and a part of a meal at least of sprouted oats or barley. Some poultrymen feed sprouted grain for breakfast; others make it part of the evening grain ration.

With Thanksgiving so near, the first of November will see all birds that are to be marketed on a special fattening ration. This consists of moist mash fed two or three times a day and cracked corn for at least the grain ration. Equal parts corn meal, ground barley or ground oats and middlings, moistened with sour milk makes an excellent ration for fattening, and may be fed as often as the birds can take it without too much loosening of the bowels. Twice a day is best for most birds, but it may be given three times a day the last week.

To fatten turkeys begin in October by adding a little cracked yellow corn to the ration of wheat and barley. When the birds are accustomed to cracked corn, begin to change to whole corn and gradually diminish the amount of other grain.

## COCKEREL AUCTION SALE

Tulare poultrymen have staged a cockerel auction at the fair grounds on November 22. Every bird consigned has with it a sworn statement of breed and egg record of dam and sire's dam. The Leghorns have back of them 250 egg or better stock, on both sides. The heavier fowls are from 225 egg stock. All the birds will be on exhibition at the sales pavilion at the Tulare fair grounds for three days before the sale. Birds are consigned to the sale by breeders in California, Washington and Oregon.

## MARICOPA COUNTY POULTRY SHOW

The ninth annual show of the Maricopa County Poultry Association will be held at Glendale, Arizona, December 6-9.


NEW TANNING DISCOVERY MAKES

WOLVERINE!

The 1000 Mile Shoe

*It will be three years this Fall since I bought Wolverine shoes, and they are good yet. I wore them most of the time. They are the best fitting and easiest walking shoes I have ever worn. They are certainly made to stand the wear and tear such as farmers give shoes. They are always soft and pliable, in Winter and Summer.*

*Walter Hoff, West Saginaw, Mich.*

*Double Tanned Horsehide Through and Through*

# No Leather in the World Like This—*Stays* Soft

The Wolverine brings a new era in shoemaking. For we specialists have perfected a secret process of tanning that means better workshoes than any known before.

The leather in the Wolverine stays soft. It does not dry out after wetting like a hard board, as other leather does. After every soaking it dries out as velvety soft as new buckskin. Thus permanent comfort is assured. And this new-day leather wears longer than men thought possible! No other leather in the world is like it.

We make this leather from horse hide by our secret process in our own tannery. Horse hide is the toughest, longest-wearing leather known — the leather used for Cossack saddles and for baseball covers because it is the only leather that will stand the pounding. Yet we give this thick, tough leather almost the softness of velvet. It stays soft. And we increase its natural wear-resisting powers. It wears and wears and wears.

**WOLVERINE**
**Comfort Shoe**

This Wolverine is so pliable and soft you can double it up like a moccasin. It wears like iron but you'll hardly know you have a shoe on, it is so soft and easy.

For tender feet, or where you do not encounter wet weather, wear this Comfort Shoe. A blessing to the feet.

And, when you consider how they wear, these new-day shoes are very low priced. For we effect very large economies through the operation of our own tannery.

## For Every Work Use

For field and factory, for forest and mine, for oil field, camp and motor — for every use there is a Wolverine model to outlast rough work and give perfect comfort always.

If your dealer does not have the Wolverine we will see that you are supplied. Send the coupon for catalog.

**MICHIGAN SHOEMAKERS**
**Dept. 159 Rockford, Mich.**

Michigan Shoemakers,
Dept. 159, Rockford, Mich.

Please send me name of nearest Wolverine dealer and free catalog.

Name .....

Address .....

P. O. and State .....

My dealer is .....

# Los Angeles Markets

Los Angeles, November 1, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 51 cents.

| | | | | | | |
|---|---|---|---|---|---|---|
| October | 25 | 26 | 27 | 28 | 30 | 31 |
| | 48 | 49 | 49 | 49 | 50 | 51 |

### CHEESE

Brokers' prices:
California flats, 22@25.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 53; case count, 55; pullets, 45; pewee pullets, 28.

Prices Fresh Extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| October | 25 | 26 | 27 | 28 | 30 | 31 |
| | 62 | 60 | 60 | 60 | 60 | 58 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 24; colored, 30; broilers, 36; roasters, 26; old roosters, 14; fryers, 28; ducks, old, 20; ducklings Pekin, 3½ up, 24, others, 22; geese, 20; turkeys, live, young toms, 33; dr., 38; old, live, 31; dr., 36; hens, live, 32; dr., 37; small hen and tom, 15; squabs, 25@50; capons, 43.

Belgian hares, 11@17; old, 8.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, October 31 by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement moderate, market dull. Northerns: Rivers, 1.50@1.75; poorer, low as 1.40 cwt. Idahos: Russets, 1.65@1.75 cwt. Sweet Potatoes: Locals, Nancy Halls, 2@3 lb. Jerseys, 2@2½ lb. Northerns: Nancy Halls, 3 lb.

Onions: Demand and movement moderate, market firm. Stocktons: Yellow and White, 2.00@2.25 per cwt. Locals: Whites, 60@75; Spanish, 75@80 lug. Garlic: Mex. and Northern, best, 6; poorer, 5.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, October 31, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Artichokes: Doz., 1.25@1.50; small, 1.00.

Beans: San Pedro: Kentucky Wonders, 6½; Limas, 6.

Bunched Vegetables: Per dozen bunches: Trunips, carrots, beets parsnips, 30. Parsley, onions and radishes, 15; spinach, 25.

Cabbage: Market dull, quality generally good. Field cr., best mostly 3.00@3.25.

Cauliflower: Per doz., 1.25; large sizes, 1.50@1.75.

Cucumbers: Local, lug, 1.65@2.00.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals, Northern, best, 2.50@3.00; poorer, 2.00.

Corn: Green, local, best, lug, 90@1.00.

Eggplant: Local, 2½ lb.

Lettuce: Market steady. Locals: Ordinary, leafy, 75@90 cr.; best, 1.00@1.15.

Okra: Lb., best, small, 12@14.

Peas: Best, Northern, lb., few best, 12@13; poorer, 8@9.

Peppers: Locals: Bells, mostly, 4½; Chilis, 3½ lb.; Cherry and Floral Gem, 12@13; Pimentos, 3½@4½.

Sacked Vegetables: Per sack. Beets and Carrots, 1.00; Turnips, 1.25.

Squash: Market steady. Locals: Summer, lugs, 50@65; Italian, lugs, 90@1.00; Hubbard, 2 lb.

Tomatoes: Demand moderate, movement slow, market dull. San Pedro: Lugs, best, ripe, 1.00@1.25; poorer low as 75@90.

### FRESH FRUIT

These are actual prices obtained October 31 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Bellefleurs, fancy, 3½ tier, 1.30@1.40; 4 tier, 1.35@1.50; loose, 3@3½ lb. Locals: loose, Jonathans, 3½; Delicious, 5@6 lb. Utahs: Jonathans, Joose, 3½@4 lb. Winter Bananas, 5 lb. Washingtons: Jonathans, packed, extra fancy, 2.25; fancy, 2.00 box. Oregons: Delicious, fancy, loose, 7@8 lb.

Casabas: Local and Northern, 1.25@1.50.

Cranberries: Cape Cods, 14.00@15.00 per barrel; half barrel crates, 7.00@7.75.

Grapes: Demand good, market unsettled. Locals and Northerns: Muscats, 5@6; poorer, 3½@4; Missions and Zinfandels, 5@6; poorer, 3@4 lb. Malagas, 4½@5. Tokays, 6½. Cornichons and Black Morocco, 6@7; poorer, 4@5. Red Emperor, 6@6½.

Melons: Demand moderate, market dull. Locals and Northerns: 50@1.00 cwt. Persians: 2½@3 lb.

Peaches: Market steady. Locals and Northerns, best, 4@5; poorer, 2@3.

Pears: Demand good, market firm. Northerns and Locals: Bartletts, best, 6@7; ripe, 3@5.

Persimmons: Lb., 8@10.

Pomegranates: Lb., 6@7.

### CITRUS FRUIT

Grapefruit: Arizonas, 65-96 sizes, 5.50@6.00.

Lemons: Demand and movement light, market steady. Special brands, fancy, 9@10; choice, 6.50@8.50.

Oranges: Demand moderate, market steady. Valencias, special brands, $10@11 according to size.

### HONEY

Colonies generally in good condition for winter. Nectar yield from alfalfa reported unusually light. Demand and movement of honey barely moderate with relatively few inquiries for carlots. Market firm and many beekeepers and shippers reported holding for higher prices, expecting a general advance due to the tariff. Carlots for outside shipment ranged per pound as follows: White Orange 10@10½ cents; one car sold locally at 9 cents. White Sage, 8¼@8¾; one car 9¼ cents. Light Amber Sage, 6½@7 cents; Light Amber Alfalfa, 6¼@6½ cents. Beeswax: Cash to growers 20 cents per pound.

### WALNUTS

Prices named by the California Walnut Growers Association on last Tuesday are: No. 1, 22½; No. 2, 17½, and fancy budded, 26. Last year's closing price for No. 1 was 27. The market opened at 24½, but only stood at that point for a day, strengthening immediately and moving up to 27.

### BEANS

California Lima Bean Growers Association, October 28:

Prices on all varieties have moved upward in October on California, Michigan, Colorado, New York and Idaho beans, on some varieties three cents per pound. Week ending October 28 was best of the season for California Lima Bean Growers Association, sales amounting to nearly 30,000 bags this week at prices ranging from 9.00 to 9.10 for Baby Limas and 7.75 to 7.95 on regular Limas. It cannot be expected that the market will continue to be as active during November as it was during October. The limited remaining stocks could not stand an equal sales demand, and November is normally quieter than the October market on Limas and Baby Limas particularly. Investigation seems to show that about 80 per cent of the Limas, and 95 per cent of the Baby Limas are already gone from the growers hands (outside of association holdings), and the harvest completed. This creates a strong situation when combined with light stocks and promises a firm and further advancing market as the season progresses, although the next few weeks may be relatively quiet.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

Prices quoted f. o. b. L. A. to producers:

| | |
|---|---|
| Tame Oat | 20.00@22.00 |
| Barley Hay | 16.00@18.00 |
| Rabbit Alfalfa | 24.00@26.00 |
| No. 1 Dairy | 22.00@24.00 |
| Standard Alfalfa | 16.00@18.00 |
| Wheat Straw | 8.00@10.00 |
| Barley Straw | 7.00@ 9.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around $22 as a fair average. No. 1 dairy is varying from $15 to $17 with $16 as a mean or average price. Standard alfalfa is not much in evidence. Few offer it; fewer want to buy. If sold it brings from $10 up.

# San Francisco Markets

San Francisco, October 31, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras (Nov. 1) | 50 |
| Prime Firsts | 46 |

Prices Extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| Oct. | 25 | 26 | 27 | 28 | 30 | 31 |
| | 48½ | 49 | 49½ | .... | 50 | 50 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats | 24½ |
| Oregon Trips | 25 |
| Oregon Young America | 27 |
| Cal. Y A. fy. (Nov. 1) | 27½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras (Nov. 1) | 67½ |
| Extra Pullets (Nov. 1) | 46½ |
| Undersized Pullets No. 1 | 35½ |

Prices California Extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| Oct. | 25 | 26 | 27 | 28 | 30 | 31 |
| | 70½ | 69 | .... | .... | 68½ | 67½ |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of October 30 by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers: 1 to 1¼ lbs. 36@40 per lb. Very fancy, 42@44 per lb. 1½ to 1¾ lbs., 32@35 per lb. Colored, 28@30 per lb.

Fryers: Leghorn, 2 lbs., 28@30 per lb. Colored 2 to 3¼ lbs., 28@30 per lb.

Young Roosters: Colored, 3½ lbs. and up, 28@30 per lb. Staggy, showing spurs, 21@23 per lb.

Colored Old Roosters: 17@18 per lb. Leghorn old roosters: 14@15 per lb. Leghorn hens: 2½ to 3 lbs. 18@20 per lb. 3 lbs. and over, 22@25 per lb. Large colored hens: 28@29 per lb. Off stock 26@27 per lb.

Ducks: Young, 18 to 20c per lb. Off stock, 10 to 15c per lb.

Geese: Young, 20 to 22c per lb. according to quality.

Live Turkeys: Old, 32 to 35c per lb. Spring 36@40 per lb. Dressed turkeys nominal.

Belgian Hare: Live, 15 to 18c per lb. Dressed 18 to 23c per lb.

Jack Rabbits: $2 to $2.50 per doz.

Squabs: Live, fancy, 50 to 52c per lb. Common, $3 to $3.50 per doz. Old pigeons, 2.50 to 3.00 per doz.

Guinea Fowls: Young, 8 to 10 per doz.

### LIVESTOCK

Quotations furnished by the Federal-State Livestock Market News Service:

Cattle prices per cwt. (delivered off cars from San Francisco)—Beef steers, good grade, $7.75@8; medium grade, $7@7.50; common grade, $6@6.75; beef cows, good grade, $5.75@6; medium grade, $5.25@5.50; common grade, $4@5; canners and cutters, $2@3.50; bologna bulls, $2.50@4.

Calves: 150 to 200 pounds, good and choice, 7.50@7.75; 250 to 300 pounds, good and choice, 7.00@7.50; over 300 pounds, 5.50@6.50.

Hogs: Good and choice, grain fed Californias, 150 to 200 pounds, 10.75@11; 200 to 250 pounds, 10.25@10.75; 250 to 300 pounds, 9.00@9.50; 300 pounds up, 8.50@9; smooth sows, 250 to 300 pounds, 7@7.50; rough sows, 250 to 300 pounds, 6@6.50; rough sows, over 300 pounds, 5@6.

Sheep and Lambs—Lambs, good and choice grades, 12.75@13.50; medium grades, 12.00@12.75; ewes, medium and good, 5.00@6.00; wethers medium and good, 7.50@9.00.

### FAT HOG AUCTIONS

Cal. Farm Bureau Marketing Assoc. reports:

| No Hogs | Av. Wt | Dock | Price |
|---|---|---|---|
| **Tulare, October 24** | | | |
| 90 | 181 | 20 | 10.10 |
| 88 | 180 | .... | 10.05 |
| 85 | 129 | Feeders | 10.05 |
| 99 | 153 | .... | 10.00 |
| 94 | 174 | .... | 10.00 |
| 86 | 196 | 50 | 9.80 |
| 27 | 235 | .... | 9.60 |
| 11 | 338 | 160 | 7.60 |
| 1 | 510 | Stag | 4.50 |
| 581 hogs | | | |
| 7 cars, 50 consignors, $10,018.93. | | | |
| **Visalia, October 25** | | | |
| 104 | 164 | .... | 10.30 |
| 95 | 184 | .... | 10.30 |
| 10 | 176 | .... | 10.30 |
| 73 | 211 | 140 | 10.25 |
| 20 | 130 | Feeders | 10.15 |
| 9 | 250 | Brood Sows | 8.60 |
| 7 | 234 | 80 | 7.95 |
| 318 hogs | | | |
| 3 cars, 18 consignors, $5,888.59. | | | |
| **Hanford, October 26** | | | |
| 76 | 194 | .... | 10.00 |
| 100 | 158 | .... | 10.45 |
| 88 | 169 | .... | 10.35 |
| 92 | 161 | .... | 10.30 |
| 98 | 166 | .... | 10.25 |
| 43 | 0 | .... | 10.00 |
| 90 | 8 | .... | 10.00 |
| 83 | 5 | .... | 10.00 |
| 78 | 2 | Feeders | 9.90 |
| 6 | 3 | .... | 9.00 |
| 16 | 3 | 200 | 8.00 |
| 1 | ) | Stag | 3.50 |
| 77 hogs | | | |
| 9 cars, | nors, | $13,614.58. | |
| **McFarlan** | r 27 | | |
| 99 | 9 | .... | 10.00 |
| 86 | 4 | .... | 10.00 |
| 46 | 5 | .... | 10.00 |
| 34 | 5 | .... | 10.00 |
| 12 | 6 | Feeders | 10.00 |
| 7 | 7 | 70 | 7.00 |
| 284 hogs | | | |
| 3 cars, | | | |
| Totals: | | | |
| ors, $34,38 | | | |

Fat hog
week are
7; Visalia,

nors, $4,866.60.
s, 22 cars, 130 consign-

s scheduled for next
s: Tulare, November
ford, 9; Corcoran, 10.

### PO… AND ONIONS

Sales to
prices obta
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…: Averages of actual
…ween 7:30 and 9 o'clock
…wholesalers from their
… hotels, restaurants,
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… may be noted during
…hile higher prices are
… where credit is given
…ed.

Potatoes:
Salinas, 1.9
@1.85 cwt.
cwt. Swe
lb. Nancy

…, 1.10@1.15 at wharf.
…wt. Idaho Gems, 1.65
…g, Rivers, 1.15@1.35
…oes: Merced, 1¾@2¼

Onions:
Stockton B
cwt. at wha
er. Garlic:

…ions, 1.50@1.75 box.
…d Yellows, 1.40@1.50
…ng price, 25@35 high-

### …TABLES

Prices fur
agriculture,
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Terms: Cas
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… prices obtained be-
…clock, October 30, by
…eir sales to retailers,
…, cafeterias, etc.
…. Slight fluctuations
…g the day's trading,
… are sometimes ob-
…is given or goods are

Artichoke
Beans: K
8@10 per lb
per lb.
Brussels
Bunched
per dozen;
beets, 45@5
30 per doze
Cabbage:
Cauliflowe
Celery: L
half doz. bu
Corn: Gre
Cucumber
@5; small,
Eggplant:
Lettuce:
Peas: Lb.
Peppers:
75@1.25.
Rhubarb:
Sacked V
turnips, 75@
kin and squ
Spinach:
Squash:
ian, 1.50@2.
Tomatoes
1.75. Plum
drawer for

…ug, 13.00@15.00.
…Wonder, Blue Lake
…, 12@14; Lima, 9@11

…7½@8½ lb.
…les: Carrots, 50@60
… 45@55 per dozen;
…parsley, 30; radishes,
…s.

… 1.00@1.50.
…@3.00 cr.; 15@25 per

…3.00 sack.
… 1.25@1.75; pickling, 4

…5@75.
…st, 1.50@2.00 cr.

…ls, 65@85 lug; Chili,

… box.
…: Carrots, 1.00@1.25;
…ets, 1.00@1.25; pump-
…@1.75. sk.

…lug, 1.75@2.25; Ital-

…and Peninsula, 1.25@
…oes, 15@20 a berry

### FRUIT

Prices fur
agriculture,
Sales to
tween 7:30
averages of
wholesalers

…y state department of
… of markets:
… Below are listed
… prices obtained be-
…clock, October 30, by
…eir sales to retailers,
hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Apples: Gravensteins, fancy, 3½@4 tier, 1.50@2.00 box; smaller, 1.00@1.50 box. Crabapples, 50@1.00 lug. Belleflowers, best, 95@1.10 box. White Pearmains, 1.50@1.75 box. Newtowns, 3½@4 tier, 1.40@1.75 box. Wealthy, fancy, 1.25@1.50 box. N. W. Jonathans, 3½@4 tier, 1.75@2.25. Spitzenberg, 1.50@2.25 box. Winter Bananas, 2.00@2.75 box.

Avocados: Cal. small, 1.00@1.50 doz. Florida, 4.00@5.50 doz.

Bananas: Best Eastern and Hawaiian, 7@8 lb.

Blackberries: 60@65 drawer.

Cantaloupes: Nominal. Honey Dew and Casabas, 50@85 crate, or 60@1.00 doz.

Cranberries: Eastern, 15.00@16.00 bbl.; Oregon, 5@5.25 box.

Figs: Black, 1.50@1.75 double layer box. White, 90@1.00 crate.

Grapes: Thompson seedless, 1.35@1.75 crate, 1.50@2.00 large lug. Tokays, Malagas and Muscats, 1.25@1.50 crate. Malagas and Tokays, 1.50@2.50 large lug. Muscats, 2.00@2.50 lug. Rose of Peru and Isabella, 1.25@1.50 crate. Black Prince, 1.50@2.25 lug. Wine Grapes, track prices, Zinfandels, 75.00@90.00 ton. Poor, 45.00@55.00 ton. Muscats, 30.00@55.00 ton.

Peaches: 65@90 crate; Oregon, Salway, 90@1.00 crate.

Pears: Bartlett, 2.25@2.75 box. No. 2, 1.50@2.00; small box, 1@1.25.

Pomegranates: 1.50@2.25 half orange box.

Persian Melons: 75@1.25 crate.

Persimmons: 1.00@1.50 flat cr.

Plums: Best, 1.50@2.25 crate; lug, 1.00@1.25; small prunes, 1.25@1.50 box.

Quinces: 75@1.50 box.

Raspberries: 65@90 dr.; few higher.

Strawberries: Local, 75@1.00 drawer.

Watermelon: Southern, 1 lb. No. 2, for less.

### CITRUS FRUIT

Grapefruit: Southern California fancy special pack, 6.00@6.50 box. Arizona, 5.50@6.50 box.

Lemons: Special pack, 8.50@9.00 box. Choice, 6.50@8.50. Lemonettes, 2@4.00. box.

Oranges: Valencias, fancy boxes, 126-216s, 9.50@10.50; 250-288s, 8.50@9. Smaller, 7@8. Choice, 6@9 box.

### DRIED FRUITS

**Figs, 1922, Packers' prices f. o. b. Cal.:**
(Figs same as last week).

**Raisins, Sun-Maid Raisin Growers' Prices:**
(Raisins same as last week).

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼@11½ | 15 @15¼ |
| 40-50s | 9 @ 9¼ | 12¼@12½ |
| 50-60s | 8 @ 8¼ | 10¾@11 |
| 60-70s | @ 8 | @10¼ |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**
(Peaches same as last week).

**Pears, 1922, Packers' prices f. o. b. Cal.:**
(Pears same as last week).

**Apples, 1922 Packers' Quotations f. o. b. Cal.:**

| | In 50s |
|---|---|
| Choice | @9¾ |
| Choice | @10¼ |
| Extra choice | @10½ |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | 18@20 |
| Slabs | 18@19 |
| Choice | 23@24 |
| Extra choice | 24½@25½ |
| Fancy | 27@29 |
| Fancy | @11½ |

### ALMONDS

California Almond Growers Exchange practically sold out. Independent packers prices are:

| | | |
|---|---|---|
| Nonpareil | 23 | @25 |
| IXL | 22½ | @24 |
| Ne Plus Ultra | 20 | @22 |
| Peerless | 14 | @16 |
| Drake | 14 | @15 |
| Languedoc | 13 | @15 |
| Hard Shel | 10 | @11 |

### HONEY

White Hawaiian honey offered at 7 per lb. f. o. b. San Francisco. Few sales No. 1 Star Thistle honey reported from Northern California at 8 per lb.

### BEANS

California Bean Growers Association selling prices, 100 pounds, for choice recleaned California beans (1922 crop) in carloads, f. o. b. California common shipping points on October 28, 1922:

| | |
|---|---|
| Large Whites | 6.25 |
| Small Whites | 6.10 |
| Pinks | 6.70 |
| Mexican Reds | 5.75 |
| Red Kidney | 6.70 |
| Bayos | 7.00 |
| Henderson Bush Limas | 10.20 |
| Cranberry | 7.50 |
| Blackeye | 5.50 |

### HAY AND FEEDSTUFF

Under date of October 28, A. W. Scott Co. says:

Receipts 716 tons compared with 444 previous week. Continued light receipts have caused a firm market with prices showing some advance. Shortage continues due to railroad situation and receipts at all markets have been light. Qualities have been better and good grades have been readily taken up at stronger prices. Export and coast shipments have been active and in better volume. Interior and country trade has been extremely light and prices slightly better. Alfalfa has been strong and with better demand. Larger holders in the country have been unwilling to sell at current market.

We quote today wholesale prices in carload lots as appear from dealers' trans-

fers upon the market in San Francisco (for prices to consumers, charges for switching, cartage, commission and handling expenses must be added according to conditions.) Transportation bad, scarcity and high prices for spot.

| | |
|---|---|
| Wheat Hay, No. 1 | 17.00@20.00 |
| Wheat Hay, Fair grade | 15.00@17.00 |
| Tame Oat Hay | 17.00@20.00 |
| Wild Oat and Barley Hay | 14.00@16.00 |
| Alfalfa Hay | 17.00@20.00 |
| Stock Hay | 12.00@14.00 |
| Straw | 11.00@12.00 |
| Barley, Ground | 34.00@36.00 |
| Rolled | 32.00@34.00 |
| Oats, Rolled Feed | 42.00@44.00 |
| Bran | 34.00@36.00 |
| Millrun | 35.00@37.00 |
| Middlings | 44.00@46.00 |
| Linseed Meal | 58.00@60.00 |
| Coconut | 33.00@36.00 |
| Alfalfa Meal | 28.00@30.00 |
| Cottonseed Meal | 50.00@56.00 |
| Molasses Beet Pulp | 43.00@45.00 |
| Milo | 42.00@45.00 |
| Corn Meal or Cr. Corn | 40.00@42.00 |
| Scratch Feed | 46.00@48.00 |

### GRAIN

Prices S. F. Grain Exchange, October 31, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 2.00@2.05; feed, 1.90@2.00.

Barley Feed, 1.40@1.45; shipping, 1.47½@1.55.

Oats: 1.60@1.85.

Corn: Colored Milo, 1.80@1.95; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.70@1.73.

## Snappy Notes on Livestock

By A. L. Spellmeyer

The week previous to November 1 opened with steers on an average 7.50 price, good fat cows 5.50, calves around 7.00, hogs 11.00, lambs 13.00. For the last ten days various lots of extra fat steers have been shipped into the Globe Feed Yards preparatory to the opening day of the stockyards, Wednesday, November 1. Most of these consignments were either specially arranged for or purchased by commission firms or speculators in the country and brought in. The estimate of well informed men in that the Los Angeles market can take in addition to present contracts some 900 head daily of beef cattle, four cars of calves, feeder cattle as demand shows, and all lambs and hogs available. The opening day received its full quota of 60 cars to cover, composed mostly of consignments of 6 to 10 cars each, together with some very good lots of lambs and hogs. Sufficient pens are covered and concreted and finished to hold the present volume. The exchange building is nearing completion but it will be at least two weeks before it is ready for occupancy, business and phone service, from its present appearance.

The disposition of the livestock trade is established in the opening week of areestablished in the opening week of the stockyards, and this has affected the outside feeder trade.

Two thousand twos and threes steers are held for sale at Springerville now at a price of five cents delivered and weighed Cooley, Arizona, and freight paid to Holbrook. Part of Springerville catttle have been already sold. Two thousand threes and fours Herefords 950 pound steers are offered in West Texas for immediate sale at a fraction under five cents. These lots indicate that feeder steers have lowered in asking prices from 25 cents per 100 pounds to 40 cents in the last ten days. Parts of Utah and Nevada are still holding their cattle almost a cent higher.

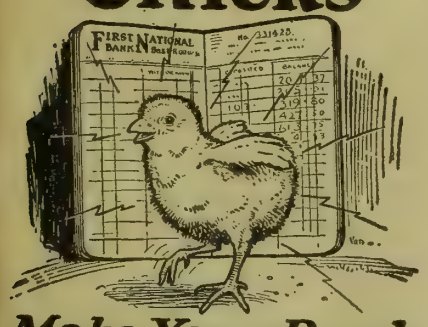
Cows are in slow demand unless very heavy and fat. Few California buyers seem to want cows yet the ranges need many thousands if the expected rains arrive. The stocker cows at 3.00 to 3.50 per 100 pounds by weight are generally offered without takers f. o. b. range. While this depression seems to exist in feeder and stocker trade beef is strong and prices firm for good steers with some lots of fancy cattle costing killers 8 cents, and some heavy cows 5.75 to 6.

The next week should indicate through the stockyard sales regular tendencies. A surplus of heavy calves is claimed but buyers for light calves have not been able to get enough at the 7.00 to 7.50 price they offer.

Mr. Maurer was formerly manager of the old Schwartzchild Sulzeberger plant here that merged into Wilson & Co. and since then Mr. Maurer has been active in the sheep and cattle business. His firm is known as Maurer, Washburn and Condon. Mr. Fred Washburn formerly head of the Western Meat Co. in San Francisco is a member.

Mr. Charles Hill was formerly manager of Wilson & Co. here and is well known to stockmen. Mr. Stewart is from Kansas City and is of the firm of Campbell and Stewart, Mr. Campbell being well known here as a buyer for a local packing house. Mr. Goodno is in the hog commission business and was formerly with the Cudahy Packing Co. of this city. Mr. Harmon was formerly in Kansas City. Mr. John Woodward is senior partner of the well known independent firm of Woodward & Bennett, meat packers of Los Angeles, and Mr. Jefferies is the head of the Newmarket Co.—A. L. Spellmeyer.


# Raise Fall Chicks

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### PACIFIC SLOPE DAIRY PRODUCTS SHOW

From the standpoint of the dairy farmer, The Pacific Slope Dairy Products Show at Fresno, November 13-18, will be of vital interest, because it will portray every branch of the industry through educational and commercial exhibits. The college of agriculture will have charge of the educational displays. California Dairy Council through its booth and the "Milk Fairies Play," will tell of the work it is doing to promote a keener realization of the value of dairy products as human food. State department of agriculture will tell of the work it is doing to eradicate diseases of cattle and for the protection of livestock generally. County displays will tell the story of dairy products in the leading milk and butter producing sections of California. There will be some 50 commercial exhibits which will have not alone a commercial interest, but an educational value as well.

But these exhibits do not cover the activities of the Fresno show in its entirety by any means. Manager C. L. Roadhouse of the show, and Sam H. Greene, secretary and manager of the California Dairy Council, point out that the contact that farmers will get with their associates in the educational and manufacturing ends of dairying will be of inestimable value. The show will bring together conventions covering all of the manufacturing branches and government authorities having to do with dairying.

Breeders associations representing the principal breeds of dairy cows on the Pacific slope will maintain headquarters in the Fresno auditorium during the show and hold conferences there.

The conventions scheduled are: California and Southwestern States Ice Cream Manufacturers' Association, November 13-14. State Milk Distributors' Association, 15. California Dairy Council, 16. Dairymen's Conference with State Dairy Inspectors, 16. California Creamery Operators' Association, 17-18.

Tentative program announced is: Monday, November 13, formal opening; Ice Cream Supply Men's mystic entertainment; awarding of medals. Tuesday, Stanislaus and San Joaquin Counties Day, Lions' Club luncheon, Fresno Y. M. C. A. athletic show. Wednesday, Merced and Madera Counties Day. Thursday, Kings County Day; Kiwanis Club luncheon; Y. M. C. A. athletic show. Friday, Tulare and Kings Counties Day, Exchange Club luncheon. Saturday, Fresno County Day.

### CHAMPIONS AT THE CALIFORNIA NATIONAL

**Shorthorns**

Senior and grand champion bull—Caledonia King 2d, Caledonia.

Junior champion bull—Caledonia Commander, Caledonia.

Junior and grand champion cow—Knights Lassie, Pacheco Cattle Co.

Senior champion cow—Princess Royal, T. T. Miller.

**Herefords**

Senior and grand champion bull—Mischief Fairfax, C. S. Howard.

Junior and champion bull—Beau Blanchard Jr., C. S. Howard.

Senior and grand champion cow—Bocaldo Beauty, Romie Jacks.

Junior champion cow—Eulalie Velie—Briggs & Son.

**Holstein-Friesian**

Senior and grand champion bull—King Pontiac Musa of Netherland, Millbrae.

Junior champion bull—King Pontiac Salteria Prilly, Bridgford.

Senior and grand champion female—Millbrae Pontiac Sarcastic Maid, Millbrae.

Junior champion female—Abbekerk Adirondac Maid Prilly, Bridgford.

**Jersey**

Senior and grand champion bull—Financial Corrector, Waterloo Jersey Farm.

Junior champion bull—Naomi's King of Mossdale, J. E. Thorp.

Senior and grand champion cow—Goldies Dame of Onata, Waterloo.

Junior champion cow—Gypsy May of Mossdale, J. E. Thorp.

**Guernseys**

Senior and grand champion bull—Nobleman of Maplehill, Humphrey.

Junior champion bull—Florriedale of Secret King, J. A. Brown.

Senior and grand champion cow—Mayhew's Bonnie Lass, Humphrey.

Junior champion cow—Escalon Beauty, Humphrey.

**Ayrshires**

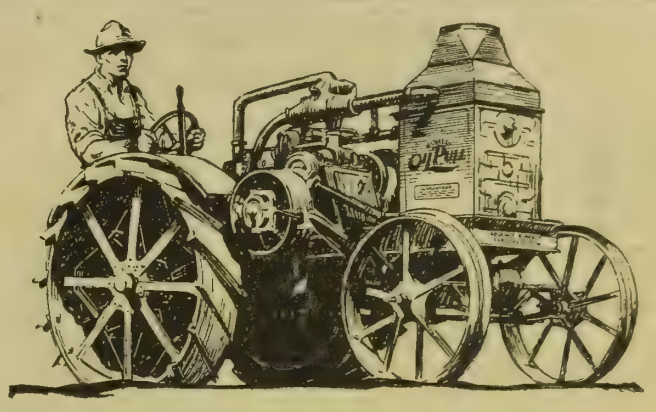
All championships by the Le Baron Estate.

The California Cattlemen's Association will continue through November holding meetings throughout the state to discuss local problems so that the association may formulate its program of work for 1923. All cattlemen, whether members or not, are asked to attend.

### WEATHER REPORT

San Francisco, October 28, 1922

| Stations | Rainfall—Week | Season | Norm. | Temp.—Max | Min. |
|---|---|---|---|---|---|
| Eureka | 1.18 | 3.32 | 3.68 | 74 | 46 |
| Red Bluff | .20 | 4.16 | 2.25 | 84 | 44 |
| Sacramento | .20 | .65 | 1.34 | 84 | 42 |
| San Francisco | .22 | 2.94 | 1.44 | 81 | 51 |
| San Jose | .88 | 1.51 | 1.18 | 86 | 44 |
| Fresno | .51 | .52 | .94 | 88 | 47 |
| San Luis Obispo | .40 | .45 | 1.71 | 90 | 40 |
| Los Angeles | .24 | .24 | .77 | 90 | 50 |
| San Diego | .08 | .09 | .48 | 88 | 54 |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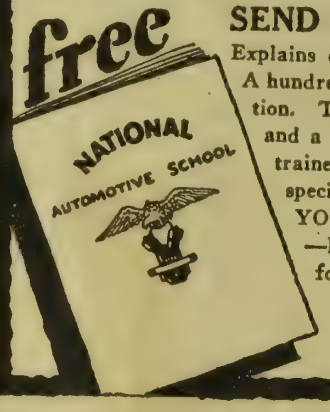


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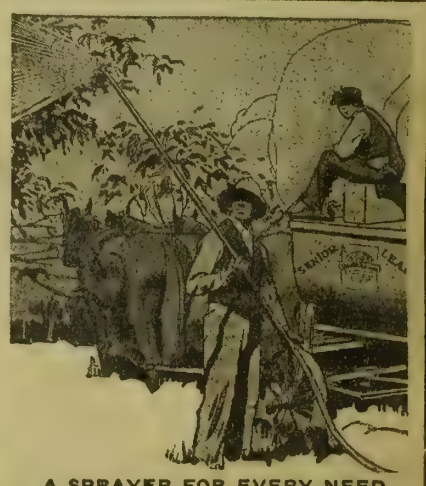

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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — November 11, 1922 — No. 20


# A Practical Dairy Barn Where Cleanliness Prevails

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877, Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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Advertising rates furnished on application.

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The San Francisco office is Room 822, Santa Marina Building, 112 Market Street, L. W. Clark, Manager.

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## Saturday, Nov. 11, 1922

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We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest, bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertisers.

If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## EDITORIALETTES

Next week dairy equipment people, manufacturers of dairy products and other interests closely allied to dairying will gather in Fresno. Many directly connected with dairying will also go to see what the manufacturing and equipment interests are doing. So we take pleasure this week in giving on cover a really truly dairying scene. This is the dairy of the Los Angeles County Farm, located near Hondo.

* * *

It is possible the dairy equipment people at Fresno may regard this illustration as showing equipment hardly up to the latest moment in efficiency. We presume this is true, for modern day equipment of the dairy barn is largely of steel, is well built and is becoming so reasonable in price that it is within the reach of the dairyman. However, the big suggestion in that illustration is the thorough cleanliness made possible in an every day plant. Water under pressure is practically necessary in the modern dairy barn. With it the quickest, cleanest, disposal of the wastes of the dairy barn is possible. Immediately outside the barn is the conduit which picks up the wastes and the water and carries them directly and distributes in the alfalfa field.

* * *

King Cotton was monarch in all the Imperial Valley this week. His throne was located at Calexico and from that point the pageant was directed. The city on the international boundary was decked in festival gayety and entertained guests in number far greater than anticipated. Every one of the eight days was a big day with special program. Of course parades, dances, speechmaking, music, fun were in evidence all the time. Each of the Imperial Valley towns had its day, and on Wednesday Los Angeles turned out to do homage to the reigning monarch. San Diego came down on Thursday, and other outside communities filled in the days which were allotted to them.

* * *

Mexicali, just a step across the international boundary, aided as hostess in the festivities. Of course the real show was made up of cotton and its many products. Imperial Valley people believe that the Southwest needs education as to the boundless possibilities of cotton growing and cotton manufacture. Imperial Valley hopes that the festival will result in more manufactories. It is hardly one hundred per cent efficiency when we grow cotton in California, pay freight on it to Boston, pay the Bostonians for manufacturing it, then pay freight back to the Southwest. We can manufacture our own sheets and pillow cases in California as well as can the people of Massachusetts.

* * *

The citrus shipping season ended October 31. There are still some 300 or more cars of Valencias to go. These will probably be sufficient to supply the market until the Sacramento, San Joaquin Valley and Arizona fruits ripen sufficiently to meet the demand.

* * *

In taking account of stock the Riverside section has reached the conclusion that "Riverside's output for the season shows that section to be only a little over 12 per cent shy of normal crop. Total shipments for 1920 and '21 were 3,705 cars while shipments this year aggregated 3,175. The average for that district for the last ten years has been 2,975. Thus notwithstanding the cold of last January Riverside is still shipping 200 above the average.

* * *

This is evidence that the cold of last January was a mere piker compared to that of 1913. The Riverside section shipped that year a total of 850 cars, while the preceding year it had shipped 2,919 and the year after the freeze 4,293.

* * *

Total shipments from California show most gratifying condition. Oranges shipped by rail aggregated 29,073 cars. To this may be added approximately 500 cars shipped via Panama Canal and more than 10,000 cars of lemons shipped by rail and water. This makes a total in excess of 40,000 cars sent out of the state. This is almost exactly two-thirds of California's total shipments for the year 1920 and 1921 and compares very favorably with the output in 1912 and 1913. That year the total of all citrus fruits was 18,960, while the total for the preceding year was 40,680 or more than a 50 per cent reduction in the crop. Particulars of the year's shipments may be seen on market page.

## CALIFORNIA CHRISTMAS

It is already rather late to suggest "shop early," but we may be pardoned for making a suggestion or two.

The first suggestion is remember your friends at Christmas. When it is all over and the cost and the labor are considered we resolve to ever after ignore Christmas. That feeling lasts only for a day—or for a moment—, then the joys of Christmas return as we count the many little happinesses during preparation and participation. We believe we are safe in suggesting that the happiness which comes from the preparation of things for Christmas is greater with many than that which comes from receiving.

Note that we say pleasure of preparation, so we suggest make it a California Christmas. Do the shopping on your own place, you who are growers of fruits or of nuts or other products which are different.

The other day we tested a product, or rather a combination of two products, strictly Californian and withal good to look upon and excellent to taste. It was simply a dried half of apricot steeped in light syrup, again dried in the sun to remove stickiness, the half of a walnut meat pressed into the cut side, all rolled in powdered sugar. The household folks may not think the editor is competent to give culinary suggestions but "believe you us" that little titbit was good and added to a bunch of California confections it helps to make up a wonderfully fine box.

Besides it is all good advertising for California, for the folks "back there" will pass it to their friends and say: "Our folks out in California made these out of their own farm."

But that is only one suggestion. Note the household department of last issue. The suggestions there may not reach one thousand and one, but there are a lot of them, and it makes one's mouth water to read them over.

## FARM BUREAUS

We are in receipt of a letter from one of our men in the northern part of the state in which he says, "Regarding matters of interest, the principal complaint I hear is the failure of the farm bureaus to market various products, and (including granges) their devoting more attention to social than to business matters."

Local farm bureaus, like lodges, churches and other local societies depend upon the individual members. If a majority of the members take an interest in community matters and exert every effort to see that the business in hand is promptly and properly attended to the organization is bound to be a success. And this does not mean that this interest must only be manifested on meeting nights for there is always more or less work to be done between meetings. Be a booster for your organization and tell your neighbors, who are not members, what is being done and what you hope and expect to accomplish by united effort. Above all things do not be a knocker. If you can't say something good on the outside about your organization keep quiet. Reserve all of your complaints and kicks for the meetings. Make them as loud as you want to there and keep it up until you get the action you want or are convinced that you are wrong, then get on the right side and help put the thing over. Remember that few organizations of this kind are a success unless there are some people in it who are not afraid to get up and express their opinion in open meeting, but nothing will so quickly or effectively kill an organization as the knocker who says not a word at the meetings but is loud in his denunciation of the action taken the minute he gets outside.

The social features of these meetings also have their place, and many people would lose interest in an organization of this kind in which cold everyday business constituted the entire program at every meeting. It has been said "There is a time to work and a time to play," and while some never seem to find playtime we are always working with the end in view that our playtime will come later. However, the social features introduced in a meeting help to relieve the monotony and are the means of bringing out some people that would not otherwise attend. Of course this can be overdone, and sometimes we do too much playing at the expense of the more serious matters that should have the attention of the organization. Remember, at all times, the business for which the organization is intended should have first attention with the social features as of secondary importance.

Marketing problems are not always as easy to solve as some of us imagine, and while it is an easy matter to market any kind of a crop that is scarce and for which there is an excessive demand, it rarely ever occurs that a farm bureau is called upon to market such a crop. The only ones they are asked to find a market for are those that the grower is unable to sell at a profit, and while the organization should be, and probably always is, willing to do everything it can to find a market, it can not always be done. The main feature of the farm bureau meeting and the one of importance, is, to our mind, the getting together of the farmers to talk over their cultural and marketing problems and to hear what others are doing. We often learn as much from others' failures as we do from their successses, and it is this getting together that gives us a broader vision of what is going on around us. The trouble with farmers is that they do not have time to get around and see what their neighbors are doing, and thus get in a rut from which it is oftentimes hard to climb out. These meetings help us to get out of the rut.

## WINS AT PORTLAND

The judging team from the U. of C. was way out in front at the Pacific International Livestock Show at Portland, defeating the University of Idaho, its nearest competitor, by more than 200 points.

Chaffey Union High School team was second (an Idaho team being first) in a contest between 23 high schools from all over the Pacific Slope.

The Interstate commerce commission has announced that it will hold hearings in Washington, D. C., on November 21 on the application of the Southern Pacific Company for permission to continue operating the Central Pacific until such time as the commission completes its hearings on the general railroad consolidation plan.

# California Cultivator

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# Birth Pangs of a New Market

By A. L. Spellmeyer

YES brother, I tell you true, this little part of the big globe is having quite a travail in its livestock circles and the adjustments incident to a new market. A Texas cowpuncher out in the stockyards said: "Spellmeyer, do you think that bank safe in there?" I said: "Sure, those people are O K and square shooters." "Well," he said, "All those fellows have got their hats on, and they looked as if they were ready to go some place."

Nothing is settled yet out at the stockyards, but everything is working towards a settlement, and big things are brewing in livestock circles. It may be methods of California production will be affected for already we have four certainties: a small man market in which he can buy and sell on equal terms with large lot producers; an urge through better price for quality; the meeting of livestock men at a central place; and finally the stimulation of finance and assurance of livestock loans to the small man as well as the large.

When the yards opened I asked the Cultivator to put their veteran Jack Klein on the assignment, and he did it a lot better than I could, but Jack had two handicaps. He hates to criticize anyone and he loves California so much a California raised steer looks just about twice as good as an equal animal from any other place. If Jack was a packer buyer he just naturally couldn't see any other animals than the California raised while any native stock was for sale. Jack thought the Inyo County steers ought to have had the top over the Jackson Hole bunch.

Allowing my evil nature to run riot will state I was amazed and delighted at the operation of the crack salesmen from the Kansas City and Chicago stockyards in handling prospective buyers. I thought I was in a ballroom and felt like a hick grouch from the Black Brush, for honey was not sweeter, a mother's caresses more gentle, nor your manner to the judge that's trying you for breaking a city speed ordinance more respectful, than the way in which buyers were greeted. We have to go some and whip up to compete with all this unction and completely abandon our former ways of selling stock here in the West, for "Hello Bill, what are you trying to steal now" isn't proper language to greet a buyer. Those buyers all look nice, too, in their nice hats and creased trousers and, to be serious for a second, about three or four local killing firms have acted just as nice as they looked, for they have sure played a square game and paid to fair value for what they used.

The finest thing I have seen in the livestock trade in this West took place in the stockyards during the first and second day when certain buyers took their limit in number and price, refused to cut in price offers and the next day came back again and took the cattle they refused to bid on the day before at the same top limit in price. This chivalry was only general however with a few firms, as others did not support the market here as they should if they desire this method of purchasing cattle. Some games were played, but they were not price breaking games but price bucking and stimulation games, of the right kind to make prices healthy and firm. The third day the bargain hunters got in their work on some 4 cent bought fat little Arizona cows and some light steers, etc. The second day only one man was dissatisfied on a small bunch of lambs. It is already indicated that heavy cattle, beef or feeders, will get a good price and a quick market, that good lambs sell fast and good hogs bring good prices. On common cattle and stockers and feeders it's a good market to buy on, a good market for the country killer to buy on, and as prices have been going a poor market for the range producer of light and common cattle to sell on as yet. It may change but the prices so far realized for light cattle are considerably less, figuring expense, than have been paid in the last month or two in the range districts.

What is now isn't what will be, for this entire market birth is like men playing a game of poker, and neither their faces nor their actions indicate the hands held. Money is going to be the ace in the hole for some, and knowledge of Western conditions the ace for others. Personal friendship or first acquaintance has a considerable play now. Later the inevitable will result in "profit" as the controlling motive, be it buyer or seller. It's a buyers market when oversupply rules and a seller's market when it's a case of shortage.

I don't think there is a man in the trade that knows exactly what will result from this new stockyards, for many developments are possible. Those who prophesy failure of any feeder or stocker market here from the indications of the first few days and its dearth of buyers are going to be mistaken, for a great feeder market is a certain development in time, whether it be soon or later. Before it comes some things may have to change but it's sure to come. Failure of any effort backed by the men financing the stockyards has not yet been known, and would not be permitted. Plans or parts of plans may have to be changed, but there is certain to be a regular and permanent market here, though it takes millions and liberal policies to insure general acceptance of the new condition. Money can change livestock killing prices and livestock buying prices and livestock profit margins, and the money is here. Enough money can change the operation of range production. In less than a week of operation a beef market with a considerable bonus for quality is established, and a lamb and hog market is established. The only present defect is the feeder and stocker demand. Thirty more days and the ranges will have winter with them and be unable to ship many cattle. With good luck California will have grass and a growing demand for young cattle, cows and feeders within 90 days, so this feeder and stocker end has after December and until next May plenty of time to shape up and get into the condition of a healthy appetite.

Some steers sold here considerably cheaper than the same yearlings and cows and feeders have been selling at home, and that should attract in the California country buyers. However they sold, and that's more than about 10,000 cattle I know of are doing on the range as they are being held waiting for some buyer and dreading the coming winter. It's a case of lack of reserve winter feed in parts of Texas, New Mexico and northeastern Arizona. However the range districts cannot afford to ship in and sell at such low prices as 3 cents for an 800 pound cow or 5 cents for a 500 pound steer. The California buyer must make known his needs, not in single car lots but by the thousand. Think of a nice little young Arizona cow going at $24 to $32 here or a nice little white face steer 450 pounds at $23 to $25, or a dandy 900 pound white face three year old at $45. The spring is certain of demand on fat beef from 7 to 8 cents on steers, and it's a poor 900 pound steer that won't turn from California grass at 1100 to 1200 pounds. There is attractive profit on these cattle at such prices to make the most pessimistic California range grass man get busy, and especially when he can borrow the money for the operation, if he owns his ranch.

What developments may come we don't know. We may see more packing houses. We may see a division of killing volume. We may see new speculators affecting Southwest cattle value. The California trade is 60 per cent city and 40 per cent country. The 60 per cent city kill is divided with bulk in the plants of small independents or large independents. Carcass prices have been strong and hides are up. If the big killers insist on demanding heavy beef at such prices as 8 to 9 cents for steers, it means that the carcass of that steer must bring around 14 cents. We also have a big cheap meat trade that don't give a blank if the meat comes from a 9 cent fancy steer or a 6 cent Mex if it looks O K, and has enough white fat on it and cuts up.

Almost anything works once in a while, but also anything has some result, just as repeated blows of a little hammer drive in a big spike. What I can't convince myself about, knowing the local meat conditions, is how this 8 cent steer price is going to hold up, if the beef doesn't bring 14 cents or better, and how the steer beef beyond a certain quantity is going to hold up to 14 cents or better when nice little Arizona cows go out at 4 cents and some not half bad steers at 6 cents. That 6 cent steer finds a way into 11 cent carcass beef to a certain trade, competing partially with the same firm who is paying the 8 cents for the steer. It's the same with cows. A firm may go up on 25 head of fancy cows, but beyond that the 6 cent cows mean 12 cent cow beef, and the 4 cent cows mean eating meat at a possible nine cents. It looks to me, purely as an observer, that there is a lot of dynamite in some aspects of this livestock trade at present, and that to safeguard carcass prices a certain volume of light cattle must be taken by the same buyers who take the high priced kinds. It looks as if it might be business to even force up the light cattle to prevent a carcass price bust.

We have now packers buying in the stockyards, packers feeding cattle, and packers contracting cattle on the ranges. We have all the elements of the best market in the United States and an equal possibility of having the worst market, unless a policy with strength and vision is applied and restraint is exercised for the dollar in hand, in order to secure the more numerous dollars in the future.

# Avocado Meeting

By Ernest Braunton

ALL visitors to the last semi-annual meeting of the California Avocado Association were delightfully surprised on two material points. The attendance was far greater than expected. The perfect weather may have had something to do with the number attending, but the enthusiasm manifested leads one to believe that the visitors were true lovers of the avocado and this stimulus added to their loyalty to the association, brought them from all points between Santa Barbara and San Diego.

The other surprise came with the large number of fruits exhibited. It was thought that at this time of the year. when but few except Mexican thin skins can be shown, the display would be very light, but exhibitors were there by dozens and exhibits of varieties by scores. The varieties principally shown may well be illustrated by the well known Puebla, Northrup, Ganter, and Harmon, though a dozen or two of other and newer names appeared on the cards, and there were hundreds of unnamed promising seedlings. Outside of these were some of the larger Guatemalans that are of fair size at this season. The most promising new one was "Linscott," exhibited by E. C. Dutton of Anaheim. This is a round, rough, black Guatemalan of a little more than a pound in weight. When the fruits on display have ripened we may have more to say of it. President Popenoe says the success of this exhibit was largely due to the energy and persistence of Miss McNally, our former secretary.

### The Feast

The feast was a "double header," being both material and mental. After luncheon the audience listened to the program from their table seats. The large dining room of St. Ann's Inn was taxed to the utmost, every chair being filled. The lunch had the usual avocadan introduction, cocktail, salad, "on the half shell," and ended with avocado ice cream.

The program was wonderfully suggestive, also interesting, but that is all. The speakers were all good talkers, told funny stories and kept the audience strained to catch every word but they were up against a "hard deal." All of them were asked to speak to the main question: "How to Make the Avocado Tree Bear," but none knew. All the recommendations were merely suggestions; had they told us "how" our trouble would be at an end. But each phase of the culture was thoroughly discussed: pollination, fertilization, irrigation, cultivation; also popularization. So much of this was of general interest, so much of evidently good advice and of value to the grower, that we shall give much of it in detail in future issues. Dr. A. B. Stout, director of horticultural research, New York Botanic Gardens, was asked to speak on "Pollination to make the Avocado Bear." He said he had been here just long enough to recognize the differences between an avocado tree and a watermelon vine, but if the Californians would solve the problem how to make the trees bear, the New Yorkers would aid in solving the marketing problem.

# Agricultural News Notes of the Pacific Coast

## Northern California

Sutter, Yuba and Colusa Counties will harvest over 50,000 acres of rice.

Annual convention of California Wool Growers at Stockton, November 16-17.

On October 14 there were 17,550 dozen eggs shipped from San Francisco to Hawaii.

Citrus districts expect to begin shipments of oranges between the 15th and 20th of November.

Tehama County has set aside $1500 to be used by women's clubs of Corning and Red Bluff in tree planting.

The proposed apportionment for Lassen Peak national park was thrown out by budget director at Washington.

The state highway commission is being urged to settle before the end of the year on definite route for the Tahoe-Ukiah highway.

Healdsburg district of Sonoma County has finished grape shipping. Many carloads are reported to have been refused because of rain damage.

The first of a series of condemnation suits by Placer County in the interest of the Auburn-Colfax state highway is in the superior court of Sierra County.

Shipment of oranges from Northern California is scheduled to begin about the middle of November says Manager Bidwell of the citrus exchange at Sacramento. Crop is reported generally normal.

A few more weeks of good weather will see the rice crop harvested in Colusa County. 34,000 acres are to be harvested in the county. It is expected average yield will be 25 to 30 sacks to the acre.

Secretary Hagen of the California Cattlemen's Association attended the November 5 meeting of the Stockmen's Protective Association at Livermore in the interests of the association's membership drive.

The railroad commission has denied application of the Southern Pacific and other rail carriers for rehearing of the so-called rice cases in which the commission fixed rates on paddy rice, carload shipments.

A transbay bridge north of Dunbarton Point and a new peninsular highway connecting San Francisco with Palo Alto have been decided on as part of the construction program of the joint highway district No. 2.

Farm center meetings in Glenn County at Codora, November 13; Capay, 15; Plaza, 17; Grapevine, 22; Glenn, 24. Farm home department meetings at Jacinto, November 8; Ord, 9; Westside, 16; Grapevine, 17; Lake, 28.

Farm bureau meetings for Tehama County are: Johnson-Reeds Creek, November 13; Red Bank, 15; Bend, 17; El Camino, 20; Stanford, 22; Flournoy, 24; Bowman, 25; Richfield, 27; directors meeting, 9 a. m., November 25, Red Bluff.

Home department meetings of the Tehama County farm bureau will be held at Antelope November 14; Richfield-El Camino, 15; Dairyville, 16; North Capay, 17; Vina, 21; Squaw Hill, 22; Flournoy, 23; Reeds Creek-Red Bank, 24; County Committee Meeting, 25; Bowman, 28.

## Central California

The Stanislaus County farm bureau is starting drive for membership.

Porterville expects to make first shipment of oranges about the middle of November.

Horticultural Commissioner Brann estimates Tulare County's orange crop for the coming year at between 38,000 and 40,000 cars.

The Oakdale warehouse of the Almond Growers Association will close about November 10. Receipts are double those of last year.

The plant of the Universal Milk Company at Salida, Stanislaus County, was reopened November 1. Condensed and evaporated milk will be produced.

The Merced-Stanislaus Sweet Potato Growers Association is still carrying on its campaign for membership. Ten carloads of sweets are being shipped daily from Turlock.

During the year ending September 30, 100,506 people visited Yosemite national park. The largest day's travel was on July 2 when 2,263 people entered the park.

Agents and officials of the farm bureaus of the state were guests of the Sun-Maid Raisin Growers at Fresno, October 26, for a day of intensive study of the raisin industry.

Chambers of commerce and other civic bodies of the southern part of the San Joaquin Valley will ask congress for financial aid for Sequoia and General Grant reserves.

At a recent meeting at Madera organization was perfected for securing signatures to petition for formation of the San Joaquin River water storage district in Madera County.

Standardization of grapes and oranges was discussed at a recent meeting of the Lindsay chamber of commerce. Horticultural Commissioner Brann was the principal speaker.

A cockerel auction sale is to be held at Tulare on November 22. Several birds consigned by Oregon and Washington poultrymen as well as by poultrymen from all parts of California.

Contract has been let for laying 365,000 feet of concrete pipe for the state land settlement at Delhi. This is for the fourth unit three miles east of Delhi at Ballico. The new line will irrigate 2300 acres.

The California Prune and Apricot Growers Association has found such heavy demand for two pound cartons in large, medium and small sizes that most of the remaining stock of the 1922 crop will be put up in this form.

F. C. Hoover of the interstate commerce commission is in Fresno conferring with growers and shippers as to securing adequate car equipment for transporting grapes next year. Shortage is becoming more acute as Northwestern apple crop goes forward.

Monterey County Water Company, which distributes water for irrigation purposes in Salinas Valley, was today authorized by the railroad commission to increase its charges for water from $1.50 per acre for each irrigation to $2. This rate will be collected from all consumers including those who have special agreements with the company providing for a rate of $1.50.

## Southern California

Imperial Valley reports barley coming up nicely.

Opening day of Chino's community fair brought out 2,000 visitors.

The California Avocado Growers met at Santa Ana, November 4.

Larger acreage is being planted to barley this year than last in Imperial Valley.

The Ladera irrigation district has been formed at Elsinore. It includes 4500 acres.

The one man farm for Imperial Valley is still being put forward by the Brawley News.

Imperial Valley Cotton Pageant closed today at Calexico after a week of celebration.

Rawson Brothers of Riverside County harvested 135 tons of honey from 2,000 colonies.

The Saticoy district in Ventura County will ship 3000 tons of walnuts through the association.

The Imperial County cow testing association is assured. More than 1200 cows have been signed up.

Beekeepers of Southern Cailifornia held a two day session at Exposition Park, Los Angeles, November 3 and 4.

Yucaipa apple growers report that late varieties are running to very high grade of fruit. Practically all the crop is picked.

Farm management schools will be held by the agricultural extension service in Hemet, Riverside, Corona and Elsinore about the middle of December.

A tractor school is announced for Los Angeles County the week of January 15-20. Arrangements for attending may be made with office of farm adviser.

Manager French of the Deglet Noor Date Association at Indio reports shipment of two tons of dates daily. The Coachella date packing house is now open and making shipments.

The Upland Lemon Growers Association distributed to members $417,754.23 for the year ending August 31. A total of 321,769 picking boxes of lemons was received at the packing house. 409 carloads were shipped.

The Riverside County supervisors have authorized issuance of $371,378.50 in bonds on the Palo Verde joint levee district for the construction of levees destroyed during the flood of last winer and for other flood protection work, including the straightening of the channel of the Colorado River.

An all day institute of deciduous fruit growers of Los Angeles County was held at Van Nuys last Thursday. Twenty-five boys in the county pig feeding contest sold their pigs, which they had been feeding for the past three and one-half months, at the Los Angeles Union Stockyards on its opening day, November 1.

The state market commission is cooperating with growers of Imperial Valley in endeavor to secure better marketing of next season's crops. Mr. Bigelow of the commission is conducting membership campaign of the Imperial Valley Vegetable and Melon Growers' Association and is directing the efforts of the officials of the growers' organization.

## The Coast and General

A coffee and cocoa exposition will be held at Caracas, Venezuela, December 9-January 7.

The Brazilian coffee crop will be the largest since 1915, between seven and eight million bags.

Much heat damaged grain showed up in early thrashed wheat in the hard winter wheat area.

Winter peas have a good start in Yuma section of Arizona and some grapefruit are being shipped.

Walnut crop of China is larger than last year. Exporting began from Tientsin, October 10. Trees are seedlings.

Nampa, Idaho, ships out an average of 200 carloads of farm and orchard products. Apples now comprise half the shipments.

Fruit and berry growers of Lewis and adjoining counties of Washington are making plans for formation of a marketing organization.

According to a French decree which went into effect September 1, 1922, all of the grain except bran and refuse kernels must be used in the preparation of flour for human consumption.

Cotton picking has been delayed by rains in Georgia, Alabama and South Carolina. Picking is nearly completed in Louisiana, Mississippi, Oklahoma and Texas. Texas will have no top crop this season.

The first freeze of the season was recorded by the government weather bureau at Twin Falls, Idaho, on September 28. This is two or three weeks later than frost visited many sections of southern Idaho.

Fifty thousand pelts, mainly from Alaska and Siberia, were sold at Tacoma recently at the regular fur auction and buyers from various parts of the country—and one from Germany—paid $150.000 for the lot.

Perhaps the greatest use for prunes to the Rumanian is in making zweeka, an alcoholic beverage containing about 15 per cent alcohol. This is very much liked by the Rumanians and takes the place of whisky in that country.

All honey coming into the United States from foreign countries now carries an import duty of 3 cents per pound. This supplants the import duty of 10 cents per gallon which had been in effect since the enactment of the 1913 tariff bill.

Head lettuce from Idaho Falls is being shipped daily by express to Ogden and Salt Lake. Starting with a few crates as a sample, producers at Idaho Falls have increased their shipments to a large number of crates daily and the demand is showing a steady growth.

In Arizona, honey sales from the small mesquite crop reported at 7½ to 8 1/3 cents per pound. Crop from cotton now filling up hives for winter. Beekeepers generally inclined to hold alfalfa and cotton honey but several carlot sales reported at 5¾ to 6 cents per pound.

The Southern Pacific announces that as a means of aiding livestock raisers affected by drouth in New Mexico and Texas, it has applied to the interstate commerce commission for permission to establish on one day's notice temporary reductions of 50 per cent on livestock feed shipped from the Imperial, Salt River and Gila Valleys.

# Functions of the Agricultural College

By C. B. Hutchinson, Director Davis Branch
University of California College of Agriculture

(At the recent dedication of the horticultural and dairy buildings at Davis C. P. Hutchinson, the new director of the branch of the college of agriculture at the university farm, was scheduled for the closing address. Prof. Hutchinson only recently came to California from Cornell, and attendants at the dedicatory services were anxious to hear his idea of "Functions of An Agricultural College." Owing to the lateness of the hour the speaker simply expressed his appreciation of the great interest shown by the farmers of California in coming in such large numbers to dedicate the two new buildings; also appreciation of the fact that California voters had provided so liberally for more effective work by the institution. Naturally it is Prof. Hutchinson's ambition to join to the fullest in the making of a great educational force of the college of agriculture, University of California. Fortunately the speech was in manuscript form and is here quoted from as liberally as space permits.—Ed)

WE are met today to dedicate to the cause of agricultural education these two buildings recently provided by the people of California in order that the young men and young women of this state who desire technical training for agricultural pursuits or who desire an agricultural education of the highest type may find in this college adequate facilities for the realization of their ambitions.

It has seemed to me proper on this occasion, when we are rejoicing in this new evidence of the growth and development of the college, that we should direct our attention to the purpose of an institution such as ours and inquire of the functions it has to perform.

During the last half century we have developed in America the greatest system of agricultural education the world has ever known. It had its beginning in what has been called the land grant act of congress in 1862, when under the leadership of Senator Morrill legislation was enacted providing for the establishment of a college of agriculture and mechanic arts in each of the several states and territories and setting aside certain areas of the public domain, the proceeds from the sale of which were to be used for their support. This was the first step in national or federal support for a nation wide system of higher education and had for its purpose, as Senator Morrill himself has so wisely said, "the liberal education of the industrial classes."

For a quarter of a century the teaching function of these colleges was paramount. Then came the realization of the necessity of some provision for securing new sources of knowledge. Accordingly the system was strengthened by the establishment of the agricultural experiment stations as departments of the agricultural colleges under the provision of the so-called Hatch Act in 1887. Under this act the agricultural experiment stations were charged with the duties of conducting original researches into various phenomena relating to and bearing directly upon the agricultural industry of the nation. The original act carried an appropriation from the United States treasury of $15,000 annually to each experiment station. This federal support was further increased in 1906 by the Adams act bringing the total federal funds annually accruing to each station for investigational work up to $30,000.

The next step in the development of our national system of agricultural education came in 1914 with the Smith-Lever act providing federal aid for agricultural extension. This was followed almost immediately by the Smith-Hughes act making possible the development of secondary vocational education on the same nation wide basis. In the meantime the respective states have by legislative action increased the support of the colleges until today the amount of public funds expended for agricultural education in several states reaches well into the millions.

It is evident, therefore, that the college of agriculture has by legislative action a three fold function to perform. These functions may be said to be—(1) to give vocational and professional training to those who come to the campus for such instruction; (2) to disseminate knowledge among the people of the state regarding the science and art of agriculture, and (3) to provide for research and investigations into various agricultural and related phenomena. No college can attain the greatest success nor render the greatest service to the state which does not have adequate support for all three lines of endeavor. I am only pointing out what is common knowledge when I say that in many instances the funds provided for original and fundamental investigations have not kept pace with those devoted to the other two functions of the college and are in no way commensurate with the needs of the nation. A bill is now pending in congress providing for further federal support for agricultural research which is designed to place this phase of the college's work upon a more adequate basis. In the meantime the college administration can adjust this inequality from state appropriations by utilizing the machinery of the agricultural extension service for the accumulation of useful information relating to farm practices which prior to the development of the extension service the experiment station was called upon to do.

The research work of the college of agriculture, like that of the medical college, is the basis for resident instruction and extension teaching. No college or division of the college can function properly, give the best of instruction to its students either on the campus or in the farm, which is not also engaged in building up the store of knowledge relating to its field. The greatest difficulty which the teachers of agriculture in the early days had to face was the lack of subject matter upon which to base their instruction. It was only when this deficiency was recognized and research made a function of the college that agriculture was put upon the proper pedagogical basis. I fear that even today in our rapid development we sometimes attempt instruction and even extension in certain new fields before an adequate subject matter has been developed. For that reason I am unable to agree with those who would segregate the three lines of endeavor by providing separate staffs for research, resident instruction and extension. The division is the unit.

(Continued on Page 515)

# Better Peaches

WE are just in receipt of a circular letter which the California Canning Peach Growers is mailing to all members. This should be of interest to all growers of canning peaches since it shows the loss to which they are subject where small inferior fruit is grown. We have often heard growers complain that the canneries were too particular, many, no doubt, failing to see why a ton of peaches was not a ton of peaches regardless of size and forgetting that canned goods, like everything else, sell largely on appearance.

We are sorry that a lack of space prevents us from printing the entire letter, but we give below the essential paragraphs and trust that all those interested will take heed and lend their best efforts to produce better peaches and thus not only better their own financial condition but uphold the reputation of California as a producer of the best canning peaches that can be grown.

The circular says: "The peaches of this season as a whole have been more or less of a disappointment both as to size and quality." A very large percentage of the No. 1 grade were barely within that grade and often natural shrinkage necessitated their being placed in the No. 2 grade.

"On account of the peaches running so heavily to small sizes, canners have been obliged to pack an enormous amount of low grade peaches much in excess of market requirements and in some instances in order to move their excess canners have sold their low grades below the cost of manufacturing.

"The cost of packing small peaches is very much greater than the cost of packing the larger sizes. Large amounts of small fruit will reduce the capacity of a cannery in some instances as much as 50 per cent, thereby adding greatly to the overhead costs. Secondly, cutters and pitters have to be paid double rates to pit the small peaches, and if there is a large amount of small fruit to handle the pitters become disgruntled and in some cases refuse to handle small fruit.

"California enjoys almost world wide monopoly on high grade canned cling peaches, and the demand is ever increasing, whereas with our low grades the conditions are just the reverse. We come into competition with low grade cling peaches in all quarters of the globe, and with the trade demanding quality fruit it is getting more difficult each year to dispose of the large amount of low grade, as the trade will only absorb a limited amount except at an extremely low figure.

"While we, in California are producing practically all of the high grade cling peaches grown, we must not lose sight of the fact that there have been very extensive plantings of cling peaches in foreign countries recently; namely, Australia, South America and Africa. While they have not as yet met with any large degree of success in these countries, with persistent efforts and proper education along growing and canning lines, they may some day be our serious competitors, especially in the foreign markets, so it behooves every canning peach grower to grow better and larger peaches.

"We believe all are agreed that with present land values and the increased cost of production, peaches cannot be grown profitably at prices that prevailed prior to the world war. In order that growers may receive a fair profit on their investment, peaches must sell at a fairly good figure, and in order to receive good prices for their peaches, we must deliver better fruit.

"By producing and delivering peaches of large size and high quality we will be able to get good fair prices for our fruit year after year. The canners would be very willing to pay good prices for quality fruit and the trade would be supplied with what they want.

"It has always been an established fact that the growing of small undersized peaches has never been profitable. In the first place, should the deliveries run heavily to small sizes of which a large portion would be classed as No. 2's, the grower would only receive half as much for his No. 2's as his No. 1's, and should the grower have an amount of No. 2's in excess of 10 per cent, he would not be able to dispose of the excess amount at any price, which was the case in many instances this year. Secondly, a crop running heavy to small sizes will greatly reduce the tonnage, also trees that are overloaded with a lot of small peaches which cannot be properly developed are weakened to such an extent that they will only produce a small crop the following year.

"During the past few years there have not been enough peaches to supply the demand, and in some instances new canners just entering the field, in order to secure their supplies, have accepted a large amount of small fruit. However, with the new large acreages coming into bearing each year, conditions are changing, and the time is not far distant when it will be extremely difficult for the grower who persists in producing small peaches to find a canner to take his crop.

"It takes 198 peaches two inches in diameter to equal 100 peaches 2½ inches in diameter to equal one peach it takes approximately two peaches 2 inches in diameter to eaqual one peach 2½ inches in diameter. It takes 337 peaches 2 inches in diameter to equal 100 peaches 3 inches in diameter, or approximately three and one-third peaches 2 inches in diameter to equal one peach 3 inches in diameter. These figures certainly should prove to the grower beyond any question of a doubt, which is the most profitable, and while it would not be practical to produce all 3 inch peaches, yet every grower should exert every possible effort and strive to produce 3 inch peaches. By growing and delivering large peaches growers would get consistently larger crops from their orchards year after year and would receive maximum financial returns."

As a result of these conditions and to maintain California's reputation for high grade canned peaches the California Canning Peach Growers has adopted a higher standard for the No. 1 and 2 grades. The No. 1 must not be less than 2⅜ inches in diameter and the No. 2 not less than 2⅛ inches, and the maximum amount of No. 2 peaches that canners are required to accept would be 10 per cent of the tonnage produced from each orchard. They state that these changes will be effective for the season of 1923.

These changes may seem a little hard on the grower but he must take into consideration the fact that the increased acreage coming into bearing makes competition more keen and in order to grow peaches at a profit he must exert every effort to produce the best, remembering that it is the tonnage of No. 1 peaches that pays a profit and that the culls are not only a dead loss but materially assist in reducing the tonnage of good fruit.

In the future good care and proper thinning of the fruit is going to spell the difference between profit and loss to the peach growers.

# Vegetable Garden for November in Southern California

By D. F. Reichard

THIS is as truly garden cleaning time as April is house cleaning time. Deciduous trees, shrubs and berries should be pruned and thinned out. The dead wood ought to be removed from citrus trees. Corn, squash and sweet potatoes should be harvested and stored or disposed of before deterioration starts.

All plants from which crops have been harvested, if not infested with disease or pests, may be put into the compost heap or turned under for fertilizer. All infested prunings or litter should be burned. Fumigating or spraying of infested trees or shrubs at this time destroys the insects and fungi as they are growing into winter form. These precautions about cleaning up go a long way toward controlling pests and diseases next spring.

Unless your corn was planted late it is dry enough to shell and sack. In this condition it can either be sold or stored. Squash and pumpkins should be brought in and put under shelter before they are frosted. If it is necessary to pile these be careful not to bruise or scratch them and see that all imperfect ones are thrown out for immediate use or sale according to their condition. One bad squash or pumpkin will soon infect a large portion of the pile. Sweet potatoes must be dug before frost to retain their flavor and keeping qualities. If only a small quantity are to be put away select clean, firm tubers, wrapping each one separately in one thickness of newspaper and pack in boxes or pack in dry sand in boxes so that the tubers do not touch each other. To store in large quantities, stack in a convenient place, alternating layers of sand and potatoes, then cover the whole to keep the rain out. The important thing about keeping sweet potatoes is to keep them dry.

This is the month to begin planning what you are going to plant next year and where and when it will be planted. On all ground not now occupied with crops and around trees and shrubs liberal dressings of barnyard manure should be applied to be leached into the soil by the rains. When there has been enough moisture to wet down two or three feet the ground should be worked at least a foot deep. Be sure to get the manure well turned under.

During these cool months it is not advisable to plant any of the tender summer vegetables such as beans, tomatoes, squash and corn. The hardy vegetables require a month or two more to mature at this season of the year than in the late spring and summer.

For early spring and continuous use plant in soil prepared as suggested in last month's Cultivator the following: Egyptian beets, Half Long carrots, Purple Top and Snowball turnips, early and winter radishes, Wonderful lettuce, Amsterdam Giant spinach, kohlrabi, onions, seeds and sets, salsify and Laxtonian or dwarf peas. Set out plants of cabbage and cauliflower, kale and Swiss chard, horseradish, asparagus and rhubarb.

When planting seeds sow in rows about 20 inches apart so as to allow for irrigating and cultivating. The plants should be set farther apart to allow for top growth.

It is time now to be thinking of the hot bed for tender stuff for early spring planting. It takes over two months to grow tomatoes, peppers and eggplant to a size for planting out.

## FROST AND FIG TREES

By Ira J. Condit

(Continued from Last Week)

Varieties of figs differ considerably in vigor of growth. The Kadota is notably vigorous. It therefore shows vigorous recovery from frost damage. The Brunswick is a slow, straggling grower and is seldom injured by frost.

### Pruning

Heavy frost damage to young fig trees has an effect similar to that of heavy pruning, namely, a vigorous growth of suckers and sprouts. In sections having a high water table late growth of the suckers continues so that they are frequently pruned down to the ground by frost for several successive seasons. Many growers have given up hope of getting a young fig orchard established under such conditions.

Heavy cutting of the tops of young trees with the pruning shears may induce a vigorous succulent growth more susceptible to early fall frost injury. In the only pruning experiment where observations on frost damage have been made the long or lightly pruned trees suffered less from winter injury than those short or heavily pruned.

### Protection Against Frost

As far as the writer's observations have gone there is only one fig orchard in California in which orchard heaters or smudge pots have been used. This is an orchard in the Sacramento Valley where spring frosts have been of sufficiently frequent occurrence to seriously injure bearing trees. Lard pail type heaters were used for several seasons in an attempt to protect the trees from such frost damage. In most fig sections serious injury from spring frosts is of such rare occurrence that an investment in efficient orchard heaters would hardly seem justified although some growers of vineyards are seriously considering this form of frost insurance. The installation of orchard heaters among groups of caprifig trees might prove of commercial value in protecting the mamme crop in late fall and winter and the profichi figs in early spring.

### Covering Trees

The covering of any large number of young trees in orchard form as a means of frost protection is probably impracticable. Small trees may be covered readily with drying trays set on edge around and over the tree. Large caprifig trees have in many cases been protected during the winter by shelters constructed of permanent corner posts and crosspieces and removable tops of palm leaves, burlap, or other available material. No records are available of the efficiency of such shelters although they should give a measure of protection if properly constructed.

### Wrapping Trees

The practice of wrapping young fig trees as a means of frost protection has become very common especially in some districts. The principal materials used have been cornstalks grown between the tree rows, tules from nearby swamps, bean straw, burlap and paper. In most cases cornstalks have provided excellent protection if placed before the earliest killing frost, if enough are used, and if tied firmly together to prevent free movement of air. In the Merced section in 1921 cornstalks were tied around fig trees as early as October 15 while leaves were still green and functioning. Such smothering of green foliage apparently had no ill effects upon the trees according to examination made the following spring. Cases of serious frost injury occurring in spite of cornstalk wrappings generally show that the wrapping was done after the first killing frost, insufficient material was used, or large air spaces left to the trunk or branches. Loose dirt thrown around the bases of the cornstalk will help to keep them in place. Where the corn is grown between the tree rows or is available from nearby fields, wrapping of one, two, or in some cases, three year old trees is a simple and efficient form of frost insurance. The cornstalks are removed whenever the buds begin to push out in the spring. On account of their beneficial effect upon the soil, the growing of beans between the rows and the use of the bean straw for wrapping trees is to be recommended.

### Whitewashing

Whitewashing of the tree trunks and main branches of fig trees is practiced as a prevention of sunscald rather than frost injury. The lighter the color of the bark, the less is the absorption of heat and the more uniform the day and night temperature of the bark. Since sunscald occurs mainly in winter while the trees are leafless, protection should be given during that period to any trees that have a trunk exposure of more than 16 inches. Low headed trees, that is, with main branches starting within a foot or 16 inches from the ground, are seldom, if ever, injured by sunscald.

Whitewash for winter use must be durable and not readily washed off by rains. Various materials such as glue, milk or flour are sometimes added to make it more lasting. The following formula is recommended by Wickson: "Dissolve five pounds of salt in six gallons of hot water and use this to slake 30 pounds of lime, stirring in 4 pounds of cheap tallow (or heavy oil or any other old grease) while the lime is still hot from slacking. Add water to the consistency desired."

(Continued Next Week)

## ANNUAL OF FARM BUREAU FEDERATION

At the annual meeting of the California farm bureau federation held at Berkeley last week A. C. Hardison of Santa Paula was elected president. Secretary Bryant of the federation sends wire regarding the new president and his qualifications in which he says:

"A. C. Hardison, a very extensive rancher at Santa Paula, Ventura County, was today elected president of the California Farm Bureau Federation with headquarters at the University of California, Berkeley. The farm bureau is the largest agricultural organization in America today and in California there are more than 25,000 farmers active members of the organization.

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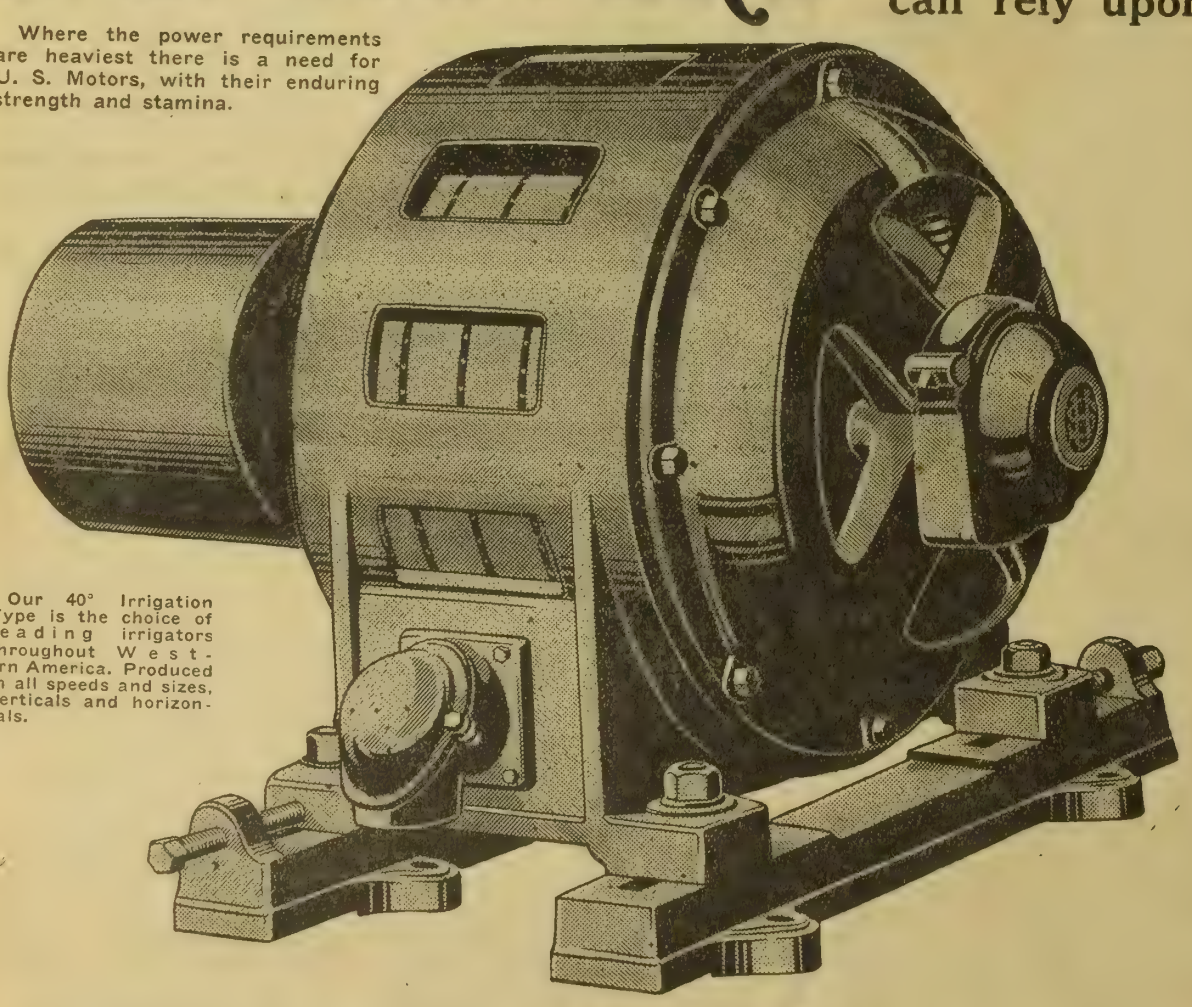

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Grapes are in greater demand and at higher prices than ever before. Better vines and larger crops of well-filled bunches of fine juicy grapes may be grown by working

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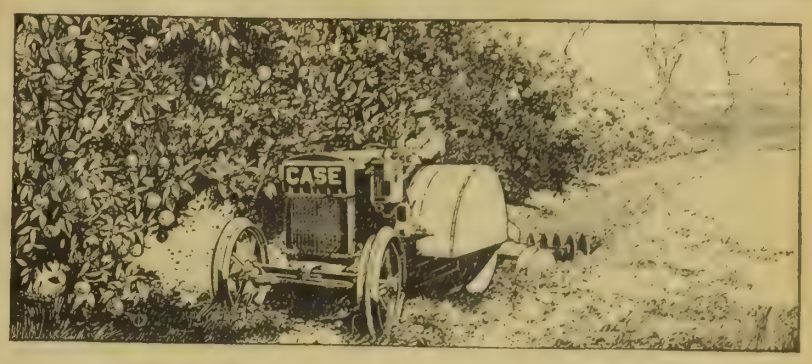
"Mr. Hardison was born and raised on a farm at Caribou, Aroostook County, Maine, where he received his early training in agriculture. He was educated in the common schools of Maine and in 1890 graduated from the University of Maine in a civil engineering course. This same year he came to Ventura County where he has been located ever since. He immediately took up the practice of civil engineering and a year later, in 1891, was one of the seven original incorporators of the famous Limoneira Company which is now the largest lemon producing grove in the world.

"He has been actively connected with and a director of the company ever since its incorporation. He is also a director and engineer in two water companies in Ventura County.

"In 1896 he went to South America on an engineering project and has engaged as assistant engineer of the Inca Mining Company of Piru where he remained until 1901. During a portion of this time he also acted as assistant manager of this company. Immediately after his return to the States in 1901 he managed a mine in Arizona. For a year from 1902-1904 he was engaged in private engineering practice. Mr. Hardison was also engaged in the oil business in Kansas and Indian Territory from 1904-1907, at which time he returned to California and became actively connected with the Limoneira Company. In 1911 he organized the Hardison Ranch Company and San Cayetano Mutual Water Company and as vice president and manager of this company is developing 250 acres of citrus land near Santa Paula. Since 1912 he has been a director of the Santa Paula Citrus Fruit Association, shipping 700 cars annually, and since 1919 has been vice president of this association. Since 1913 he has been a director of M. I. P. U. Citrus Association which ships 150 cars of oranges annually. He has been vice president of this company since 1917. From 1914 to 1917 he was chairman of the Ventura County highway commission which built 104 miles concrete highway expending about $1,250,000. In 1922 he was appointed by the governor a member of commission on agricultural education to succeed the late G. Harold Powell. He was elected chairman of this commission and has just returned from an extensive tour of the agricultural colleges throughout the East and Middle West investigating the general problems of agricultural education. He has actively worked with the farm bureau since it was organized in Ventura County and knows farm bureau work thoroughly.

A. C. Hardison

"As cooperative marketing is one of the great problems before the farm bureau this organization is exceedingly fortunate in getting Mr. Hardison at its head at this time. He is considered one of the ablest authorities on cooperative marketing in California and this, together with his natural leadership, will make him a great president for the California Farm Bureau Federation.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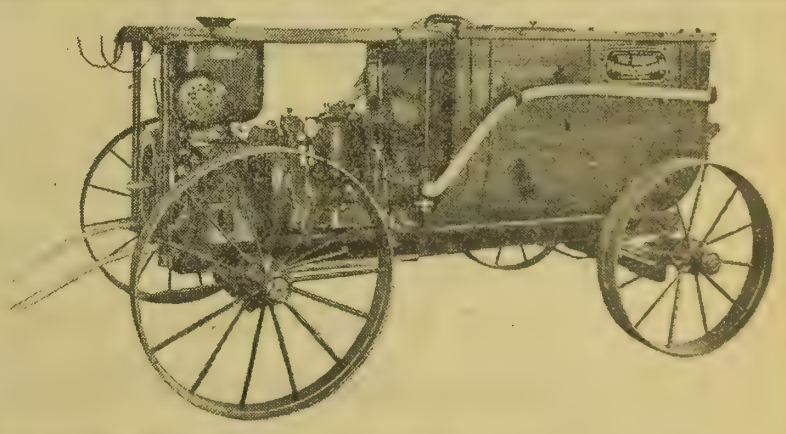

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# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Woolly Aphis on Apples

Please tell me something about controlling woolly aphis on apple trees.—Subscriber, Salinas.

Woolly aphis can be kept under control by spraying with any of the good contact sprays. In most sections it is held in check fairly well by its natural enemies. The root form of this aphis can best be controlled by the use of tobacco dust placed around the roots in the fall before the winter rains commence. Remove the earth from the roots to a depth of four to six inches, making a circle around the tree of four to five feet. Distribute three pounds of tobacco dust in this space and replace the earth. The rains will carry this down around the roots and saturate the soil about the tree with nicotine which will kill all aphis present and prevent others from entering.

### Apricots in Poor Condition

I am enclosing samples from an apricot tree. Can you tell me what the trouble is and whether anything can be done for it now or later. No. 1 is from the west side of the tree where three large limbs are all this way with no green leaves left. No. 2 is from the same except more inside, and the buds seem to be alive though the leaves are all gone. No. 3 is from the east side of the same tree and shows no trouble.—E. M. S., Santa Anita.

This question was referred to Assistant County Agent Blanchard of Los Angeles County and he answers:

"Although it is difficult to definitely determine the specific cause of the poor condition of your apricot tree from the samples sent, the conditions are so similar in so many trees with which we come in contact that I may be able to throw some light on the cause of the trouble. One of your samples indicated that one limb on one side of your tree has but few leaves left, indicating too early dormancy. Another sample shows that the leaves are also gone but the buds are in fairly good condition, while a third indicates that the leaves are in good condition at the present time. That is really typical of many trees with which we come in contact. Something has happened to the root system. The most frequent trouble with which we have come in contact this past season is dry sub-soils. The uneven condition of the top of the tree is easily explained in that the roots on the various sides of the trees were weakened irregularly. Perhaps the roots on the side of the tree where the leaves are still on were able to obtain moisture for a greater period of time than those on the other sides, enabling that side of the tree to function more normally. We have found in making numerous soil borings that the soils generally are dry at this time and in fact have been dry for the past few months. The only solution is to maintain an adequate amount of soil moisture at all times and not let the tree become dormant prematurely. Ordinarily the "backyard" farmer does not irrigate a great enough area for each individual tree. The root systems spread out much farther than the drip of the tree and that area should be irrigated as well as immediately under the tree. I would suggest making a large basin by pulling up the soil into a bank for a radius of several feet beyond the drip of the tree. Fill this basin a sufficient number of times to obtain a penetration of four to five feet at least, depending upon the character of the soil. Of course your particular tree has been weakened and it may possibly be that it will not respond very well this coming season. A season's growth is influenced by the previous season's growth so your efforts must be confined towards improving the tree this coming season."

### Profitable Crop

After reading your article in the Cultivator of October 28 I want to ask a question. What is the best crop or crops to grow on a 2½ acre ranch for an income or profit? The soil here is decomposed granite which I am told is one of the best. Would you suggest vegetables or fruit? I prefer fruit.—Subscriber, Arlington.

The most difficult problem any of us have to answer is what to plant that will return a reasonable profit. Every farmer is watching for the best crop to plant with the result that what may now seem to promise a profit quite often turns out to be decidedly overdone when the crop is ready for market. For the small acreage berries seem to offer the best returns. However, one should be fairly close to a good market and also be prepared to devote close attention and plenty of hard work to the undertaking. The main thing in planting berries or any other crop is to select the very best variety available and then by close attention produce a better quality of fruit or vegetable than competitors are putting out. No matter how plentiful a product may be there is always a demand for that which is above the average in quality and appearance.

### Airplanes Frighten Chickens

Kindly let me know if I have any protection against airplanes flying over place in making landing. We have established paying poultry plant after spending a lot of money and putting in a lot of hard work. About two months ago the field across the road became an aerial field. Planes fly low over poultry. Several hens died of fright and pullets have dropped from seven dozen to 14 eggs per day. Must I be forced out of business and lose my investment?—Subscriber, San Jose.

There are laws defining the height at which aircraft must travel, but whether or not they would be applicable in your case we are unable to say. It would seem that there ought to be some remedy and we would suggest that you take the matter up with your district attorney.

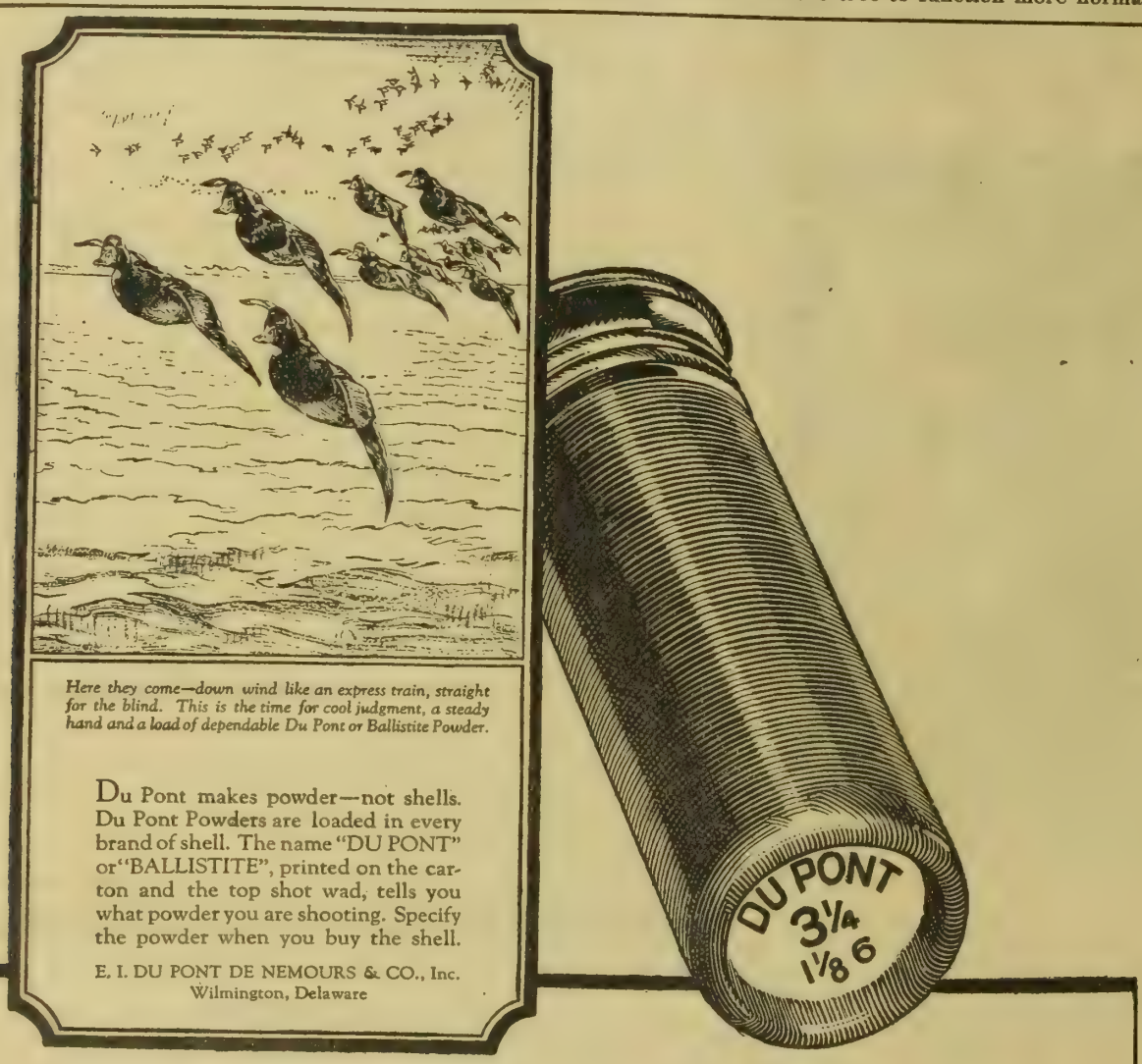
### Poor Pears

Pear tree nine or ten years old, about 20 feet high, has not had a half crop of pears on it yet. What fruit it has is nearly all on north side. I don't know variety. They ripen early in September, begin to rot before ripe. One-third of the fruit was partially or wholly rotten at picking time. What is the trouble and what is the remedy?—Subscriber, Walnut Hill.

From your description of the way the tree acts we think your only remedy is to graft it over to some more prolific variety. It is possible that your soil may not be suitable for the tree's proper growth or the condition may be due to scale or blight infestations. Before going to the trouble of grafting it over have the county horticultural commissioner send one of his inspectors out to determine if the trouble may be due to this latter cause.

### Pear Blight

I wish to give through the Cultivator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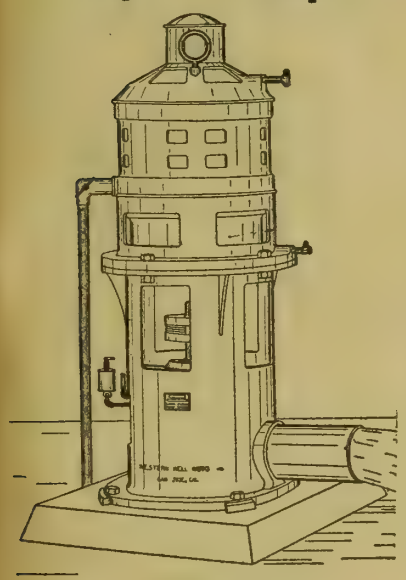

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Extra parts are always available without delay for standard advertised machinery. This class always found in the California Cultivator.


my experience this year with pear blight. Perhaps others will wish to try it. I have two trees that were quite badly affected with blight last year and the year before. Last spring just as the sap was starting well I bored a ⅞ inch hole in each tree, the hole slanting downward, and poured into each one about 1½ ounces of creosote, then plugged the hole with a wooden plug. The wound is healing over nicely and there has been no indication of blight this year. I will skip next year and note results.—W. G. Marshall, Oakdale.

We have never had a great deal of faith in the injection of ingredients into the trunks of trees for the purpose of either inoculating them against diseases or for invigorating and making them more prolific. However, the experiment may be worth following up and we shall await with interest the result of this treatment on next year's growth and its resistance to blight. Some years since a professor at Stanford made experiments with chemicals plugged in bored holes in trees and at first claimed great results. We have heard nothing in recent years. The plan was first suggested nearly a half century ago and later was the basis of several fake "remedies." One possible explanation of the apparent immunity to blight is in this that the pear tree most vigorous in growth is most susceptible to blight disease. The boring of a large hole into the heart of a tree might lower vitality and render tree partially immune. It is fairly definitely proved that chemicals are not absorbed by solid wood tissues.

### Salway Peaches

Send you by same mail sample of a late freestone peach just beginning to ripen and which will extend into November. If you know this peach please give me name and opinion of it as a late market variety—Subscriber, San Fernando.

Your peach is either Salway or a seedling of Salway. Of course a very late Salway of good quality would likely sell well in local markets for fresh fruit but an extensive acreage woud not be justified. Canneries closed some time ago and canners are not anxious to extend season. Many stop with Phillips Cling, though some continue on Salway.

### Exchanging Milk Bottles

Sometimes I get bottles belonging to my competitor. I have other bottles from various parts of the state, tourists seeming to exchange them. Is there a law forbidding me to refill these bottles? Of course in regard to refilling my competitors' bottles in the same town, I wouldn't anyway. But I have several of his bottles and no doubt he has several of mine. And I understand he breaks all the bottles he gets of mine, so I could not exchange with him. Now I sell milk in two towns and could he make trouble if I used these bottles in the other town in case he would not pay for or exchange?—Subscriber, Arroyo Grande.

It is against the law to use bottles for milk which are stamped with the name of any concern not your own. We know that it is a serious problem to have one's bottles replaced by others which one can not use, but it cannot be avoided. This matter has been taken care of very nicely in Los Angeles by the formation of a bottle exchange which gathers up the stray bottles from the dairies and returns them to their own home, making a small charge for the service. In a small town common courtesy should prevail, and when you have accumulated a number of your competitors bottles you should notify him to come and get them and he should do the same by you. To break a competitor's bottles is worse than biting off one's nose to spite one's face as he is sure to do the same and both parties will be losers. There can be no profit in the milk business unless bottles can be kept working. The use of your competitor's bottles will give him a chance to cause your arrest and fine, no matter where you use them, so do not give him that opportunity in case there is bad blood between you. Try and make a business agreement with him regarding exchange, which will benefit you both.


# Plant an Orchard

**Note the Roots—** the foundation of your tree—such as are grown only on our foothill soil. Trees are hardy, with well toughened fiber. These qualities spell success to your planting.

I have done some constructive work to safeguard the industry in my promulgation of the "Bergtholdt Plan," *vital to the State and to every fruit grower.*

Copies of my four announcements of 1921, and my three announcements of 1922, will be mailed on application.
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Our trees are propagated from buds and scions furnished by the Nurserymen's Buds Selection Association. They are well and carefully grown, and they will make good.

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# Household Department

BY THE BEAUTIFUL BLUE DANUBE

Calmly roll on, Oh Danube, roll!
Thy story is known from pole to pole.
In forest-clad hills rise silv'ry rills,
That grow as they go, and grandly now
Past castle and town of high renown,
Where many a son hath glory won;
And great is the fame of the name
That thy bards have handed down.

Yet 'tis not the trill
Of the tinkling riil,
Nor the story
Of thy glory
Makes our voices ring
When thy song we sing,
Tho' thy praises sound
Where hearts are found.

'Tis a strain we hear,
Mystic, quaint and clear,
Elf-enchanted,
Memory haunted,
In our heart-land where,
Like the childhood's air
Of a strong old song,
'Tis borne along.

My rippling waters call
To my children one and all;
Tho' in distant lands they roam,
On wings of the wind come songs of home.
And thro' the passing years,
With their joys, their hopes, their fears,
Shall my swell, my sweep, my sound
In the heart of their hearts' deep memories be wound.

Treasure the days of thy youth,
Hear ye my waves complain,
Their waters once fled, of a truth,
Flow not back again;
But youth is rash and gay,
And will dash, and splash, and play
With the world, as tho' to say:
"I'll laugh, love and live forever and a day."

In spring my flow halts a little at first,
The ice-bridge binds before it is burst,
Press warm, then, by night and by day,
It soon will melt away.
With melting glance must a maiden be pressed;
Woo warmly, then, and give her no rest,
Tho' oft-times her lips may say nay,
She will at last give way.

Walk with me, talk with me,
You like me, don't you dear?
Laugh with me, chaff with me,
You miss me, don't you dear?
Sigh with me, cry with me,
You'll kiss me, won't you, dear?
Play with me, stay with me,
The live-long day!

The streamlets clear in the woods are so shy,
Say to me "Why! marry, not I!"
Yet soon you'll see, they'll run gaily with me
Far, far away to the sea.
Ah, maiden dear, true and gentle thou art,
Yield him thy heart, 'till death you do part!
How long has he lov'd thee! Oh, answer him,
Say, he may love thee for aye!

Maidens, heed! Hark, the vespers ring!
Time is on the wing!
Beauty flies! Passion dies!
Sieze the hour while now the whole world yet before you lies,
Lovers, plead! There their troth they plight,
All will now come right!
I must on, hurry on,
Other hearts there are that still are parted from their own.

Ding, dong, ding, dong!
Hear those bells!
They're wedding bells!
Hark! Hark!

Yes, I'll find some as I roll on my way,
That are going to be married today!
And if some must wait for a year,
They will find me here.
For to your fathers and mothers sang I,
To your children I'll sing by and by;
When a thousand years shall be gone,
I'll be singing on.

Men must work
In their joy and woe,
And a maid must weep;
It is sad, it is so!
Laugh, love and live,
As I joyous flow,
Take what life can give,
And be cheerfully ready to go!
Words by Henry Grafton Chapman.

## ANNA AND THE CHERRIES

By Clara Peterson

IN Switzerland, you know, the mountain tops are covered with snow always, even in summer. When it is winter there the snow in drifted places is sometimes as high as the telegraph poles. Then spring comes and all the valleys are happy, for the snow melts. Little flowers rise from the ground where the snow has lain, almost before the coldness has gone away—lilac bells and crocuses, anemones and geraniums, white lilies and gentians of peacock blue.

Long ago as the children gathered the flowers they would look up at the snowy mountain peaks and talk in whispers of the wild man who lived there and who in winter sent great snow slides down into the valleys to ruin everything they fell upon.

"My grandmother says that sometimes the snow slides start themselves because the snow on the mountain peaks gets so heavy, but often the wild man is to blame. Do you know what he does? He goes to the top of every peak and makes a great snowball. He stands and dances. Then he starts it rolling down into the valley. He shouts with joy as it gets larger and larger. Down comes the avalanche upon us. It breaks our trees and smashes our cottages."

Now the wild man has left the mountain peaks and the snow slides do not come so often. Some people will tell you that it is because galleries and tunnels have been built to keep back the snow. But, if you can find some old, old Swiss lady who knows the story she will be glad to tell you about the Swiss girl Anna, and how she and her cherries sent the wild man away.

Anna's black cottage was at the foot of the mountain and there were cherry trees all around it. She was always very happy when spring came and the trees began to cover themselves with blossoms for then she could forget about the snow. After the petals had drifted to the ground Anna liked to watch the small green cherries get larger and larger and redder and redder until they were like delicious balls of red light. Then she would begin to pick them.

This year there were so many cherries that when Anna had sold boxes of them to all her neighbors and stored cans and cans of them in her preserve closet, she still had left a great tall basketful. She stood in her doorway looking down at them and wondering what to do. The sun sparkled on their redness and on her yellow hair. It sparkled too on the glacier which she could see far away through the trees and as Anna lifted her head and gazed at the mountain of ice she thought of the wild man.

"I know what I shall do," said Anna to herself. "Everyone knows that the wild man lives somewhere on the old road to Wiesen. I shall start this very morning and carry him my cherries. Surely he is not so cruel during the summer. Perhaps no one has ever been kind to him. I shall tell him of the harm he does when he sends needless snow slides down upon our trees and houses."

She looked very young and beautiful as she started out with the basket of cherries swinging from her arm. Her black bodice was edged with green ribbons which tied saucily at each shoulder. Her skirt was red and yellow and black and she wore her best white apron which was edged with red ribbon and white lace.

The road ran along a narrow ledge and by the time Anna had climbed high above the forests she was very tired. She shivered too at the smallness of the path and her head grew dizzy when she looked over the edge to the rushing river far below. She changed the basket often from one arm to the other and as the air grew colder she was almost sorry she had come.

"I have heard that there is a bridge," said Anna aloud. "I have heard too that the wild man lives somewhere near it."

She turned the rocky corner suddenly and there swung the tiny bridge between two cliffs. Anna took a step forward.

"Get off my beard!" shouted a terrible voice and something moved beneath her feet.

Anna jumped back against the cliff and clasped her basket tightly. She was wishing very heartily indeed that she had not come for there lay the wild man spread out in the sun, his long black beard across the path.

He got lazily to his feet and Anna saw that he was twice as tall as she and very, very old, though his hair was black. He wore a robe of snow white fur and his bare arms were long and hideous. There were a thousand wrinkles in his face but his teeth were white and even and as Anna looked affrightedly up into his eyes she saw that they were big and brown and tired looking, almost like the eyes of the calf tied in her back yard at home.

"I have come with a present for you," said Anna, but her voice did not sound at all and she tried again.

(Continued Next Week)

## HOUSEHOLD QUERIES

Macaroni

Will you kindly print recipes for making dishes out of macaroni other than salad. Enjoy the paper and use many of the recipes given.—Subscriber, Campbell.

To Prepare Macaroni—The macaroni may be broken into pieces 1½ inches long or it may be cooked whole. In all recipes prepare as follows: Grease the bottom of a deep saucepan and then add 2 quarts of boiling water. Let boil for 2 minutes and add macaroni. Stir for a few minutes and then cook for 15 minutes. Turn into a col-


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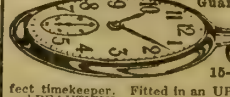

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ander and drain, then blanch under running cold water for 3 minutes. Let drain. It is then ready to use in any number of ways. Greasing the saucepan prevents the macaroni from sticking to the bottom while cooking.

The Italian prepares a seasoning as follows: Wash 2 leeks, 6 branches of parsley, 2 green or red peppers, 4 branches celery, 6 onions, tiny bit of garlic. Place in chopping bowl and chop very fine. Place in saucepan ½ cup of vegetable cooking oil and add vegetables. Cook slowly until soft and add one small can of tomato paste. Blend well and pour in a bowl or jar and set in cool place. This mixture will keep in a refrigerator or cool place for one week in summer and from 10 to 12 days in winter. This mixture is called tomato aux fine herbes. Small portions of meat that would be insufficient to serve alone can be utilized in making these dishes. When making gravy, prepare enough so that a cup or more may be set aside to use in the macaroni dishes.

Macaroni Mileuse—Wipe with damp cloth and cut in 1 inch blocks one pound of shin beef. Roll in flour and brown quickly in hot fat. Place in a deep saucepan and add 3 pints cold water, 2 onions cut fine, 1 medium sized carrot cut in dice. Bring to boil and cook gently until meat is tender. Add ½ cup tomato aux fine herbes, 2 teaspoons salt, 1½ teaspoons paprika, 6 ounces prepared macaroni. Bring to a boil and cook until the macaroni is well heated. Pour on large platter and garnish with finely chopped parsley.

Baked Macaroni—Arrange prepared macaroni in a buttered baking dish in layers with cream sauce. Sprinkle top with fine bread crumbs and grated cheese and bake in moderate oven 25 minutes.

Macaroni Souffle—Cook ¼ pound macaroni and when cool chop fine. Add 1 onion chopped fine, 1 red pepper chopped fine, 4 bunches parsley chopped fine, yolks 2 eggs, 2 cups cream sauce, 1½ teaspoons salt, 1 teaspoon paprika. Beat to mix and then cut and fold in the stiffly beaten whites of 2 eggs. Pour into a greased baking dish and bake in moderate oven 20 minutes. Serve at once.

Macaroni Cutlets—Cook ¼ pound macaroni, cool and chop fine. Place in bowl and add ½ cup grated cheese, 2 tablespoons grated onion, 1 tablespoon finely minced parsley, 2 teaspoons salt, 1 teaspoon paprika, 1 well beaten egg. Mix thoroughly and mould into croquettes. Roll in flour, dip in beaten egg, roll in fine crumbs and fry in hot fat. Place in hot oven for 10 minutes to finish cooking.

Macaroni, Olives and Cheese—This dish is famous among the mountain folk in Italy and is served on gala days. Cook 4 ounces macaroni, cool and chop fine. Add ½ cup pimento olives, chopped fine, ½ cup grated cheese, 2 cups cream sauce, 1 large onion, minced fine, 2 large red peppers, minced fine, 2 teaspoons salt, 2 teaspoons paprika, tiny piece garlic. Mix and pour into baking dish. Dot the top with bits of butter. Place in hot oven for 25 minutes.

Nut and Macaroni Savory—4 tablespoons melted shortening, ½ pound chopped Brazil nuts, 1 cup boiled macaroni, 1¾ cups bread crumbs, 2 eggs, 3 cups milk, 2 tablespoons chopped parsley, salt, pepper, and powdered mace to taste, brown sauce. Cut cooked macaroni into small pieces, put into bowl, add nuts, breadcrumbs, seasonings, eggs well beaten, and milk. Turn into well greased earthenware dish, dot with tiny pieces of butter and bake in moderate oven 45 minutes. Serve hot with brown sauce.

Macaroni Custard—Place in saucepan 2 cups milk, 1½ cups water, 6 level tablespoons cornstarch. Dissolve the starch in the water and add the milk. Bring to a boil and cook for five minutes. Remove from the fire and add yolks of 2 eggs, 1 cup sugar, 1½ teaspoons vanilla. Beat to mix and pour over 6 ounces cooked macaroni, add ½ cup raisins and bake in moderate oven for 25 minutes. Place the whites of 2 eggs in bowl and add 1 glass jelly. Beat until the mixture holds its shape and pile on top of pudding.

### Salt Rising Bread

I wonder if some of your good subscribers would send you recipes of salt rising bread so you could publish them in your columns. I very much wish to make some but lost my recipe in a fire a year ago and can't remember how I made it. I have not been able to find the recipe in any modern cook book and turn to you as a last resort. I find the recipes published in your paper very good and note that requests for recipes bring many replies, so I'm hoping some one will send the recipe for salt rising bread.—Subscriber, Soquel.

Here are directions for making "salt rising" but we shall be glad to publish other hints contributed by our housekeepers who are successful in making this most delicious of breads.

One cup milk, 2 tablespoons white corn meal, 1 teaspoon salt, 1 tablespoon sugar, butter (if used), 1 tablespoon flour. Scald the milk. Allow it to cool until it is lukewarm; then add the salt, sugar, and corn meal. Place in a fruit can or a heavy crock or pitcher and surround by water at about 120 degrees Fahrenheit. Water at this temperature is the hottest in which the hand can be held without inconvenience, and can be secured by mixing nearly equal parts of boiling water and tap water (unless the tap water is unusually warm). Allow the mixture to stand for 6 or 7 hours, or until it shows signs of fermentation. If it has fermented sufficiently, the gas can be heard as it escapes. This leaven contains enough liquid for one loaf. If more loaves are needed, add 1 cupful of water, 1 teaspoonful of salt, 1 tablespoonful of sugar, and 1 tablespoonful of butter for each additional loaf. Make a soft sponge by adding a cupful of flour for each loaf to be made. Beat thoroughly and put the sponge again at the temperature of about 120 degrees Fahrenheit. When it is very light, add more flour gradually until the dough is so stiff that it can be kneaded without sticking to the hands or to the board. Knead 10 or 15 minutes, put at once into the pans, allow to rise until about two and one-half times its original bulk, and bake. Self-rising bread is never so light as the bread raised with yeast. A loaf made with one cupful of liquid therefore will come not quite up to the top of a pan of standard size.

### Oh, Promise Me

I would like to see the words of the song, "Oh, Promise Me" printed in your columns—Subscriber, Riverside.

OH, PROMISE ME

Oh, promise me that some day you and I
Will take our love together to some sky,
Where we can be alone and faith renew,
And find the hollows where those flowers grew;
Those first, sweet violets of early spring,
Which come in whispers, thrill us both, and sing
Of love unspeakable that is to be;
Oh, promise me, oh, promise me!

Oh, promise me that you will take my hand,
The most unworthy in this lonely land,
And let me sit beside you, in your eyes
Seeing the vision of our paradise;
Hearing God's message while the organ rolls
Its mighty music to our very souls.
No love less perfect than a life with thee;
Oh, promise me, oh, promise me!

Oh, promise me that when with bated breath
I wait the presence of the angel, Death,
You will be near me, guide my faltering feet,
And softly breathe these words in accents sweet.
Come sometime to me from that distant shore,
Caress and comfort as in days of yore,
Triumphant over death our love shall be;
Oh, promise me, oh, promise me!—Harry B. Smith.

## HINTS FROM HOUSEKEEPERS

### Lemon Juice Muffins and Other Things

I wish to thank the household editor and some helpful subscribers for many good recipes and hints printed in this department and would like my lemon country neighbors to have my recipe for lemon juice muffins. These I often make when I have no sour milk on hand.

Mix well and sift together 2½ cups flour (measure before sifting), 1 level teaspoon soda, ½ teaspoon salt. Stir in 1¾ cup rich milk and 4 tablespoons lemon juice. Bake in moderate oven. This will make from 9 to 12 muffins. The lemon juice gives them a faint flavor and aroma that we like very much.

Here are two other suggestions that might help someone:

To Peel Dried Peaches—Dried peaches with tough skins may easily be peeled in this way. Wash and soak over night. Bring slowly to the boiling point. Set aside till cool when the skins may be slipped off. The peaches should then be returned to the juice to simmer until soft.

Beat Clabber—I have found I have better success with quick breads in which clabber milk is used if I beat the clabber well before adding to the other ingredients.

I like this exchange of ideas in the Cultivator. It seems so neighborly.—La Mesa Subscriber.

### Papering—Easy Jam

I have found so many helpful things in your paper that I feel I want to pass on a hint to some other homemaker like myself who has not much to rely on for fixing up homes, etc., and am sure there will be some among the readers like us who would get help from this plan I have followed. We built a house during war times when prices were trebled. Our money gave out and house could not be finished inside. The lumber was rough and splinters found way into fingers often. Besides 'twas unsightly, and the wind came in, and rain beat in when we had hard rains so the walls were often damp. I tried tacking building paper between joists, but it was no good, so I took paper boxes, the corrugated boxes that grocers get goods in, and fruit jars are sold in. These are just destroyed at stores and we get them free. I tacked these closely all over, taking care to fit edges neatly, then put old cloth pasted over that. I got samples of wall paper from paper house, odds and ends, but matched the shade of backs as nearly as possible. These I pasted on my walls, the back side out, and the effect is splendid, clean white walls. I put papers over studding first, allowing plenty of room over the sides. This made it much easier to fit them. I got a couple of odd pieces of border alike (a dainty cut out pattern) for 30 cents. This added to the walls. It surely makes a pleasing change, besides, when it's soiled I now can kalsomine over it at very little cost.

We have had some hard rain and cold winds here in the mountains, and the house has been so comfortable, no wind goes through and less fuel is needed—besides the pleasure of a clean neat looking wall, and the whole cost was less than two dollar (not counting my work of course). I am so delighted with the change in my ugly walls I want to pass the idea on and thought you could tell of it in the household columns and help some other poor sister who dislikes ugly things, but whose purse was short like ours.

Another thing I do, I cut out from the paper articles I want. I have separate books for each division. Poultry, cooking, figs and all fruits, culture, etc. are kept separate so I can readily turn to any part I want to look up. The poultry answers have been especially helpful and I find so many good cooking helps. I am also sending my raw jam recipe which I have used for a number of years. Jam keeps splendidly and is so much less work. I make all kinds of berries into this jam and they never lose the fresh flavor or rich color and for short cakes, etc., they can't be beaten.

(Continued on Page 515)


# Are you among these thousands?

THOUSANDS of people keep on trying, year after year, to build health from food that has been robbed of certain elements required for perfect nutrition.

If your food doesn't contain the mineral properties that go to build up nerve, tooth and bone structure, *there is no other means by which you can get these vital elements.*

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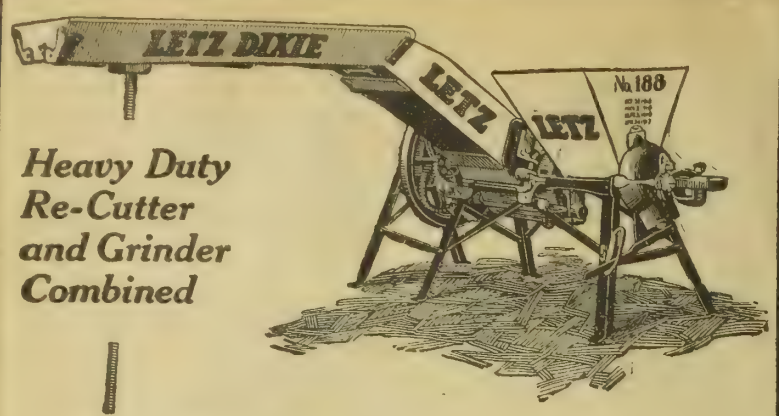


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The dairy industry of California now creates $80,000,000 of yields of 632,000 dairy cows; wealth that is distributed from mont mesas of California offer still greater opportunities for the promo products solicit your support and interest in this great food pro

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| 1,000 | 24 | 5 | 6 |
| 1,500 | 36 | 7 | 1 |
| 2,000 | 48 | 8 | 1½ |
| 2,500 | 60 | 8 | 4 |
| 3,000 | 71 | 9 | 1½ |
| 3,000 | 71 | 8 | 5 |
| 4,000 | 95 | 9 | 10½ |
| 4,000 | 95 | 9 | 2½ |
| 5,000 | 119 | 10 | 11 |
| 5,000 | 119 | 10 | 3½ |
| 6,000 | 143 | 11 | 4 |
| 7,000 | 166 | 12 | 1½ |
| 8,000 | 190 | 12 | 3 |
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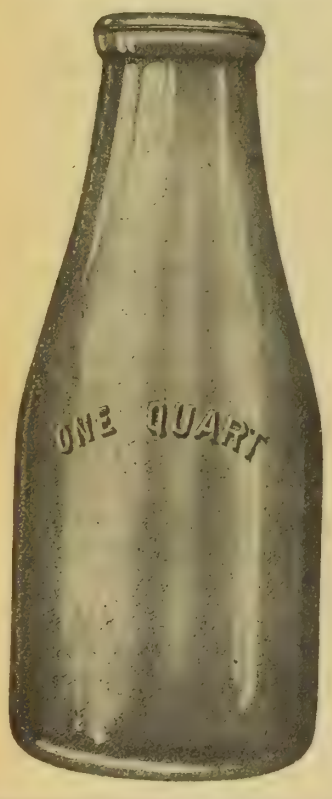


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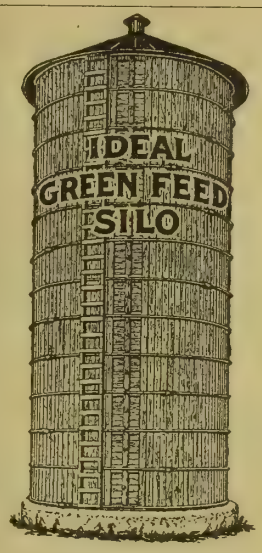


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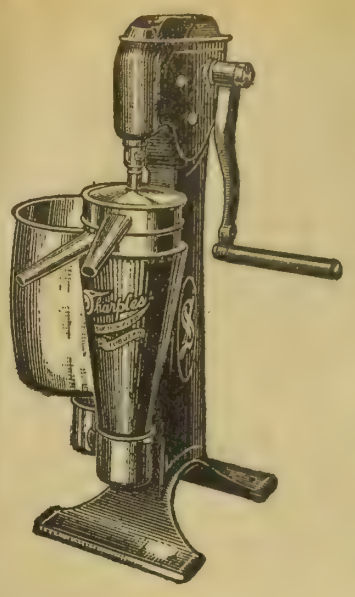

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The "Sharples" is a perfect powerful easy running, suction feed separator. It is sold with the iron-clad guarantee of "money back if not as represented." The workmanship is guaranteed to be of the very highest calibre—the materials to be the finest obtainable. Durability is built into every Sharples Separator.

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CHAMPION SPARK PLUG CO. TOLEDO, OHIO


# Awards at the California National

## BEEF CATTLE

### Shorthorns

Three bulls owned by exhibitor—1, Caledonian Farms, West Sacramento; 2, Straloch Farm, Davis; 3, Caledonia.

Two bulls bred and owned by exhibitor—1, Caledonia; 2, Caledonia; 3, Pacheco Cattle Co., Hollister.

Bull, 3 years old—1, T. T. Miller, Hollister on Millmar Matchless; 2, Howard Vaughn, Dixon, on Clarion.

Bull, 2 years old—1, Caledonia on King Caledonia 2d; 2, Pacheco on Pacheco Lad 3rd; 3, Straloch on Braywood Collynie Imp.; 4, Dibblee Estate, Lompoc, on Star of Cluny; 5, Caledonia on Count Kingwood.

Senior yearling bull—1, Caledonia on The Caledonian; 2, Miller on Stamp of Millmar; 3, Dibblee on Royal Crescent.

Junior yearling bull—1, Straloch on Helmsman; 2, Miller on Millmar Sultan 5th; 3, Pacheco on Pacheco Lad 28th.

Senior bull calf—1, Caledonia on Caledonia Emblem; 2, Caledonia on Caledonia Supreme; 3, Straloch on Villager Cumberland; 4, Caledonia on Caledonia Omega; 5, Pacheco on Pacheco Lad 314th; 6, Dibblee on Village Prince; 7, Straloch on Straloch Stamp.

Junior bull calf—1, Caledonia on Caledonia Commander; 2, Straloch on Straloch Marquis; 3, Caledonia on Caledonia Hope; 4, Caledonia on Caledonia Rex; 5, Pacheco on Pacheco Fairplay; 6, Miller on Millmar Stamp 6th; 7, Pacheco on Pacheco Lad 351st; 8, Vaughn on Village Victor.

Senior champion bull—Caledonia on Caledonia King 2d.

Junior champion bull—Caledonia on Caledonia Commander.

Grand champion bull—Caledonia on Caledonia King 2d.

Cow 3 years old calf by side—Dibblee on Roan Dorothy 2d.

Cow, 3 years old—1, Caledonia on Glenbessie 3rd; 2, Straloch on Mistress Maria.

Cow or heifer, 2 years old—1, Dibblee on Princess Royal; 2, Miller on White Briar Millmar; 3, Caledonia on Glenbrook's Memory; 4, Straloch on Memory's Queen.

Senior yearling heifer—1, Pacheco on Knight's Lassie; 2, Caledonia on Caledonia Queen; 3, Miller on White Millmar; 4, Straloch on Straloch Maria; 5, Dibblee on Lancaster Lady 2d; 6, Dibblee on Orange Blossom Maid; 7, Caledonia on Caledonia Rosetta; 8, Miller on Choice Beauty Millmar 4th.

Junior yearling heifer—1, Caledonia on Caledonia Countess; 2, Caledonia on Caledonia Mischief 2d; 3, Pachecho on Pacheco Lass 280th; 4, Straloch on Silver Missie H; 5, Miller on Millmar Mistletoe 2d.

Senior heifer calf—1, Pacheco on Pacheco Lass 292d; 2, Straloch on Straloch Fashioness; 3, Caledonia on Matchless Missie; 4, Pacheco on Pacheco Lass 293rd; 5, Miller on Beauty Millmar; 6, Straloch on Straloch Fashion; 7, Pacheco on Silver Beauty; 8, Straloch on Missie of Straloch; 9, T. S. Glide on Cheerful Maid 6th; 10, Glide on Hillcrest Mary 5th.

Senior champion female—Miller on Princess Royal.

Junior champion female—Pacheco on Knight's Lassie.

Grand champion female—Pacheco on Knight's Lassie.

Graded herd—1, Caledonia; 2, Straloch.

Yearling herd—1, Caledonia; 2, Pacheco; 3, Dibblee; 4, Straloch; 5, Miller.

Calf herd—1, Straloch; 2, Caledonia; 3, Pacheco.

Get of sire—1, Caledonia on get of Caledonia; 2, Caledonia on get of Caledonia; 3, Straloch on get of California Model; 4, Pacheco on get of Pacheco Marshal; 5, Miller on get of Greendale Sultan; 6, Dibblee on get of Grand Gallant.

### Herefords

Three bulls, owned by exhibitor—1, C. S. Howard, Willets; 2, J. A. Bunting, Mission San Jose; 3, R. C. Jacks, Monterey; 4, Diablo Stock Farm, Danville; 5, A. H. Barnum, Oregon; 6, H. M. Barngrover, Taylorsvile.

Two bulls, bred and owned by exhibitor—1, Bunting; 2, Wm. Briggs & Son, Dixon; 3, Barnum; 4, Barngrover.

Aged bulls—1, Barnum on Beau Carlos 15th; 2, Jacks on Paragon Dare; 3, Diablo on Junior Grove.

Two year old bulls—1, Howard on Mischief Fairfax; 2, H. H. Gable, Esparto on Real Patrician; 3, Bunting on Golden Gate; 4, H. A. Baldwin on Domino President.

Senior yearling bulls—1, Jacks on Laurel Perfection 2d; 2, Barngrover on Roosevelt 2d.

Junior yearling bulls—1, Howard on Beau Blanchard, Jr.; 2, Diablo on Marvel's Pride 15th; 3, Barnum on Carlos Donald; 4, Howard on Bocaldo Prince 1st; 5, and 6, Barnum on Prince Carlos and Young B. Carlos 19th; 7 and 8, Diablo on Little Wizard and Prince Wizard.

Senior bull calves—1 and 4, Bunting on Mission 2d and Mission Brummel; 2, Baldwin on The California; 3 and 5, Howard on Prince Marshall 2d and Beau Perfect 1st; 6 and 7, Barngrover on Nos. 789 and 790; 8, Jacks on Darwood; 9, Diablo on Diablo King.

Junior bull calves—1 and 2, Briggs & Son on Donald Dan 2d and D. D. 1st; 3, Bunting on Mission Paragon; 4 and 8, Gable on Woodland and Yolo Lad; 5, Jacks on Imperial Lad; 6, Howard on Price Mansell 6th.

Aged cows—1, Jackson on Bocaldo Beauty; 2, Barngrover on No. 791; 3, 4 and 5, Barnum on Lone Beauty 3rd, Pr. Valley 2d and Sunlight 2d.

Two year old heifers—1, Howard on Lady Fairfax 20th; 2, Jackson Phyllis Velie; 3, Baldwin on Aurora 2d.

Senior yearling heifers—1, Briggs & Son on Miss Dare 20th; 2, Baldwin on Princess B. M.; 3 and 4, Jacks on No. 799 and Lady Dare 2d; 5, Diablo on Diablo's Gladiolis; 6th, Barngrover on No. 792.

Junior yearling heifers—1 and 2, Briggs & Son on Eulalie Velie and Susette Velie; 3, 4 and 5, Barnum on May Carlos, Rowena Princess and Miss Bonnie Lad; 6, Barngrover on Patricia Jean.

Senior heifer calves—1, Jacks on Gertrude; 2, Baldwin on Lady Domino; 3, and 4, Howard on Bonnie Ruper 2d and Lady Mansell 3rd; 5 and 6, Bunting on Mission Helm and Mission May.

Aged herd—Jacks.

Yearling herd—1, Barnum, 2, Barngrover.

Calf herd—1, Bunting; 2, Jacks.

Get of sire—1, Bunting on The Peer; 2, Barnum on Beau Carlos 19th; 3, Barngrover on Patrician 5th.

Championships—Senior and grand champion bull, Mischief Fairfax; junior champion bull, Beau Blanchard, Jr.; senior and grand champion female, Bocaldo Beauty; junior champion female, Eulalie Velie.

### Aberdeen Angus

The only herd exhibited was that of Congdon and Battle, Yakima, Washington.

## DAIRY CATTLE

### Holstein-Friesian

Bull, 3 years old—1, Millbrae Dairy on King Pontiac Musa Netherland; 2, Frank Brescianini on Helm Hiske Johanna De Kol.

Bull, 2 years old—1, Brescianini on Sir Ormsby Korndyke Fern.

Junior yearling bull—1, Bridgford Holstein Co. on King Pontiac Saltertia Prilly.

Senior bull calf—1, Bridgford on King Prilly Pontiac Echo; 2, Millbrae on Millbrae Therese Korndyke; 3, Brescianini on Napstahos Sir Ormsby Raphaella.

Junior bull calf—1, Millbrae on Millbrae Pontiac Olive Korndyke; 2, Bridgford on King Pontiac Princess Prilly.

Senior champion bull—Millbrae on King Pontiac Musa of Netherland.

Junior champion bull—Bridgford on King Pontiac Saltertia Prilly.

Grand champion bull—Millbrae on King Pontiac Musa of Netherland.

Cow, 4 years old—1, Millbrae on Thelma of Millbrae; 2, Millbrae on Netherland of Millbrae; 3, Millbrae on Sleepy Barrilos Pontiac; 4, Millbrae on Juana Pontiac Maid of Millbrae; 5, Millbrae on Verna Pontiac of Millbrae.

Cow, 3 years old—1, Millbrae on Gladys King Pontiac; 2, Millbrae on Barrilos King Pontiac.

Cow or heifer, 2 years old—1, Millbrae on Millbrae Pontiac Sarcastic Maid.

Senior yearling heifer—1, Millbrae on Millbrae Rag Apple Esteves.

Junior yearling heifer—1, Millbrae on Milbrae Ormsby Queen.

Senior heifer calf—1, Bridgford on Abbekerk Adirondac Maid Prilly; 2, Millbrae on Millbrae Antoinette Pontiac; 3, Bridgford on Unnamed; 4, Bridgford on Eva De Kol Segis Prilly; 5, Millbrae on Angelina Korndyke Pontiac.

Junior heifer calf—1, Millbrae on Millbrae Babronia Pontiac; 2, Bridgford on Princess Echo Prilly Segis; 3, Bridgford on Mercedes Inka Hengerveld Prilly; 4, Bridgford on Kate Hengerveld Prilly Alcartra; 5, Millbrae on Millbrae Fracine Pontiac Maid.

Senior champion female—Millbrae on Millbrae Pontiac Sarcastic Maid.

Junior champion female—Bridgford on Abbekerk Adirondac Maid Prilly.

Grand champion female—Millbrae on Millbrae Pontiac Sarcastic Maid.

Aged herd—Millbrae.

Young herd—Millbrae.

Calf herd—1, Bridgford; 2, Millbrae Dairy.

Get of sire—1, Millbrae on get of King Pontiac Musa Netherland; 2, Bridgford on get of King Segis Alcartra Prilly; 3, Millbrae on get of King Pontiac Musa Netherland.

Produce of dam—1, Millbrae on Produce of Sleepy Barrolis of Millbrae; 2, Bridgford on Produce of Princess Pontiac Saltertia of Vina.

Five cows in milk—1, Millbrae.

### Jersey

Bull, three years old—1, J. E. Thorp on Biddy's King of Mossdale; 2, Thorp on Jolly Senator Raleigh.

Bull 2 years old—1, Waterloo Jersey Herd on Financial Corrector.

Senior yearling bull—1, Thorp on Biddy's King of Mossdale, Jr.

Junior yearling bull—1, Thorp on King Tip of Mossdale.

Senior bull calf—1, Thorp on Naomi's King of Mossdale; 2, Waterloo on Financial Corrector Gold.

Junior bull calf—1, Thorp on Nobleman of Tintagel.

Senior champion bull—Waterloo on Financial Corrector.

Junior champion bull—Thorp on Naomi's King of Mossdale.

Grand champion bull—Waterloo on Financial Corrector.

Cow, 4 years old—1, Waterloo on Valet's Grace Doreen of L.; 2, Thorp on Goldie's Nehalem Cowslip; 3, Thorp on Salome of Mossdale.

Cow, 3 years old—1, Thorp on Queen Bess of Mossdale.

Cow or heifer, 2 years old—1, Waterloo on Goldie's Dame of Onata; 2, Thorp on Girlie of Mossdale.

Senior yearling heifer—1, Thorp on Wardress of Mossdale; 2, Waterloo on D. L. K.'s Aljibe; 3, Thorp on King's Bessie of Mossdale.

Junior yearling heifer—1, Thorp on King's Miss of Mossdale.

Senior heifer calf—1, Waterloo on Financial Corrector's Fisola; 2, Waterloo on Financial Corrector's Viola; 3, Thorp on Miss Golden Gate of Mossdale; 4, Thorp on Salome May of Mossdale.

Junior heifer calf—1, Thorp on Gypsy

May of Mossdale; 2, Waterloo on Financial Corrector's Glory; 3, Thorp on King's Daughter of Mossdale.

Cow, having official yearly record—1, Waterloo on Valet's Grace Doreen of ...; 2, Thorp on Salome of Mossdale.

Senior champion female—Waterloo on Goldie's Dame of Onata.

Junior champion female—Thorp on Gypsy May of Mossdale.

Grand champion female—Waterloo on Goldie's Dame of Onata.

Aged herd—1, Waterloo; 2, Thorp.

Young herd—1, Thorp.

Calf herd—1, Thorp.

Get of sire—1, Waterloo on get of Financial Corrector; 2, Thorp on Biddy's King of Mossdale; 3, Thorp on Jolly Senator Raleigh.

Produce of dam—1, Thorp on Produce of Salome of Mossdale.

Five cows in milk—1, Thorp.

### Guernsey

Bull, 3 years old—1, Humphrey on Nobleman of Maple Hill.

Bull, 2 years old—J. A. Brown on Azucenas Penrod.

Senior yearling bull—1, Brown on Floridale Secret King; 2, Humphrey on Escalon Favorite.

Junior yearling bull—1, Brown on Golden Hero of Santa Cruz.

Senior bull calf—1, Humphrey on Escalon Ricardo; 2, Brown on Golden Sequel of Santa Cruz; 3, Humphrey on Escalon Archer; 4, Humphrey on Escalon Golden Noble.

Junior bull calf—1, Humphrey on Escalon Senator; 2, Brown on Candie's Lad of Santa Cruz.

Senior champion bull—Humphrey on Nobleman of Maple Hill.

Junior champion bull—Brown on Floridale of Secret King.

Grand champion bull—Humphrey on Nobleman of Maple Hill.

Cow, 4 years old—1, Humphrey on Phillys of Mayhews; 2, Brown on Blossie's Sequel; 3, Brown on Carmensita.

Cow, 3 years old—1, Humphrey on Escalon Daisy.

Cow, or heifer, 2 years old—1, Humphrey on Mayhews, Bonnie Lassie; 2, Brown on Bess Van Tassel.

Senior yearling heifer—1, Humphrey on Escalon Nancy; 2, Murphy on Escalon Pearl; 3, Brown on La Bonita of Santa Cruz; 4, Brown on Ruby's Queen of Beirnietoun.

Junior yearling heifer—1, Humphrey on Escalon Naomi; 2, Humphrey on Escalon Joan; 3, Brown on Caroline Sylvia.

Senior heifer calf—1, Humphrey on Escalon Pollyanna; 2, Humphrey on Escalon Lotty; 3, Brown on La Miranda of Santa Cruz.

Junior heifer calf—1, Humphrey on Escalon Beauty; 2, Humphrey on Escalon Valentine; 3, Brown on La Isabella of Santa Cruz.

Cow, having official yearly record—1, Brown on Blossies Sequel; 2, Brown on Carmensita.

Senior champion female—Humphrey on Mayhew's Bonnie Lass.

Junior champion female—Humphrey on Escalon Beauty.

Grand champion female—Humhprey on Mayhew's Bonnie Lass.

Aged herd—1, Humphrey; 2, Brown.

Young herd—1, Humphrey.

Calf herd—1, Humphrey.

Get of sire—1, Humphrey on get of Nobleman of Maple Hill; 2, Humphrey on Get of Nobleman of Maple Hill; 3, Brown on get of Imp. Golden Hero of Beauregard.

Produce of Dam—1, Humphrey on Produce of Grape Wild Jewel; 2, Brown on Produce of Blossie of the Caillotene; 3, Humphrey on Produce of Imp. Daisy 2d of the C. R.; 4, Brown on Produce of May Candie.

### Ayrshire

Bull, 2 years old—1, Le Baron Estate on Middlesex Royal Champion.

Senior yearling bull—1, Le Baron on Norabel Commander.

Junior yearling bull—1, R. H. Trumbull on Steybrae Beauty.

Senior bull calf—1, Trumbull on Commander of N. O.; 2, Le Baron on Norabel Timekeeper.

Junior bull calf—1, Le Baron on Norabel Johnnie Walker.

Senior champion bull—Le Baron on Middlesex Royal Champion.

Junior champion bull—Le Baron on Norabel Johnnie Walker.

Grand champion bull—Le Baron on Middlesex Royal Champion.

Cow, 4 years old—1, Le Baron on Miss Blossom of South Farm; 2, Le Baron on Willowmoor Winsome 3rd; 3, Le Baron on Princess Maggie.

Cow, 3 years old—1, Le Baron on Norabel Marie; 2, Le Baron on Norabel Blossom.

Cow or heifer, 2 years old—1, Le Baron on Norabel Dandy; 2, Le Baron on Norabel Woodbine; 3, Trumbull on Pansy of North Oaks.

Senior yearling heifer—1, Le Baron, on Norabel Cherry; 2, Trumbull on unnamed; 3, Trumbull, unnamed; 4, Le Baron on Norabel Jessie.

Junior yearling heifer—1, Le Baron on Norabel Violet; 2, Trumbull on unnamed; 3, Trumbull on unnamed; 4, Le Baron on Norabel Letty.

Senior heifer calf—1, Le Baron on Norabel Gay Lass; 2, Trumbull on unnamed; 3, Le Baron on Norabel Mistletoe; 4, Le Baron on Norabel of Fatima.

Junior heifer calf—1, Le Baron on Norabel Tootsie; 2, Trumbull on unnamed.

Cow, having official yearly record—1, Le Baron on Princess Maggie.

Senior champion female—Le Baron on Miss Blossom of South Farm.

Junior champion female—Le Baron on Norabel Gay Lass.

Grand champion female—Le Baron on Norabel Gay Lass.

Aged herd—Le Baron.

Young herd—1, Le Baron; 2, Trumbull.

Calf, herd—Le Baron.

Get of sire—1, Le Baron on get of Pinehurst White Prince; 2, Le Baron on get of Bell's Mint Master of Wendover; 3, Trumbull on get of Mac's Statesman.

Produce of dam—1, Le Baron on Produce of Norabel Amelia; 2, Trumbull on unnamed.

Five cows in milk—Le Baron.

### Dairy Shorthorns

Bull, 3 years old—1, Santa Rosa Stock Farm, Santa Rosa, on Count Tickford; 2, J. D. Rowe & Son, Davis, on Silver Sword.

Bull, 2 years old—1, Rowe & Son on Innisfail Perfection.

Junior yearling bull—1, Santa Rosa on Count Marshall.

Senior bull calf—Rowe & Son on Galvina; 2, Santa Rosa on Count Madrigal.

Junior bull calf—1, Santa Rosa on Count Idaho; 2, Rowe & Son on Innisfail Lad; 3, Santa Rosa on Count Roystove.

Senior champion bull—Santa Rosa on Count Tickford.

Junior champion bull—Santa Rosa on Count Marshall.

Grand champion bull—Santa Rosa on Count Tickford.

Cow, 4 years old—1, Rowe & Son on Bellevue Daisy; 2, Santa Rosa on Bessborough Curlew; 3, Rowe & Son on Alma; 4, Rowe & Son on Valley Belle 5th; 5, Santa Rosa on Woodburn Rose.

Cow, 3 years old—1, Rowe & Son on Gypsy Girl; 2, Rowe & Son on Beggar Maid's Beauty 2d.

Cow or heifer, 2 years old—1, Santa Rosa on Lovely Perfection; 2, Rowe & Son on Countess Innisfail; 3, Santa Rosa on Roan Bess.

Senior yearling heifer—1, Rowe & Son on Innisfail Betty; 2, Santa Rosa on Santa Rosa Naomi.

Junior yearling heifer—1, Santa Rosa on Santa Rosa Rosebud; 2, Rowe & Son on Innisfail Evelyn; 3, Santa Rosa on Count's Lavender.

Senior heifer calf—1, Rowe & Son on Innisfail Maid 2d; 2, Rowe & Son on Flower Girl 5th; 3, Santa Rosa on Countess Clementine; 4, Santa Rosa on Countess Rose.

Junior heifer calf—1, Rowe & Son on Innisfail Maud.

Cow having official yearly record—1, 2 and 3, Rowe & Son, on Bellevue Daisy, Valley Belle 5th and Alma.

Senior champion female—Rowe & Son on Bellevue Daisy.

Junior champion female—Rowe & Son on Innesfail Betty.

Grand champion female—Rowe & Son on Innisfail Betty.

Aged herd—1, Santa Rosa; 2, Rowe & Son.

Young herd—1, Rowe & Son; 2, Santa Rosa.

Calf herd—1, Santa Rosa.

Get of sire—1, Rowe & Son on get of Innisfail Favorite; 2, Santa Rosa on get of Count Tickford; 3, Rowe & Son on get of Glenside Favorite; 4, Santa Rosa on get of Count Tickford.

Produce of dam—1, Santa Rosa on Produce of Daisy Maid; 2, Rowe & Son on Produce of Buttercup's Beauty.

Five cows in milk—1, Rowe & Son.

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It is said there were some 30,000 cattle on feed in Imperial by November 1 and the same number in the Phoenix district on feed. My estimate is that with good rains California ranges can easily absorb 150,000 cattle. Thousands are arriving now on ranges but with a good year more can be carried and fattened.—A. L. Spellmeyer.

# What Experience Taught Me in the Growing of ALFALFA, How I Turned Failure Into SUCCESS!

J.M. BOMBERGER
Pres. BOMBERGER SEED COMPANY

**DURING MY FIRST FIVE OR SIX YEARS** of dairying I was only fairly successful. I had a hard time making ends meet financially.

**I HAPPENED TO TRY OUT** fourteen different kinds of alfalfa planted in rows and I watched their growth.

**AFTER THAT** I planted the kinds that produced the most and best hay under California climatic and soil conditions.

**THE RESULT WAS** that I averaged, year after year, about twice as much hay per acre as I grew the first five years.

**DURING THE FOLLOWING TEN YEARS** I kept about twice as many cows on the same land and never bought a pound of hay.

**GROWING LOTS OF GOOD DAIRY ALFALFA** Cheaply helped me so much that I considered it (next to well bred cattle) the very foundation of profitable dairying.

**MY FOURTEEN TRIAL ROWS SHOWED** that imported alfalfa seed is not adapted to California conditions and produces poorly.

That some of the Southern Alfalfas yield heavily but have a tendency toward coarseness and are not so long-lived as the Northern alfalfas.

That the Utah and other Northern alfalfas are long-lived, but yield too little hay under California conditions.

**EVERYTHING CONSIDERED** the best alfalfa that I have grown is the MODOCK common alfalfa.

It is neither a Southern nor a Northern alfalfa, but seems to combine the best qualities of each under California conditions.

It endures the hardships that are incidental to irrigation better than any other alfalfa.

**TEN TONS OF HAY PER ACRE** per season is not unusual with MODOCK alfalfa.

**I REASONED LIKE THIS:** When I plant alfalfa seed, I expect at least fifty crops of hay from the one seeding and those fifty crops will depend largely upon the kind of seed I plant.

**CAREFUL SELECTION OF ALFALFA SEED** more than any other one thing turned my dairying from hard work and worry to an interesting, pleasant and profitable dairy.

**SOME OF MY NEIGHBORS** asked me to purchase alfalfa seed for them and by 1916 I found myself in the alfalfa seed business.

**WE HAVE NOW MADE IT POSSIBLE** for every retail dealer in California to sell MODOCK seed.

**SINCE WE HAVE BEEN** telling about **MODOCK** alfalfa, a few dealers have been trying to sell alfalfa seed for MODOCK that was not MODOCK seed at all.

**FOR THAT REASON** we started last year to sell the MODOCK alfalfa seed in a trade-marked bag like this.

**TO AVOID DISAPPOINTMENT** make very sure that the MODOCK alfalfa seed which you buy is in the trade-marked MODOCK bag.

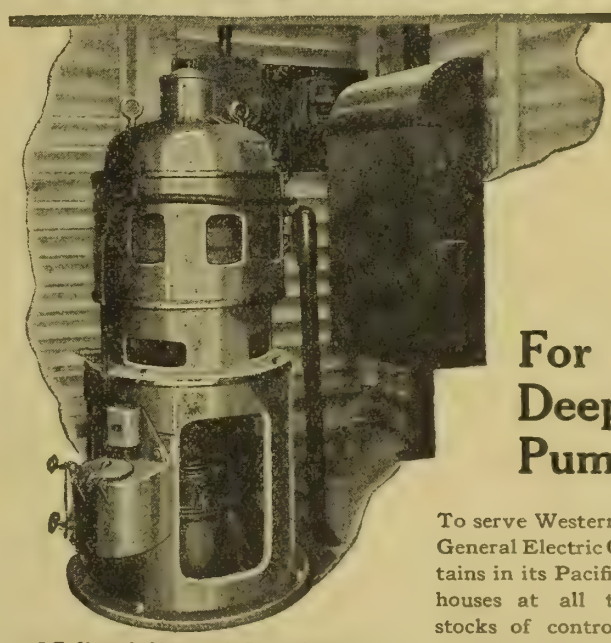
**WELL BRED ALFALFA SEED** is the foundation of a heavy producing alfalfa field just as **WELL BRED DAIRY CATTLE** are the foundation of a heavy producing dairy herd.

Write for our circular which states fully how each kind of alfalfa behaves under California conditions.

**BOMBERGER SEED COMPANY**
MODESTO
CALIFORNIA



# G-E VERTICAL MOTORS



*G-E Vertical Motor and Byron Jackson Turbine Pump recently installed at Stockton, California.*

## For Deep-Well Pumping

To serve Western Farmers the General Electric Company maintains in its Pacific Coast Warehouses at all times complete stocks of control and vertical motors, in sizes ranging from 7½ to 100 h.p. G-E Motors, control, conduit, etc., are of the most improved design and are successfully meeting severe service on the numerous farms where they have been installed.

Names of additional users in your immediate locality sent on request.

A few of the many California organizations and farmers using G-E Vertical Motors are listed.

Kirkman Nursuries, Inc., Madera
Block Fruit Co., Santa Clara
The University Farm, Davis
Martin Reuscher, Lodi
Peter M. Bondeson, Salinas
Anaheim Union Water Co., Anaheim
Glendora Independent Water Co.

**General Electric Company**
General Office Schenectady, N.Y.
Sales Offices in all large cities 45-133

Pacific Coast Offices: San Francisco, Los Angeles, Portland, Seattle, Spokane, Tacoma
Rocky Mountain Offices: Denver, Colorado; Salt Lake City, Utah

# The Chino Community Fair

By Jack Klein

ENTRIES being restricted to the western end of San Bernardino County, the Chino fair did not cause quite as much excitement among the outsiders as some, inside the district the interest has been intense and a wonderful little fair was the result. Starting with nothing but the idea three years ago it has developed into a very creditable show as large as some which boast of public and popular support and funds.

San Bernardinc County is larger than a great many states but agriculturally it is very small, so far the only district of much importance being the small southwestern corner, the part west of the mountains. This part is exceedingly well adapted for orange growing and general farming and every inch is cultivated to the limit. It is this section which corners at Chino and which this little fair boosts.

The agricultural tent at the fair was filled to overflowing with choice specimens of practically every product of the district, and the exhibits were very tastefully arranged. This exhibit owes its success to the untiring effort of Mr. Eastman who has taken it in charge and who plans from one year to the next how to bettter it. Grains, hay, fruit and nuts were shown in a multitude of varieties, proving that in this section almost anything can be grown successfully in a commercial way.

The automobile section, women's section, and machinery exhibits were as large and varied as at many larger shows. The livestock show was not very large but three breeds of dairy cattle and three of hogs were represented by good individuals. Harry Cook and Grant Brothers divided the Jersey premiums, each one showing a small herd. Cook's Jerseys are the pride of San Bernardino County and they are worthy of all praise that is heaped upon them as they are a very excellent herd and have held their own in the big shows this year. Cook's aged cow was made champion.

Windemere Farm had no competition in the Guernseys except one class and won all the first and special prizes. In the Holsteins the neighboring California Junior Republic won most of the ribbons excepting the champion bull which went to the San Bernardino County Farm on the good senior yearling, Sir Veeman De Kol. California Junior did not show Dichter Spofford Korndyke Lad 5 as Jack Skillcock who judged the Chino fair has usually shown him for the Republic and Mr. Condee, head of the Republic's farm, felt that it might embarrass the judge to have to place him.

There were not a great many hogs, and most of them were shown by members of the pig clubs of which there are a number in the vicinity. The quality of these pigs was generally very good, and most of them carried ribbons over their pens showing that they had been winners in the junior and open classes at other fairs.

Shows of this kind are very much to be commended as they do not appeal to the big men who are making showing a business. They allow the neighbors to get together and compare animals, fruit or whatever interests them, and their educational value is very high. They promoted a spirit of friendly rivalry which in time often leads to a complete revolutionizing of methods on some farms in order to outdo the neighbor, and they work very much to the benefit of the revolutionizer.

TRADE MARK SUPERIOR

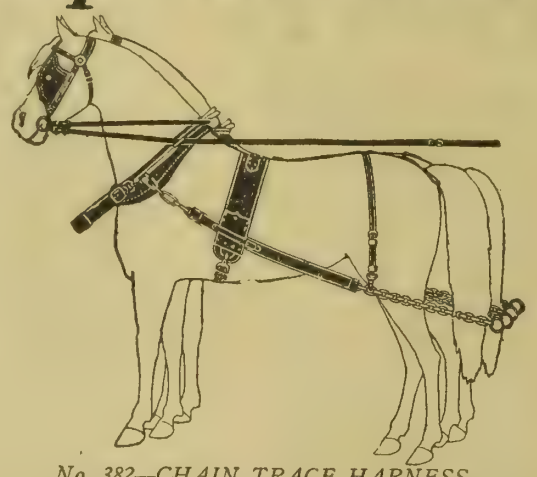
They'll give you superior work if you'll give them "Superior Harness"

Your horses will work with a will if you outfit them with the right kind of harness.

When you select Superior Brand Harness you pick the finest product that experience and skillful workmanship can produce. You have the satisfaction of knowing that the set of Superior Harness you select is the finest that money can purchase and that you are getting full value.

The Lichtenberger-Ferguson factory is the largest harness plant in Western America and produces every approved type of harness required by the Western horse.

Our Booklet entitled "Horse Profits," describes several of the most popular styles. Ask for a copy.



*No. 382—CHAIN TRACE HARNESS*
*A durable set, strongly reinforced and adjustable. Has 5-inch back bands, 1¾-inch belly bands, 2-inch turnbacks, 1½-inch hip straps and 1¾-inch breast straps. Price upon request.*

**The Following Dealers Handle "Superior Brand" Harness**

O. A. Anderson, Lompoc.
Artesia Hardware & Implement Co., Artesia.
M. W. Beadle, Santa Barbara.
Blythe Hardware Co., Blythe.
E. M. Bridge, Hanford.
Central California Auto Works, Lindsay.
G. F. Chambers, Blythe.
C. A. Christian, Turlock.
Corcoran Hardware Co., Cocoran.
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Geo. Eastman, Lancaster.
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Lemoore Hardware Co., Lemoore.
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Wm. F. Lutz Co., Santa Ana.
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Mattson Bros., Bakersfield.
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Simon Newman Co., Newman.
Nice Griffith Co., Calipatria.
Geo. Patterson, Oceanside.
A. W. Pohl, Fresno.
Samuel Prior, Escondido.
Porter Ave. Hardware Co., San Fernando.
S. Preston, Ontario.
Rowe Hardware & Implement Co., Cucamonga.
San Bernardino Implement Co., San Bernardino.
San Fernando Hardware Co., San Fernando.
C. G. Schneider, Stockton.
A. G. Shaffer, Ventura.
John Steinmiller, Oxnard.
Stern Harness & Saddlery Co., San Diego.
A. E. Streeter & Co., Van Nuys.
R. G. Swift, Hemet.
John Todd, Santa Maria.
Turlock Hardware Co., Turlock.
Uhl & King, Visalia.
O. R. Vanderhoof, Corona.
Watterson Bros. Inc., Bishop.
R. J. Welch, Riverside.
Whittier Implement Co., Whittier.
Wickersheim Implement Co., Fullerton.

Lichtenberger-Ferguson Company
Los Angeles Street at Third ∞ Los Angeles
MAKERS OF FINE HARNESS SINCE 1900

## Livestock News Notes

### LIVESTOCK SALE CALENDAR

**November 16, Dispersal, Arthur & Maxfield Holstein Co., Hanford.**

The United States civil service commission announces open competition for position as senior dairy herdsman at Jeanerette, Louisiana, applications for which close December 5. Competitors will not be required to report at any special place for examination but will be rated up on a sworn statement as to former training and experience. Applicants from this district should ask for Form 1312 from the custom house at San Francisco. The pay is $1500 a year at the start with a chance of a bonus of $20 a month for satisfactory services.

Under the heading, "New Jersey's Loss, California's Gain" the latest Guernsey Breeders Journal published at Peterboro, New Hampshire, devoted considerable space to Prof. Wm. M. Regan who has come to assume the position of head of dairy production at the university farm, Davis. The article carries with it the best wishes of Eastern breeders who desire to see Prof. Regan succeed in his new field.

Barring accident, Vive La France, the wonderful Oregon Jersey cow, will complete her sixth consecutive test on January 1 with about 940 pounds of butter fat. If she does this her total for six lactation periods will be 5,354 pounds butter fat or an average of 892 pounds for each year.

"Twinkle" Starr who was in charge of the show herd of Ayrshires from the H. G. Ranch won the herdsman's prize of $25 at the state fair for the best kept barns. Starr made a fine showing all the way down the line, and everywhere his exhibit was one of the best kept and most pleasingly decorated on the grounds.

The American Jersey Cattle Club reports a number of new members from California to its Jersey Calf Club Organization, membership in which requires but one thing of a boy or a girl under 16, the ownership of a registered Jersey, the age and sex being of no import. The new members from California are Daniel Conant and Ruth Wilson of Modesto; John and Bertha Meier, Hickman; Lee Diedrichsen and Darrel Flowers, Ferndale; Mildred Gurnett, Charles and Max Krause, Orland; and Luther and Morris Hubbard of Turlock.

C. B. Harris reports sale of a herd of 41 head of registered Herefords formerly owned by Howard Tilton in San Jose, to the Santa Margarita Ranch in San Luis Obispo County.

### TURLOCK'S PORK DAY

Pork Day held at Turlock under the auspices of the Merced and Stanislaus County farm bureaus on October 31 was voted a decided success by more than a thousand people who attended. Over 500 hogs were entered and first prize on the entry of 35 hogs went to E. G. Stone of Fairview. F. L. Hogue, Modesto, won on his Durocs. E. G. Stone was second, Alexander Carlson of Youngstown was third with Poland Chinas. R. Mayfield of Riverside was fourth and fifth with Durocs and H. A. Stammerjohan of Turlock, was sixth with Durocs.

There were seven entries in the Pig Club contest from each county. The

prizes went to Clay, Reuben and Lonney Stammerjohan of Turlock.

The price for the best 90 hogs weighing 185 pounds was $10.15. The balance sold from $10.10 down to $8.85 which was the price of 73 hogs averaging 227 pounds.

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Thousands of acres were burned over by forest fires on the Las Posas and neighboring ranches in Ventura County.


HIGH CLASS

# Reduction Sale

## 60 REGISTERED HOLSTEINS

F. L. HOGUE

Modesto, Calif.

## Tuesday, Dec. 5

At 10 A.M.

In order to reduce the size of his rapidly increasing herd of registered Holsteins, F. L. Hogue will sell at public auction upwards of 60 choice females.

This sale will positively contain every cow of milking age in the herd, that is in desirable sale condition.

Every animal in this sale has passed three consecutive tuberculin tests, and sells subject to retest by the buyer.

Write for catalog or other information about this choice offering to the sale management.

Auctioneer:
COL. BEN A. RHOADES, Los Angeles

In the Ring:
JOHN A. DAVIS, Los Angeles

Management
CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
C. L. Hughes, Sales Manager, Sacramento, Calif.



# GUERNSEY COWS

produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

## ROSEMOOR FARM

W. H. Dupee, Owner Riverside, Calif.



# BURR FARM

26th and Downey Road

Los Angeles RFD 2, Box 120

Bulls For Sale From

Year Record Dams

CALL OR WRITE



## California Breeders

have sold more than $500,000 worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organizaiton in America. Satisfied buyers have been the rule in all our sales.

California Breeders Sales & Pedigree Company

C. L. Hughes, Sales Mgr. Sacramento, Cal.



## Italian Vineyard Company

GUERNSEY CATTLE

Herd Headed by the King of Hollow Hill

BERKSHIRE HOGS

Stock of Both Breeds For Sale

Alex. Wilson, Supt. Guasti, Cal.


### CROP AND LIVESTOCK NOTES—(OCTOBER 15-31)

By E. E. Kaufman, California Cooperative Crop Reporting Service

Since the last report on October 16 there has been a steady improvement in the condition of pastures throughout the northern part of the state. In the southern half of the state natural pastures were becoming very dry and supplying but little feed. Rains on the 27th and 28th, varying from three-tenths to seven-tenths of an inch, will soon bring about an improved condition. Alfalfa pastures have been good and furnishing considerable feed. Livestock is generally reported in good condition with steady prices and prime killing cattle scarce.

The car situation shows very little change the past fortnight. Shipments have been averaging better than 500 cars a day. Reporters vary in the percentage of the grape crop still left on the vines. In most districts the crop is pretty well cleaned up—Lodi reporting the highest percentage of grapes remaining to be moved. More than half of the Emperor crop in the San Joaquin Valley is yet to be shipped. For the state as a whole, there is probably from 15 to 20 per cent of the crop still left on the vines.

The rice crop is being cut and threshed as rapidly as possible. Butte County reports at least 50 per cent of the crop in the shock with about 25 per cent of it threshed. About the same progress is noted in other localities, except Yolo where the percentage is much higher. There is no material change in the expected yield per acre which has been forecasted at about 30 sacks.

The Imperial Valley reports barley crop planted and coming up nicely. The recent general rains will make fall plowing and seeding possible in other parts of the state. Threshing of the bean crop in Southern California is practically completed, while in the interior valleys the crop has been cut but a large part is still unthreshed. Yields somewhat disappointing as lower than estimated. It is expected the first shipment of oranges from the Porterville district will be made about November 10. A short drive north and east of Sacramento indicated severe damage to tomatoes and pumpkins on account of heavy frost the morning of the 30th. Beans not fully matured were also damaged. The acreage of beans not yet ripe, however, is very small.

### PRIZES FOR DAIRY SHOW

Numerous special prizes are being offered for various exhibits, and unique features in connection with the forthcoming Pacific Slope Dairy Products Show at Fresno, November 13-18. Many of these prizes were obtained during the visit of a committee interested in the show at the National Dairy Show in St. Paul. This committee was composed of George W. Prising of San Francisco, Sam H. Greene, secretary-manager of the California Dairy Council, and C. L. Roadhouse, manager of the Pacific Slope Show.

There are prizes to exhibitors, plant managers, to counties and commercial exhibitors, as well as to school children. For instance, the show management has just decided upon a new $50 school essay contest, entitled "What I Saw at the Pacific Slope Dairy Show." This contest is to be held under the supervision of J. W. Cooper, superintendent of Fresno schools.

The premium list which is now being sent out contains a full list of the special prizes as well as the regular prizes. Some of the more important ones are listed herewith:

Amongst the prizes are: four specials totaling $50 for butter; specials for cheddar cheese, market milk, raw, market milk pasteurized, certified milk, milk for manufacturing, vanilla ice cream, for dairy inspectors, most attractive display of dairy products, most attractive booth, chamber of commerce, most suitable and entertaining program presented by club organization, oldest dairyman on the Pacific coast, milk plant managers bringing largest number of employes to show, creamery managers bringing largest number of dairy manufacturing employes to show, cow testing association, school essay contest, butter maker.

Dr. C. L. Roadhouse, manager of the show, reports that more county exhibits than were expected will be on display at the show. Some of the counties which are now actively preparing to exhibit are Sacramento, San Joaquin, Stanislaus, Tulare, Kings, Fresno, and Humboldt. It is expected also that Los Angeles, which has made a remarkable record in butter fat production, will have a display on hand.

The premium list is now on the press and will be in the mail in a few days.

---

Boring will begin soon on the site tentatively selected for the Pine Flat dam in the narrows of the Kings River four miles west of Piedra.


# Absolute Dispersal

## Arthur & Maxfield Holstein Co. Herd

## 70 Registered Holsteins 70

## at Public Auction, Wednesday, November 15, 1922

Kings County Fair Grounds,
Hanford, California

To terminate the existing partnership between J. W. Arthur and Wm. G. Maxfield their splendid herd of registered Holsteins will be sold to the highest bidder at public auction.

This is an unusually attractive herd of cattle, among some of their accomplishments the following are noted:

HIGHEST PRODUCING purebred herd in Kings County Cow Testing Association, with an average of 439.23 lbs. butterfat from 13,595 lbs. milk on 21 head, in a ten months' test.

HIGHEST 7 DAY RECORD in Kings County, over 33 lbs. butter on official test.

HIGHEST 365 DAY SEMI-OFFICIAL RECORD in Kings County, with over 1,100 lbs. butter.

HIGHEST PRODUCING COW in Kings County Association, with 702.6 lbs. butterfat from 20,375 lbs. milk in ten months.

THIS ENTIRE HERD HAS PASSED TWO CONSECUTIVE TUBERCULIN TESTS WITHOUT A SINGLE REACTOR.

If you want high producing cows, or heifers and bulls from such cows, make your plans now to attend this sale. It is a choice herd of cattle in excellent physical condition.

TERMS OF SALE: One-third cash, balance in 3, 6 and 9 months to responsible parties who arrange for terms prior to sale with California Breeders Sales and Pedigree Co.

Management

## California Breeders Sales and Pedigree Company

C. L. Hughes, Sales Manager, Sacramento, Calif.
Auctioneers: RHOADES & RHOADES, Los Angeles, Calif.



# Meadhart Holstein Herd

We are trying to have nothing but the greatest in Holstein type and production and experts tell us we are succeeding.

Our show animals won the big share of the prize money at all big fairs in the state this year.

We will sell 60 head of wonderful females at our ranch on Nov. 10. Be there.

Lankershim Calif. Fred Hartsook RANCH We Will Welcome You



# Only One Bull of Service Age for Sale

He is out of one of those typey, persistent producing daughters of Toyon Fayne Valdessa, with a yearly record at 2 years of age of 676 lbs. of butter from 14,859 lbs. of milk.

His sire is out of a 36-lb. cow, his grandparents being King Korndyke Hengerveld Ormsby, King of the Pontiacs, Pontiac Clothilde De Kol 2d. (1271 lbs. butter in 365 days), and a 23-lb. 3 year old granddaughter of Prilly.

Only 3 sons on hand from King Korndyke Pontiac Mead, a week to a year of age, all from good yearly record strains, all from cows with good udders and good straight backs.

Guaranteed right in every respect.
This is the Premier Producing Strain of California.

## Los Angeles County Farm Hondo, California

Three Miles South of Downey on the Downey-Long Beach Boulevard



## LONGYEAR RANCH HEREFORDS

BRED FOR RANGE PURPOSES

SELECTED BREEDING STOCK

This herd originated from registered cows of first Hereford quality. Standard has been maintained with registered bulls of superior type for over 35 years.

MOUNTAIN BRED AND RAISED

These cattle all range at 4000 to 10,000 feet elevation the year round with green feed nine months in the year making large rugged cattle of the true Hereford type.

BREEDING GUARANTEED

Range bulls, heifers and cows. For more particulars address

LONGYEAR RANCH Bishop, Inyo County, Calif.



## Cattle Ranches Livestock Order Buying

AGENT FOR LARGE RANCH SALE-PURCHASE OR FINANCE

A. L. SPELLMEYER

320 American Bank Bldg. or Exchange Bldg. Los Angeles Phone Bdwy 1528 Stockyards after Nov. 1st

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The direct selling method from producer to consumer, and a clearing house for California's prosperous farmers. Weekly liner rates: Each insertion 4½ cents per word. No ads accepted for less than ten words. Cash with order.
Mail all classified copy to Los Angeles Office.

## POULTRY

BABY CHICKS

Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.

Write for prices.

FANCIER'S EXCHANGE

640 So. Main St. Los Angeles

**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

**Mr. and Mrs. Poultry Farmer:** 200,000 baby chicks for 1923 delivery from Hoganized flocks of fully matured breeders. No pullet eggs used. White and Brown Leghorns, Anconas, Minorcas, R. I. Reds, Barred Plymouth Rocks. Send your orders now. Will deliver when you want. Ansel W. Robison, 1196 Market St., San Francisco. Oakland Branch, 1737-39 Broadway, Oakland.

BABY CHICKS
White Leghorns, Anconas, R. I. Reds.
Order now for Fall and Spring delivery

THREE MONTH OLD PULLETS
All selected—no culls

"QUALITY SUPREME"

ORANGE COUNTY HATCHERY
Santa Ana, California

**Baby Chicks** every week until November 15th. Booking now for 1923 delivery. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write now for circular, and price list of real Producers. Order pullets now for delivery any time. Stubbe Poultry Ranch & Hatchery, P. O. Box 67-E, Palo Alto, California.

**Poultrymen Attention.** We are now booking orders for hatching eggs, baby chicks and 8 weeks old pullets, from our well selected and culled heavy laying utility stock. S. C. White Leghorns exclusively. Only a few more dates open for hatching eggs. All our cockerels are from trapnested stock. Pine Tree Poultry Farm, Los Gatos, Calif.

**Petaluma Electric Brooders** are world beaters for raising chicks. No danger of fire, less care, better chicks. They grow faster, and are stronger and more vigorous than by any other plan. Our Brooders give them "pep." Send for advance circular. Petaluma Electric Incubator Co., Petaluma, Calif.

**Certified White Leghorn Baby Chicks** hatched in the world's largest electric hatchery. Choice free range, high egg producing breeding flocks inspected by the Sonoma County Farm Bureau. Safe arrival guaranteed. MUST HATCH INCUBATOR CO., 438 Seventh St., Petaluma, California.

**For Sale**—Pedigreed White Leghorn Cockerels—Mother laid 252 eggs at Santa Cruz egg laying contest. Father's mother laid 306 eggs, grandmother, 312 eggs. The egg habit can not be fed into a hen, it must be bred in. California Poultry Farm, R 1, box 160, Modesto, California.

**Baby Chicks**—High-grade chicks for less. Our chicks are from strong, vigorous stock, noted for producing fast growing heavy laying birds. Free feeding direction with every order. We hatch every week in the year. Write for price list. Hargett & Son, Route 2, Box B. Compton, California.

**White Leghorn Baby Chicks.** From free range Hoganized stock. Breeding flocks inspected by Sonoma County Farm Bureau accredited hatchery inspector. Full count and safe arrival gauranteed. For price write to the Lafranchi's Hatchery, Petaluma, California.

**Cockerels**—25 White Leghorn Breeding Cockerels, April hatched. Tancred strain, from hens with trapnest records 200 to 250 and sired by males from hens of over 275. Price $5.00 each. R. M. Bellows, Palm Ave., Arcadia, California.

**Spencer Turken Fowl.** Half turkey, half chicken—turkey flavored meat. Average 200 eggs per year. A few pairs young fowl at $14.00. Photo booklet for 2 stamps. Z. T. Spencer, R. 1, Santa Cruz, California.

**S. C. White Leghorn Day Old Chicks and eggs for hatching from stock bred by the late Walter Hogan, author of the Call of the Hen.** Inquiries cheerfully answered. WALTER HOGAN COMPANY, Petaluma, California.

**White Leghorn Baby Chix for summer and fall months from stock Accredited by Sonoma County Farm Bureau.** We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Booking Orders Now for Fall and spring delivery.** Trap nested, single comb White Leghorn chicks, few pullets and pedigreed cockerels. Pramme Poultry Ranch, Los Molinos, California.

## POULTRY

**Profitable Poultry News**—Capacity 200,000 chicks off every week of year. One customer's history: In 1919 bought 1000 Leghorns; 1920, 1200; 1921, 1200; 1922, 1200 Leghorns, 5000 Reds; for 1923, 10,000 Reds alone. Why? Many practical specialists producing the best in 21 varieties for every kind of market. 200-280 egg strain Leghorns, Reds, Rocks, Minorcas, Anconas, Wyandottes, Brahmas, Andalusians, Orpingtons, Ducks, Turkeys. For quarter century imported, trapnested, selected for vigor, growth, beauty, eggs. Booking ahead reduced for every winter, Spring month. Mail address: Profitable Poultry, 13 North Fair Oaks, Pasadena.

**Baby Chicks** from my purebred flock of S. C. White Leghorns, a result of 17 years of most careful selecting for laying and standard qualities. Orders taken now for spring delivery 1923. Good, strong chicks of high quality at reasonable prices. J. R. Heinrich Poultry Yards, Arroyo Grande, California.

**Booking Orders Now for Fall and Spring** delivery. Order now, prompt delivery. Rhode Island Reds and White Leghorns. All orders given prompt attention. Oroville Hatchery, Irene Uren, Prop., Oroville, California.

**Watch Us Grow**—We are now booking orders for fall chicks. Brown and White Leghorns, Rhode Island Reds, Barred Rocks and Anconas. Ohlen's Hatchery, Campbell, Calif.

**For Sale**—Several "Parks Bred to lay" breeding cockerels from high egg record stock direct from Altoona. $5.00 each if ordered in ten days. H. M. Mayhew, Fillmore, California.

**Anconas**—Cocks, Cockerels. Satisfied customers for five years. We pay return express charges if you are not satisfied. $3.50, $5.00, $7.50 each. A. S. Wilkinson, Winton, California.

**Slighty Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

**Pacific Poultryman,** West's oldest and best poultry magazine. Special rate two years $1.00. Trial subscription four months 25c. Seattle, Wash.

**Los Gatos Hatchery** is now booking orders for White Leghorn Chicks. Shannon Station, Los Gatos, California.

**Silver Campine Males** from prize winning stock $5.00. Roy Ward, Lindsay, Calif.

## SEEDS AND PLANTS

**Strawberry Plants For Sale**—200,000 Mountain grown strawberry plants, Banner and Magoon. All stock first-class and strictly true to name $10 per 1000. Juan Rodriguez, Arroyo Grande, California.

**Raspberry Snell Has It.** The wonderful Giant everbearing Red Raspberry La-France. Many of the berries are one inch in diameter, delicious flavor. Order your plants now from Ralph L. Snell, Mountain View, California.

**For Sale Strawberry Plants**—Gibson, Glenmary, Banner and Dunlap, $5 per M postpaid. Improved progressive everbearing $10 per M postpaid. Write for prices on large quantites. All plants new and healthy. Address W. R. Wyatt, Summit, San Bernardino County, Calif.

**Northern California Black Walnut Seed** $8.00 100 pounds. Crop short. Order early. Grafted walnut, chestnut, filbert trees. Catalog. Felix Gillet Nursery, Nevada City, California.

**Best D. Lotus seed for Japanese Persimmon** stock, also choice budded Japanese persimmon trees. It will pay you to write me today. Fred W. Kelsey, El Monte, Cal.

**Carolina Strawberry Plants for fall planting.** The most prolific and best berry. Gives crop the first year. For sale in large quantities. Write for prices. G. M. Hawley, El Cajon, Route No. 2.

**Strawberry Plants For Sale**—One hundred thousand Etters Strawberry Plants, heaviest bearers known. Prices very reasonable. Tribble Bros., Lodi, Calif.

**Banner and Magoon Strawberry Plants,** now ready for planting. Large, healthy plants. C. E. Harris, Santa Cruz, R. 2, box 805.

**For Sale**—Giant Argenteuil Asparagus Crowns. Mathers' Avocado Nursery, Pasadena. P. O. Box 585. Phone Colorado 6044.

**Strawberry Plants,** Brandywine, Gibson, Carolina $5 per M. Banner $10—from new planting, all stock inspected. E. A. King, 1158 W. 4th St., Riverside.

**Pedigreed Strawberry Plants** — Improved New Oregon, Magoon and Gold Dollars $5 per 1000. Carefully inspected. J. Christiansen, Canby, Oregon, R.F.D. 2.

**Cory Thornless Blackberry**—Large 2-4 ft. plants ready, 12, $2.25 postpaid. Satisfaction guaranteed. Illustrated folder. Chas. Mortenson, Lodi, Calif.

**Cauliflower and Cabbage Plants**—Roselle buds for jelly and seed. Ancona Farm, Ontario, California.

**For Sale**—50,000 Black Monukka grape cuttings $50 per thousand. Chris Westgard, Brawley, California.

**For Sale**—Rooted grape vines. Y. Lee, P. O. Box 270, Delano, California.

**For Sale**—About a million cabbage plants. L. C. Johnson, Pomona, Cal.

## FARM LAND FOR SALE

THE CHARLES WEEKS SYSTEM OF INTENSIVE POULTRY AND BERRY FARMS

ONE ACRE AND INDEPENDENCE

or

The fine art of earning a comfortable living on one acre in California.

For those who desire to dwell in sunny California without living up hard earned capital.

For 18 years proprietor of the most intensive Egg Farm in the world and Founder of the Famous Charles Weeks Poultry Colony at Palo Alto, California.

The Charles Weeks Poultry Colony No. 2 is now being established at Owensmouth, California, 26 miles from Los Angeels.
Write for literature.

Charles Weeks, Owensmouth, Calif.

**For Sale—A Money Maker.** Fifteen (15) Acres nine year old Lemon Orchard in perfect condition. Splendid crop on trees at present. This grove is 23 miles from the Court House in Los Angeles with two boulevards running to it. The very best of soil. Los Angeles Aqueduct Water. In the strictly frostless foothills of San Fernando Valley. Frost is unknown in this section. Ideal spot for country home and a good income. See OWNER, 1203 Loew State Building, Phone 15118, Los Angeles, California.

BUY DIRECT FROM THE OWNER
Irrigated river bottom lands in Sutter County. Rich, deep soil with a complete irrigation and drainage system. Southern Pacific Railroad and Sacramento River Transportation. Liberal terms, six per cent interest.
Sutter Basin Company,
California Fruit Building,
Sacramento, California.

**Level Irrig. Land,** plenty water; 5 to 7 cuttings alfalfa per season; Shasta County takes first prize at State Fair on prunes. Produces top quality all fruits and berries. Prices $50 to $200 per acre, easy terms. Stock, dairy and mountain ranches, all prices. No snow. G. E. Oaks, Redding, California.

**Country Store With Post Office,** oil station, 5 acres, wonderful soil, 235 vines, 3 wells, 2 pumping plants, 7 rooms and bath, barn, double garage (auto repairing) 2 miles from pavement, 25 miles to San Diego. In fruit district. Price $6,000. One-half cash. Box 23, Poway, California.

**For Sale—180 Acres** in famous San Joaquin Valley. Fenced, cross-fenced, good buildings, plenty of water for alfalfa and rice. Two crops grain, wheat or barley followed by corn. Fine grape land. Will divide to suit. Write owner, C. L. Bartlett, Wasco, California.

**A Post Card** will bring you a list of little farms and chicken ranches in the famous San Gabriel Valley near Los Angeles. Fred W. Kelsey, 209 So. Rosemead Avenue, El Monte, California.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**Write C. E. Canfield,** Santa Cruz, for information on bulb, artichoke, poultry and pear lands.

**I Want Farms** for cash buyers. Will deal with owners only. R. A. McNown, 370 Wilkinson Bldg., Omaha. Nebr.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## MACHINERY

**For Sale** — Storage Tanks, Windmills, Pumps, 11 big Redwood Tanks, oil is all they ever held all their lives. Also finest used Tanks for irrigation and house use. Don't wait till they're all gone and be sorry. Haven't any more in sight. One 3000 gallons, $38; 5000, $48; 8000, $75; 12,000, $95; six 25,000 Tanks $140 each; 50,000, $250.

—WE MAKE—

New Galv. Tanks, 10 sizes, 175 gallons to 2000. 300, $19.25; 400, $21.25; 600, $26.25; 1000 gallons, 35.25; 2000, $48.25. This includes 2-inch outlet.

—WE MAKE—

Round bottom Wagon Tanks, set flat on truck. No heavy frame to lift, one man can handle them. Why pay twice as much for long horizontal tanks? 175 gallons with cover, $16.25; 300, $23.25; 500, $29.25.

Call or write DEMMITT TANK CO., 120 North Main. Broadway 1984, Los Angeles. Get order in now. Don't wait to be disappointed.

**For Sale**—Yuba Tractor. 12-20, No. 1208, 1915. 14 inch Lacross disc plow, 8 foot drag, 8 foot chisel, tanks, drums, double disc sidehill plow, miscellaneous farming implements. Address Gragg Estate, Route 1, Box 66, San Luis Obispo, California.

**For Sale**—12 foot John Deere Grain Drill with Grass Seed attachment. Practically new. L. M. Railsback, 115 South Los Angeles, Los Angeles, California.

## GOVERNMENT LAND

**Attention: Million acres Government land for farming, grazing, timber. Near R R. Plenty water. Send for folder. Rally 1111 So. Alvarado, Los Angeles, California.**

## GOATS

**Goats — Toggenburg Buck El Chivar's Eveson 5160,** Bred all my does. Will sell, trade or rent. Also La Chevre Prince, born Feb. 17th, 1922, ready for light service, very low prices. Extended pedigree on application. Francis Rudkin, Fillmore, California.

## CATTLE

**For Sale—Five Young Registered Jersey Cows.** T. B. Tested by state. First class in every respect. Will start coming fresh soon, $1000. Four registered heifers, one coming fresh next month, $400. Also herd bull. Am selling out. F. W. Elleby, R. B. Box 97, Modesto, California.

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aaggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys—Grape Wild Farms—Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Shorthorns bred for range purposes and** of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Aberdeen-Angus Cattle**—Registered bulls; heifers always on hand. Everything priced to please buyer. Brook Hollow Farm, Hollister, California.

**High Class Bull Calves** for sale, from R of M Dams. Grant A. Brown, El Monte.

**Ayrshire Cows and Heifers** priced right. Send for photos, prices. Redwoods Ayrshire Farm, La Honda, Calif.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Herefords—"Veramont Stock Farm,"** H. M. Barngrover, Prop., Stockton, California.

**Shorthorns**—Straloch Farm 2½ miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

**Registered Herefords**—Anxiety IV strain. Breeding stock for sale. Chas. Rule. Duncans Mills, California.

## MISCELLANEOUS

**Tobacco**—Three year old Kentucky leaf. Pay for tobacco and postage when received. 3 lbs. chewing, $1.00; 4 lbs. smoking, $1.00; 7 lbs. No. 2 smoking, $1.00. KENTUCKY TOBACCO ASSN., Hawesville, Ky.

**Natural Leaf Tobacco.** Chewing 5 pounds $1.75, 10 pounds 3.00; Smoking, 5 pounds $1.25, 10 pounds 2.00, 20 pounds $3.50. Pay when received. TOBACCO GROWERS UNION, Paducah, Ky.

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**Smoked Salmon—5 pound box, $1.25; salt** salmon bellies, 5 pounds $1.25, delivered by mail. Coffin Fish Co., Seattle, Washington.

**For Sale**—Guinea Pigs in small or large number, all of good stock. J. W. Plate, Delhi, California.

## TURKEYS

GIANT BRONZE TURKEYS

Large turkeys can be raised at practically same cost as small ones. It is in the strain. One of our toms will give you five more pounds of meat to market in all his get the first year; besides vitality and beauty.

GOLD NUGGET STRAIN
J. Will Blackman, Originator

Again prove their superiority by winning at California State Fair, September, 1922. Gold Special Sweepstakes for best turkeys in the show. All breeds competing. In open class they won 1st old tom, 1st and 2d yearling tom, 1st and 3rd yearling hen. This, along with practically every Gold Special Sweepstake at the West's greatest shows since 1915, prove that they have

AN UNEQUALED RECORD

Toms and hens for sale. Book orders now for December delivery as each year we are sold out early.

BLACKMAN & MUMFORD
609 East Third St., Los Angeles, Cal.

**For Sale**—Bourbon Red Turkeys of large size and good markings. Young Toms and Pullets, also a few yearling hens. Henry E. Hill, Route C, Box 132, Hanford, California.

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

**For Sale**—Fine turkeys for breeders. Toms and hens. Gold Nugget stock. C. W. Young, Route 2, box 106, Whittier, California. Telephone 7694.

**For Sale—Wild Turkeys**—Best, cheapest, most certain and indispensable producers. Cash deposit secures stock. Blanche Dresser, Route C, Box 194, Tulare, Calif.

## SHEEP

**Hampshire Sheep**—Straloch Farm 2½ miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodlands, Calif.

## PATENT ATTORNEYS

**WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.**

### TREES

**Get My Prices on Japanese persimmons,** Kadota and Black San Pedro figs, Concord grapes, Muscats, Malagas and Thompson Seedless, rooted and Black Monukka cuttings. Nursery stock growing at El Monte, and Vista near San Diego. Easily accessible to Southern planters. Good stock at right prices. Fred W. Kelsey, El Monte, Cal.

**Grafted Walnut Trees** on Northern California black roots, scions carefully selected from best bearing parent trees, grown under expert supervision. First class in every respect. Placentia perfection, Eureka, Payne. Reasonable prices. Los Nietos Valley Nursery, Downey, California. Phone 692.

**Fruit Trees and Grapevines**—Still have unsold few varieties grapes grafted on resistant root. We ship all stock on approval, if not entirely satisfactory return at our expense. Write for our special prices. J. F. Miller & Sons, Healdsburg, California.

**For Sale**—Florida Sour Orange Seed Bed Stock, from fruit growers seed. All leading varieties avocados, grafted Placentia walnuts. Mathers' Avocado Nursery, Pasadena. P. O. Box 585. Phone Colorado 6044.

**Trees and Plants**—All kinds, Berries and Small Fruits a specialty at lowest prices. Over 25 years in business. Send for price list. M. J. Moniz, Berry Specialist, P. O. Box 264, Sebastopol, California.

**Figs For the Fresh and Canning Market**—Best kinds to plant. Get the benefit of our thirty years experience with figs and all other California fruits. W. T. Kirkman, Sr. Pasadena, California.

**For Sale Grafted Walnut Trees** for seedrus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E 4th Street, Santa Ana, California. Phone 572-W.

**For Sale**—General line of nursery stock and vines. Special attention to the needs of the home lot planter. Send for price list. McFeely Nurseries, Chico, California.

**For Sale**—**Grafted Walnut Trees** for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**For Sale**—**Hachiya Persimmon Trees,** grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**California Black Walnut Seedlings,** three-four feet. Send for sample. Ripon Nursery Company, French Camp, California.

**Tree Agents** and working partner wanted. Cash Nursery, Sebastopol, Cal.

### WANTED

**Wanted**—Men with cars in each California County to represent established farm paper selling and collecting. Turn your spare time into money working part or all time. To responsible persons liberal guarantee, good territory and promotion. Write California Cultivator, 317 Central Avenue, Los Angeles.

**Wanted to Buy** dried fruit and walhuts and honey. Please send samples and state quantity and your idea of price. W. A. Collins, Box 397, Packing House at Santa Fe Depot, Santa Ana, California.

**Want to Hear from Owner** having farm for sale; give particulars and lowest price. John J. Black, 116th Street, Chippewa Falls, Wisconsin.

**Wanted to Hear** from owner of land for sale. O. K. Hawley, Baldwin, Wisconsin.

**Wanted**—Walnut Meats and cull walnuts. Fred L. Mitchell & Son, 214 French St., Santa Ana, California.

### FOR EXCHANGE

INCOME

WANT

RANCH

$50,000—Charming new apartment house located in rapidly growing district; big lot, with big net income under moderate rentals. Building has every modern refinement. Oakland's best type of apartment house. Owner wants clear ranch or town property to $25,000 for his equity; balance one easy loan.

EXCHANGE DEPARTMENT
WICKHAM HAVENS, INC.,
1500 Franklin Street, Oakland.

### FOR RENT

**For Rent**—Fully equipped stocked and going poultry ranch and hatchery in the fastest growing poultry section of the state, Stanislaus County, where soil and climate are ideal. Party renting must be able to buy the stock. Will lease for one, two or three years with option of buying. Alfalfa, fruit, berries and asparagus. For particulars address Box FL Cutivator, Los Angeles.

### DUROC-JERSEYS

**Weanling Boars and Gilts by Pathfinder Wonder** (Great Wonder I am ex an 800 lb. Pathfinder sow) for $10 each. Bred sows and gilts. Derryfield Farm, Capital National Bank Bldg., Sacramento, California.

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

### HOGS

**Poland Chinas, Big Type**—Straloch Farm 2½ miles of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

**Tamworths, The Bacon Breed.** James J. Summerfield, Santa Rosa.

### LIVESTOCK

**For Sale**—Registered Percheron Stallion, "Avelene 11" Kentucky bred saddle stallion "Jack Rogers" and three saddle horses (two geldings and one mare). Also three registered Jersey bulls by "Merry King Pogis" and five young Hereford bulls (Repeater strain) all ready for use. These can be seen at the ranch which is seventeen miles north of Santa Barbara on the main highway or particulars can be had through the mail on application to the Secretary. DOS PUEBLOS RANCHO, Naples, Santa Barbara County, California.

**For Sale**—Fine Team Farm Work Horses, bargain. Phone L. A. 599442, or San Dimas 381. 3535 Dahlia Avenue, Los Angeles.

### HORTICULTURAL PRINTING

**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St. Los Angeles.

### PIGEONS

**White King Pigeons** unmated pairs $3.00. mated pairs, $5.00, and Pearl Guineas $5.00. Paradise Valley Poultry Ranch, National City, Cal.


## FUNCTIONS OF AN AGRICULTURAL COLLEGE

(Continued from Page 501)

It should be charged with all three lines of endeavor. I am convinced that with rare exceptions we get the best teaching from those who are also devoting some time and attention to research.

The college of agriculture does not exist for the sole purpose of solving the problems of the farmer any more than it exists for the sole purpose of training young men to follow the occupation of farming. Rather does it exist for the purpose of solving the problems of agriculture and for the education of young men and young women in agriculture and for the highest type of rural citizenship. A public institution supported by public funds, it should be concerned with the development of the agriculture of the state and nation to the end that, this, our basic industry, may be placed upon a sound and prosperous basis and the welfare of all of the people of the state be thereby promoted.

The modern agricultural college is not a professional school like the college of law or medicine. It is a collection of professional schools. It prepares for scores of vocations, some of them as dissimilar as law and medicine. A recent survey of the graduates of an eastern agricultural college disclosed the fact that while 88 per cent of its graduates were making direct use of their training in agriculture, a record of which any professional school might well be proud, they were following in total no less than 76 distinct occupation.

The modern agricultural college also differs from the college of law or of medicine in that it is more than a professional school. Its curriculum must also provide, in so far as time will permit, for the farmer who may be asked to represent his constituents on the board of supervisors or in the legislature, or who in his leisure hours wishes to read his daily paper intelligently and find pleasure in human affairs. Courses in economics, sociology, psychology and history are just as important in the education of a farmer as in that of a lawyer or a physician. The foremost colleges of law and medicine are now requiring their students to have this training for citizenship before they begin their professional course. Perhaps the time has not yet come when similar requirements can be made of those who are preparing themselves for an agricultural career. Until it does we must provide for such courses within the agricultural curriculum. It may be argued that this is impossible, that the agricultural curriculum is already crowded. But I wonder if we do not have too many detailed courses in many of our divisions and if we could not save much time for the student, as well as for ourselves, if we would give some serious thought to the consolidation of some of our courses and the concentration of the subject matter.

Granting that the primary object of the agricultural college is the training of men and women for farm life, I wonder if we would not be doing that better were we to give in our courses of instruction less consideration to the presentation of information and more to the development of the habit and desire for real thinking. We may well leave the acquisition of some of this information to the student himself if we will acquaint him with the literature of the subject and train him properly to appraise the value of such information as is available and how to use it after he has obtained it.

It is significant that in the survey of the graduates of the eastern agricultural college to which I have referred the graduates themselves did not ask for more courses in animal husbandry, horticulture, agronomy, dairying or other technical subjects. On the other hand they did regret that they had not taken more courses outside of the technical fields. Perhaps the fault was theirs. Perhaps they could have used their time as students to better advantage and made a wiser selection of their courses. But their statements that the omission of practical English, public speaking, business law, history, economics and civics is a handicap in later life is one to which members of the faculty of this and other colleges of agriculture may give serious thought and consideration.

The agricultural college has come to occupy an important place in our educational system. These institutions have done and are doing an important work. If what I have said appears to be a criticism it is not directed at any particular institution. It is only that I feel that occasions such as this are not the time for boastful felicitations of our accomplishments, but rather the time for taking stock of ourselves to the end that the college may best accomplish the purpose for which it exists—the development of the agriculture of California.

## HINTS FROM HOUSEKEEPERS

(Continued from Page 507)

Easy Way Jam—Select firm fruit, well ripened. Mash, let drain till all water is off. Run through a food grinder or mash thoroughly with wire potato masher. Be sure that all berries are mashed well. Then take cup for cup of sugar and fruit mix well and put in glasses. No paraffine needed as sugar forms crust on top. The essential thing is to be sure the sugar is well mixed. I stir with a large spoon, beating as for cake, every few minutes till I think the sugar is well dissolved, then put in glasses. I have kept jam made this way two years and the flavor was not impaired nor was the color.

It is late for jams this year but now is a good time to make up our minds to try new ways. I am sure those who try this will never go back to the old way or sun-made kind. Just remember to thoroughly mash fruit and mix sugar especially well. I call it the Easy Way Jam.—E. M. Lane, Atascadero.

## DECIDUOUS PRUNING DEMONSTRATIONS

Although the long pruning system has been shown at demonstrations in the principal deciduous fruit districts of Southern California for the past four years, a survey of the orchards during the present season has indicated that many growers have not yet fully understood the details of this method of pruning. The most glaring mistake has been the leaving of too much wood in the trees with the result that too much fruit is set and considerable breakage and small sized fruit has resulted.

As a means of emphasizing the proper methods to use in adapting the long pruning system to conditions occurring in the deciduous districts of Los Angeles County, the agricultural extension service has arranged for a series of 14 field meetings which will be held in cooperation with the deciduous growers department of the farm bureau and the farm bureau centers in all deciduous districts.

The schedule for the series which will be conducted by Assistant Farm Adviser V. F. Blanchard is: Monday, November 13, 10 A. M., Downey; 2 P. M., Pomona. Tuesday, 10 A. M., Pasadena; 2 P. M., La Canada. Wednesday, 10 A. M., Lankershim; 2 P. M., Van Nuys. Thursday, 10 A. M., Mission Acres; 2 P. M., Zelzah. Friday, 10 A. M., Owensmouth; 2 P. M., Chatsworth, Monday, 10 A. M., Burbank; 2 P. M., Roscoe. Tuesday, 10 A. M., Arcadia; 2 P. M., Baldwin Park.


# NITRATE OF LIME

TRADE MARK

## GROWERS!

**To Secure Better Set, and to Secure Better Fruit Use Nitrate of Lime.**

## It Pays to Use NITRATE OF LIME Because:

It contains 13% nitrogen, equivalent to 15.8% ammonia,

**in the most available form**

It does not contain any ingredients detrimental to soil or plant life—on the contrary it supplies the soil with about 30% soluble lime, which is a valuable adjunct to the nitrogen.

It is quick acting as it absorbs moisture and dissolves completely.

**Nitrate of Lime** is packed in strong wooden barrels to prevent waste and caking.

Write for booklet—free—giving complete information and telling how **Nitrate of Lime** is produced.

## C. HENRY SMITH, Inc.

**311 California Street** **San Francisco**

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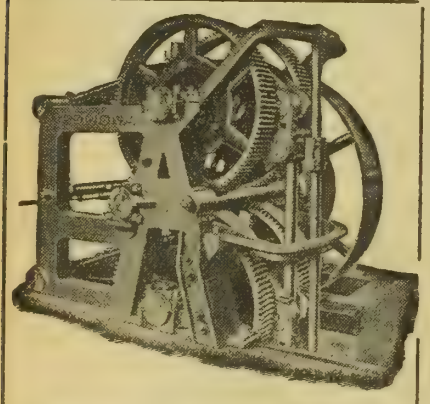

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# How to Keep Eggs Clean

By J. H. Barber, General Manager Poultry Producers of Central California

ALL eggs are clean when they are laid and it is very desirable that they be kept so. In practical poultry farming it is not possible to keep every egg absolutely clean, but by careful attention to a few simple details it is entirely possible to reduce the number of dirty eggs to a very small percentage. These details deal with housing, nests, yards, sprays and the gathering of eggs.

### Houses

When hens are housed in small colony houses it is impossible to avoid having a large quantity of dirty eggs, especially in wet weather, on account of the lack of proper shelter. Something may be done by having separate laying houses and keeping floors covered with plenty of clean, dry sand or litter, but in wet weather it is practically impossible to maintain a clean, dry floor covering and it may be safely said that it will not be done. Anyone who expects to continue in the poultry business and to make it pay should abandon the colony house system as soon as possible and build modern large houses.

With houses large enough so that the hens can be confined during wet weather and still have plenty of room and opportunity for exercise, the problem is much simpler. When it rains and at all times when the ground outside is muddy, the hens should be kept indoors until late in the afternoon when all the eggs are laid. They may then be let out for exercise before going to roost.

The floor of the house should be naturally dry, that is, either a board or concrete floor, or, if a dirt floor, it should be raised or otherwise protected so that water can not run in on it from outside. It should be kept clean and covered with a thick layer of clean litter. Straw is probably the best litter, but shavings or any other material that will answer the purpose may be used. The important thing is that the litter should be always dry and reasonably clean. Sand may do if plenty of it is used and if it is kept dry and loose, but is not as good as straw or similar material. When the litter is cleaned out, the floor under it should also be scraped clean.

Dropping boards should be cleaned at least once a week. The practice of cleaning them every morning has everything to recommend it and should be followed wherever possible. Roosts should have wire netting immediately under them to keep the hens from getting onto the dropping board. The houses should be so located and constructed that rain can not beat in.

### Nests

The location of the nests in the hen house is of utmost importance. The hen has a natural instinct to seek what she believes to be a safe, quiet and secret place in which to lay her eggs, and if opportunity for this is given there will not be much trouble from hens laying on the floor or out in the yard. This means concealed, dark nests. These are usually constructed by building shelves against the wall, boarded up on the inside and covered over the top. The nests are arranged on these shelves, some making them face toward the wall and some facing them the other way. In either case the entrance is at the end of each shelf. The board covering is arranged so that it can be opened to get the eggs. The nests themselves or the nest partitions are preferably made movable so that they can be taken out for cleaning and disinfecting. It is a good idea to place the nests as far as possible from the entrance to the house so that the hens will have to walk some distance through the litter when going to the nests from outside and will thus clean their feet before going on the nests. A separate nesting room or compartment at one end of the house with the entrance to the house at the other end gives very good results, the floor of the nesting room being covered with plenty of dry litter.

Plenty of nests should be provided; one nest to every ten hens is a good allowance. Where there is an abundant number of darkened nests each hen will usually take a separate nest, and thus fighting and scrambling around in the nests, which causes a great many checks and broken and soiled eggs, will be avoided. The nests should be large enough to accommodate one hen, but not two. A good size is about ten inches square. Old coal oil cans with the side cut down part way and rolled over make good nests because they are easily kept clean and do not provide much opportunity for the breeding of mites and fleas.

There are four kinds of nest material in general use, namely, straw, shavings, shells and sand. Shavings are probably the best of the four, provided spruce or pine shavings can be had. Redwood shavings should not be used, as they are apt to stain the eggs. Straw inclines the hens to scratch in the nests and also makes yellow stains on the eggs when any dampness is present. Shells if left long in the nest, will break up into a fine dust and make smeary eggs. They should not be used unless they can be renewed frequently enough to keep them in good condition. It is sometimes argued that shells prevent the breeding of fleas, but this is not the case unless they are frequently removed and the nests sprayed or doped. Sand is not desirable because, like pulverized shells, is makes smeary eggs. Rice hulls are recommended by some, but not much experience has been had with them as yet.

Nests should be cleaned often. Some poultrymen clean the nests only three or four times a year, while others clean them every week. The important point is that the nests and nest material should at all times be clean. It is a good idea when gathering the eggs to notice if there is any dirt in the nests and to remove it immediately, also it is good to keep some nest material handy in the houses so that a little fresh can be added whenever necessary. If the nest material is right at hand this will be done, while it might not be done if the material had to be brought from a distance. If the nests are regularly cleaned once a week and the material then removed, this, with the regular attention to dirt each time the eggs are gathered, will usually be found sufficient.

In spraying nests for mites or fleas, the heavy oil sprays should not be used, because they will remain damp for some time and will soil and also taint the eggs. If a light oil spray is used in the late afternoon, the nests left to dry over night and the nest material replaced in the morning, good results will be had. A water spray with 10 per cent of crude carbolic acid has been used with good effect instead of the oil sprays.

Broody hens should be always picked up from the nests every day, because they will fight the other hens in the nests, with the almost inevitable result of broken eggs. Another thing, if the broody hens are picked up and put in the broody coops as soon as they get broody, they can be easily broken up and will go back to laying, whereas if they remain on the nest for several days the broody condition becomes confirmed and they will not go back to laying for a considerable time.

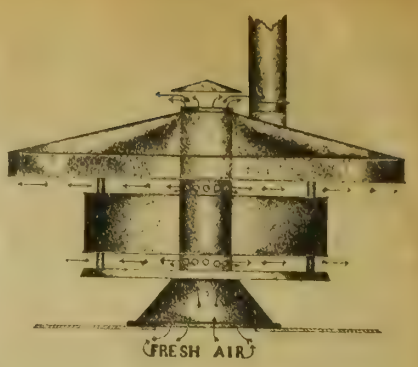
### Yards

If the hens are kept in the houses, as suggested above, when the ground is wet or muddy, the condition of the yards is not so important, except that the litter in the houses will need changing oftener on account of the dirt tracked in by the hens when they are let out. Light sandy soil naturally causes less trouble in this respect than the heavier soils.

There are, of course, other reasons for giving attention to the size, the cleanliness, the drainage, the cultivation and the cropping of yards, but these need not be considered here.

### Gathering the Eggs

For best results the eggs should be gathered as frequently as is practicable, and not less than twice a day, especially in warm weather. The more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eggs there are in a nest, the greater the liability to breakage. Moreover, in warm weather if an egg laid in the morning remains in the nest all day with successive hens sitting on it to lay more eggs, its quality is certainly not improved and it is more liable to be soiled either from the hens or from breakage. One thin-shelled egg getting broken in a nest may soil half a dozen others.

# Poultry Queries

**(Conducted by Jean A. Koethen)**

### Barred Rock Journal

Will you please send me the address of some good poultry journal that features Barred Rocks, or, if there is none, of some good poultry magazine? Subscriber, Porterville.

There is no journal that features Barred Rocks exclusively. I think you will find more space given to Plymouth Rocks in the American Poultry Journal, 523 Plymouth Court, Chicago, than in any other.

### Planting Kale

When is the best time to plant kale? —Subscriber, Claremont.

Kale is very hardy and can be planted at any time.

### Enlarged Liver

Our Barred Rock capons have been on alfalfa range till two weeks ago when we confined them and put them on a ration of corn and wheat with some watermelon and sweet potatoes. One was found dead, and examination showed a greatly enlarged liver. How shall we prevent a repetition of this case?—Subscriber, Modesto.

That enlarged liver was due to a too fattening diet and lack of exercise. It is better to keep them on the alfalfa at least a part of the time. Instead of a hard grain diet keep a mash before the birds, or, if you are preparing to market them soon, give a moist mash twice a day. For this fattening mash equal parts bran, cornmeal and middlings or ground oats, moistened with sour milk, is very good. Give grain in the evening only. You do not say how liberally you have fed sweet potatoes. They are too fattening for a regular diet. Probably your birds missed the green feed, also. When they are confined cut alfalfa should be kept before them.

### Cottonseed Meal

I mix my hens' laying mash. Can I use cottonseed meal and get better results? If so, how many pounds to the ton?—Subscriber, Gardena.

Whether or not you use cottonseed depends on what meat and vegetable protein you are already using. Soybean meal is the preferred vegetable protein when only one kind is used. If you use another it may be either cottonseed, linseed oil cake, coconut oil cake or peanut meal. According to the formula used this year at the farm bureau egg laying contest at Santa Cruz, a ton of mash should contain 600 pounds wheat bran, 400 pounds wheat middlings, 250 pounds ground oats, 250 pounds corn meal, 100 pounds soy bean meal, 100 pounds linseed or cottonseed meal, 150 pounds fish scrap and 150 pounds meat scrap. This is a very rich mixture and requires a good deal of cracked corn to balance it. The grain mixture used at Santa Cruz consists of 20 per cent recleaned barley, 30 per cent plump, whole wheat, and 50 per cent cracked yellow corn, with a generous feeding of sprouted barley in the evening. I do not know that there are different qualities of cottonseed meal.

### Turkey Literature

Can you tell me where to find a good book or other literature on turkey raising?—Subscriber, Turlock.

There is very little. You might write the Rhode Island Experiment Station at Kingston, R. I., for bulletins on the feeding of turkeys with reference to blackhead. I think I am not exaggerating when I say the Cultivator is the only magazine in America that is actually trying to solve the problems of turkey growers.

### Hens Don't Lay

My hens are not laying well. Some are one and two years old, others are pullets of February hatch. All seem healthy and only a few have withered combs. I feed milo in the head in the morning, all they will eat, scratch feed at noon, wheat and barley at night. A commercial egg mash is before them all the time.—Subscriber, Pixley.

Your hens are getting too much hard grain. It is the mash that makes eggs. You are letting them fill up on grain, which makes fat instead of eggs. If you watch you will probably see that they are eating very little mash. A quart of grain daily for 15 hens is usually allowed, and the poultry division advises the use of even less when heavy laying is demanded. If you feed the grain mixture only for supper (that is, late in the afternoon) and sprouted

(Continued on Page 519)


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# Los Angeles Markets

Los Angeles, November 8, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 48½ cents.

Prices extras past week:

| November | 1 | 2 | 3 | 4 | 6 | 7 |
|---|---|---|---|---|---|---|
| '22 | 51 | 51 | 51 | .... | 49 | 48½ |

### CHEESE

Brokers' prices:
California flats, 22@25.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 56; case count, 48; pullets, 46; pewee pullets, 30.

Prices Fresh Extras past week:

| November | 1 | 2 | 3 | 4 | 6 | 7 |
|---|---|---|---|---|---|---|
| '22 | 58 | 55 | 55 | .... | 56 | 56 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 22; colored, 28; broilers, 36; roasters, 26; old roosters, 14; fryers, 26; ducks, old, 20; ducklings Pekin, 3½ up, 24, others, 22; geese, 20; turkeys, live, young toms, 33; dr., 38; old, live, 31; dr., 36; hens, live, 32; dr., 37; small hen and tom, 15; squabs, 25@50; capons, 43.

Belgian hares, 12@17; old, 8.

### LIVESTOCK

(Quotations furnished by Federal-State Livestock Market News Service, 1014 Pacific Finance Building, based on prices off cars at Los Angeles.)

Cattle: The opening of the new Union Stockyards at Los Angeles, November 1, was marked by spirited bidding by local packers on the many shipments of good cattle. An extreme top of 9.00 was scored on 25 Idaho steers, averaging 1056 pounds. These were exceptionally well finished and were sorted from a herd of good cattle. A shipment of 1174 pound bullocks from Jackson Hole, Wyoming, went at 8.50, with other lots of good steers the opening day from 8.00 to 8.35. A weaker tone developed on following days. Thursday's top was 8.00 paid for 19 good Wyoming steers, averaging 1050 pounds and 77 head, averaging 1040 pounds. A string of 115 plain Texas steers, averaging 918 pounds brought 7.40 and 8 cars of Colorado grassers went at 7.30. Medium Wyoming steers Friday cleared at 7.25 and 7.50, with common Mexican steers at 5.25 and "cutter" steers as low as 4.50.

Outlet for fat cows was fairly active, with an extreme top the opening day of 7.00. Several loads the same day went around 6.00 to 6.50, but 6.25 was the top at this week's opening, with several sales at 5.25 to 5.75 and common Arizonas as low as 4.00.

The demand for feeders has slackened. Bulk of the Arizona crop has either been contracted or delivered, largely at 5.00 to 5.25. A string of 38 selected Montana feeders, averaging 803 pounds, sold to Imperial Valley interests at 6.25. Forty-eight 651 pound Arizona feeders scored 5.50.

Calves: The few arrivals of calves found ready outlet at firm values. An extreme top of 8.25 was scored on sorted 237 pound Arizona calves, with load lots of 24 pounders at 7.35 to 7.50, heavies at 7.00.

Hogs: Very few native California hogs are being slaughtered, due to scanty supplies in this part of the state. The few loads of strictly good 160 to 200 pound porkers sold both at the yards and at local plants largely at 11.00 to 11.50. Heavy hogs and packing sows went at the usual discounts.

Sheep and Lambs: Receipts of sheep and lambs at the new yards were considerably smaller than trade requirements and a strong tone prevails. Choice wooled lambs are conservatively quoted at 13.50 to 13.75. A string of 73 pound Utah lambs, shorn 60 days ago, brought 13.25 last Wednesday. Medium quality wooled lambs went at 12.75 and common kinds down to 9.00, culls at 6.00. Fat 124 pound wooled ewes scored 6.75, with others at 6.50, culls at 3.50.—Nelson R. Crow, local representative.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, November 7 by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement moderate, market steady. Northerns: Rivers, 1.75@1.85; poor, low as 1.50 cwt. Idahos: Russets, 1.65@1.85; mostly, 1.75 cwt. Sweet Potatoes: Locals: Nancy Halls, 2@2; Jerseys, 2@2½ lb. Northerns: Nancy Halls, 3 lb.

Onions: Demand and movement moderate, market firm. Stocktons: Yellow and White, 2.00@2.25 per cwt. Locals: Whites, 60@75; Spanish, 75@90 lug; Lompoc, fancy large sizes, 2.50 cwt. Garlic: Mex. and Northern, best, 8; poorer, 7.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, November 7 by wholesalers in their sales to retailers, pedders, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Artichokes: Doz., 1.25@1.50; small, 1.00.

Beans: San Pedro: Kentucky Wonders, 7@8; Limas, 6@6½.

Bunched Vegetables: Per dozen bunches: Turnips, carrots, beets, 30; parsley, onions and radishes, 15; spinach, 25; parsnips, 40.

Cabbage: Market steady, quality generally good. Field cr., best mostly, 2.75@3.25.

Cauliflower. Per doz., 1.25@1.50; few best, 1.75.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals: best, 2.25. Northern, 3.50@4.50 crate according to quality.

Cucumbers: Locals, few best, 2.25@2.50; mostly, 2 per lug. Southern, 2.60@2.75 per lug; 1.75@2.00 per flat.

Eggplant: Local, 3½ lb.

Lettuce: Market steady. Locals: Ordinary, 90@1.00; best, 1.25.

Okra: Lb., best, small, 12@14.

Peas: Best, Northern, lb., few best, 12@13; poorer, 8@9.

Peppers: Locals: Bells, mostly, 6@7; Chilis, 4½; pimentos, 3½; Cherry Chili and Floral Gem, 12@13.

Sacked Vegetables: Per sack. Beets and Carrots, 1.00; Turnips, 1.25.

Squash: Market steady. Locals: Summer, lugs, 75; Italian, lugs, 1.25; Hubbard, 2 lb.

Tomatoes: Demand moderate, movement slow, market dull. Local: lugs, ripe best, 1.00@1.10; poorer, 75@90.

### FRESH FRUIT

These are actual prices obtained November 7 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Bellefleurs fancy, 3½ tier, 1.35@1.40; 4 tier, 1.35@1.45; loose, 3@3½ lb. Locals: Loose, Jonathans, 3½; Delicious, 5@6. Utahs: Jonathans, loose, 3½@4 lb. Winter bananas, 5 lb. Washingtons: Jonathans, packed, extra fancy, 2.15@2.25; fancy, 1.85@2 per box; Delicious, extra fancy, 2.50@2.75 box. Oregons: Delicious, fancy, loose, 7@8; poorer, 5@6 lb. Spitzenburgs, extra fancy, 2.40@2.50 per box.

Casabas: Local and Northern, 1.50@1.75.

Cranberries: Cape Cod, Early Blacks, 16 per barrel; 8 per half barrel crate. Late Howes, 20 per barrel; 10 per half barrel crate.

Grapes: Demand good, market unsettled. Locals and Northerns: Muscats, 4½@5; poorer, 3½@4; Missions and Zinfandels, 5@6; poorer, 3@4; Malagas, 4½@5; Tokays, 6@7; poorer, 4@5; Cornichons, 4½@5½; Black Moroccos, 6; poorer, 4@5; Red Emperors, 6@6½ lb.

Melons: Demand moderate, market dull. Locals and Northerns: 50@1.00 cwt. Persians: 2½@3 lb.

Pears: Demand good, market firm. Northerns and Locals: Bartletts, best, 7@8; ripe, 5@6.

Persimmons: Lb., 8@12.

Pomegranates: Lb., 6@8.

### CITRUS FRUIT

Grapefruit: Arizonas, 64-96 sizes, 5.00@5.50.

Lemons: Demand and movement light, market steady. Special brands, fancy, 9@10; choice, 6.50@8.50.

Oranges: Demand moderate, market steady. Valencias, special brands, $10@11 according to size.

### HONEY

Demand moderate, market steady with few sales. Many shippers waiting for advance in prices and not offering goods. Light movement of orange honey attributed in part to price differential over sage. Carlots for outside shipment range per pound—White Orange, 10@10½; White Sage, 9; Light Amber Sage, 6¾@7; Light Amber, alfalfa mostly, 7. Comb honey production in Inyo County considered below average in yield. Much of it has been sold. Several cars, all grades, reported moved at 2.50 per case, one car 60 per cent fancy went at 2.75 per case. For beeswax beekeepers are receiving 22 cents cash per pound.

### WALNUTS

Prices named by the California Walnut Growers Association on last Tuesday are: No. 1, 22½; No. 2, 17½, and fancy budded, 26. Last year's closing price for No. 1 was 27. The market opened at 24½, but only stood at that point for a day, strengthening immediately and moving up to 27.

### GRAIN

Prices L. A. Grain Exchange, November 6.

Barley 100 ton lots, November del., 1.55; Milo, 100 ton lots, November del., 2.00.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

**Prices quoted f. o. b. L. A. to producers:**

| | |
|---|---|
| Tame Oat | 20.00@22.00 |
| Barley Hay | 16.00@18.00 |
| Rabbit Alfalfa | 24.00@26.00 |
| No. 1 Dairy | 22.00@24.00 |
| Standard Alfalfa | 16.00@18.00 |
| Wheat Straw | 8.00@10.00 |
| Barley Straw | 7.00@ 9.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around 23.00@25.00 as a fair average. No. 1 dairy is varying from 16.00@18.00. Standard alfalfa is not much in evidence. If sold it brings afound 12.00.

# San Francisco Markets

San Francisco, November 7, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 47½ |
| Prime Firsts | 46 |

Prices Extras past week:

| November | 1 | 2 | 3 | 4 | 6 |
|---|---|---|---|---|---|
| '22 | 50 | 50 | 49 | .... | 47½ |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats | 23 |
| Oregon Trips | 25 |
| Oregon Young America | 27 |
| Cal. Y A. fy. (Nov. 1) | 27½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 60 |
| Extra Pullets | 47½ |
| Undersized Pullets No. 1 | 37 |

Prices California Extras past week:

| November | 1 | 2 | 3 | 4 | 6 |
|---|---|---|---|---|---|
| '22 | 62½ | 60 | 59½ | .... | 60 |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of November 6 by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers: 1 to 1¼ lbs. 36@40 per lb. Very fancy, 42@44 per lb. 1½ to 1¾ lbs., 32@35 per lb. Colored, 28@30 per lb.

Fryers: Leghorn, 2 lbs., 28@30 per lb. Colored 2 to 3¼ lbs., 28@30 per lb.

Young Roosters: Colored, 3½ lbs. and up, 28@30 per lb. Staggy, showing spurs, 21@23 per lb.

Colored Old Roosters: 17@18 per lb. Leghorn old roosters: 14@15 per lb. Leghorn hens: 2½ to 3 lbs. 18@20 per lb. 3 lbs. and over, 23@26 per lb. Large colored hens: 28@29 per lb. Off stock 26@27 per lb.

Ducks: Young, 18@20 per lb. Off stock, 10@15 per lb.

Geese: Young, 20@22 per lb. according to quality.

Live Turkeys: Old, 32@35 per lb. Spring, 36@40 per lb. Dressed turkeys, spring, 43@47; old hen, 40@45; gobblers, 35.

Belgian Hare: Live, 15@18 per lb. Dressed 18@23 per lb.

Jack Rabbits: 2@2.50 per doz.

Squabs: Live, fancy, 50@52 per lb. Common, 3.50@4.00 per doz. Old pigeons, 2.50@3.50 per doz.

Guinea Fowls: Young, 8.00@10.00 per doz.

### LIVESTOCK

Quotations furnished by the Federal-State Livestock Market News Service:

Cattle prices per cwt. (delivered off cars from San Francisco)—Beef steers, good grade, 7.75@8.00; medium grade, 7@7.50; common grade, 6@6.75; beef cows, good grade, 5.75@6; medium grade, 5.25@5.50; common grade, 4@5; canners and cutters, 2@3.50; bologna bulls, 2.50@4.

Calves: 150 to 200 pounds, 7.50@8.00; 200 to 250 pounds, 7.50@7.75; 250 to 300 pounds, good and choice, 7.00@7.50; over 300 pounds, 5.50@6.50.

Hogs: Good and choice, grain fed Californias, 150 to 200 pounds, 10.75@11.25; 200 to 250 pounds, 10.25@10.75; 250 to 300 pounds, 9.00@9.50; 300 pounds up, 8.50@9; smooth sows, 250 to 300 pounds, 7@7.50; rough sows, 250 to 300 pounds, 6@6.50; rough sows, over 300 pounds, 5@6.

Sheep and Lambs—Lambs, good and choice grades, 13.00@13.50; medium grades, 12.50@13.00; ewes, medium and good, 5.00@6.00; wethers medium and good, 7.50@9.00.

### FAT HOG AUCTIONS

Cal. Farm Bureau Marketing Assoc. reports:

| No. Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Turlock, October 31, 1922** | | | |
| 90 | 185 | .... | 10.15 |
| 94 | 169 | .... | 10.10 |
| 80 | 196 | .... | 10.00 |
| 5 | 190 | .... | 10.00 |
| 62 | 133 | .... | 9.90 |
| 33 | 141 | .... | 9.40 |
| 10 | 200 | .... | 9.40 |
| 73 | 227 | .... | 8.85 |
| 4 | 285 | .... | 8.35 |
| 7 | 432 | .... | 6.40 |
| 1 | 190 | Cash | 17.25 |

459 hogs
5 cars, 66 consignors, $8,167.48.

| **Chowchilla, November 2, 1922** | | | |
|---|---|---|---|
| 75 | 168 | .... | 10.15 |
| 62 | 215 | .... | 10.15 |
| 18 | 228 | .... | 9.15 |
| 18 | 224 | .... | 9.15 |
| 1 | 360 | 20 | 7.15 |
| 1 | 450 | .... | 6.00 |

175 hogs
2 cars, 15 consignors, $3,476.85.

| **Wasco, November 4, 1922** | | | |
|---|---|---|---|
| 89 | 161 | .... | 10.10 |
| 10 | 131 | .... | 10.10 |
| 96 | 183 | .... | 10.10 |
| 70 | 216 | .... | 9.60 |
| 16 | 367 | 220 | 6.60 |

281 hogs
3 cars, 24 consignors, $5,231.61.

Totals: 915 hogs, 10 cars, 105 consignors, $16,875.94.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Rivers, 90@1.10 at wharf. Salinas, 1.90@2.00 cwt. Idaho Gems, 1.40@1.50 cwt. Wash. Gems, 1.25@1.35. Jobbing, Rivers, 1.15@1.35 cwt. Sweet Potatoes: Merced, 1¾@2¼ lb. Nancy Halls, 2¼.

Onions: Green onions, 1.50@2.00 box. Stockton Browns and Yellows, 1.50@1.75 cwt. at wharf, jobbing price, 25@35 higher. Garlic: 3½@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, November 6, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per lug, 15.00@17.00.

Beans: Kentucky Wonder and Wax, 8@10 per lb.; Italian, 11@13; Lima, 7@10 per lb.

Brussels Sprouts: 7@8 lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: 75@1.00.

Cauliflower: Doz., 1.00@1.50.

Celery: Local, 2.00@3.50 cr.; 15@25 per half doz. bunches.

Corn: Green, 1.50@3.00 sack.

Cucumbers: Lug, 1.25@2.00; pickling, 4@5; small, 6@8.

Eggplant: Lug, 65@75.

Lettuce: Local, best, 1.50@2.00 cr.

Peas: Lb., 7@13.

Peppers: Cal. Bells, 1.25@1.75 lug; Chili, 1.00@1.50.

Rhubarb: So., 1.75@2.00 box.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 75@1.00; beets, 1.00@1.25; pumpkin and squash, 1.25@1.75 sk.

Spinach: 5@8.

Squash: Summer, lug, 1.75@2.25; Italian, 1.50@1.65.

Tomatoes: Bay and Peninsula, 1.25@2 lug. San Diego, 1.50@1.65 crate; 1.75@2 L. A. lug. Plum tomatoes, 30@50 a berry drawer for best.

### FRESH FRUIT

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, November 6, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Apples: Gravensteins, fancy, 3½@4 tier, 1.50@2.00 box; smaller, 1.00@1.50 box. Crabapples, 50@1.00 lug. Belleflowers, best, 95@1.10 box. White Pearmains, 1.50@1.75 box. Newtowns, 3½@4 tier, 1.40@1.75 box. Wealthy, fancy, 1.25@1.50 box. N. W. Jonathans, 3½@4 tier, 1.75@2.25. Spitzenberg, 1.50@2.25 box. Winter Bananas, 2.00@2.75 box.

Avocados: Cal. small, 75@1.25 doz. Florida, 3.00@4.50 doz.

Bananas: Best Eastern, 8@8½ lb.; Hawaiian, 7@7½.

Blackberries: 50@75 drawer.

Cantaloupes: Nominal. Honey Dew and Casabas, 50@85 crate, or 60@1.00 doz.

Cranberries: Eastern, 19.00@21.00 bbl.; Oregon, 5@5.25 box.

Figs: Black, 1.25@1.50 double layer box. White, 90@1.00 crate.

Grapes: Thompson Seedless, 1.50@1.75 crate; 2.50@3 large lug. Tokays, Malagas and Muscats, 1.25@1.50 crate; Malagas and Tokays, 1.50@2.25 large lug. Muscats, 2@2.25 lug. Rose of Peru and Isabella, 1.25@1.50 crate; Black Prince, 1.50@2.25 lug. Cornichons, 1.25@1.50 crate. Wine grapes, track prices, Zinfandels, 35@50 ton. Poor, 15@25 ton. Muscats, 15@30 ton.

Peaches: 65@1.00 crate; Oregon, Salway, 90@1.25 crate.

Pears: Bartlett, 2.25@2.75 box. No. 2, 1.50@2.00; small box, 1@1.25.

Pomegranates: 1.50@2.25 half orange box.

Persian Melons: 75@1.25 crate.

Persimmons: 75@1.50 flat cr.

Plums: Best, 1.50@2.25 crate; lug, 1.00@1.25; small prunes, 1.25@1.50 box.

Quinces: 75@1.50 box.

Raspberries: 75@1.00 dr.; few higher.

Strawberries: Local, 75@1.10 drawer.

Watermelon: Southern, 1@1½ lb.

### CITRUS FRUIT

Grapefruit: Southern California and Arizona, 4.00@5.50 box.

Lemons: Special pack, 8.50@9.50 box. Choice, 6.50@8.50. Lemonettes, 2@4.00. box.

Oranges: Valencias, fancy, all sizes, 5.00@8.50; choice, 3.00@7.50 box.

### DRIED FRUITS

**Figs, 1922, Packers' prices f. o. b. Cal.:**

| | |
|---|---|
| Standard (in 25s) | 7½@7¾ |
| Bricks, 12 No. 10s | 1.20@1.25 |
| Bricks, 24 No. 8s | 1.90@2.00 |
| Bricks, 50 No. 6s | 3.00@3.10 |
| Bricks 70 No. 4s | 3.10@3.20 |
| Layers, 10-lb., 4 row | 1.70@1.80 |
| Layers, 10-lb., 5 row | @1.60 |
| Calimyrna | |
| Standard (in 25s) | 14 |
| Choice (in 25s) | 16 |
| Extra choice (in 25s) | 19 |
| Fancy (in 25s) | 22 |

Few black figs left for sale; those commanding high prices.

**Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:**

California Peach and Fig Growers' has withdrawn prices on all figs.

**Raisins, Sun-Maid Raisin Growers' Prices:**

(Raisins same as last week).

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼@11½ | 15 @15¾ |
| 40-50s | 9 @ 9¼ | 12¼@12½ |
| 50-60s | 8 @ 8¼ | 10¾@11 |
| 60-70s | @ 8 | @10¼ |

**Peaches, 1922, Packers' prices f. o. b. Cal.:**

(Peaches same as last week).

**Pears, 1922, Packers' prices f. o. b. Cal.:**

(Pears same as last week).

**Apples, 1922, Packers' Quotations f. o. b. Cal.:**

| | In 50s |
|---|---|
| Choice | @10¾ |
| Extra choice | @10¾ |
| Fancy | @11½ |

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | 18@20 |
| Slabs | 18@19 |
| Choice | 23@24 |
| Extra choice | 24½@25½ |
| Fancy | 29@30 |

### ALMONDS

(Almonds same as last week.)

### HONEY

Star thistle nectar secretion over for season, with plants in good condition for next year. Car lots and less of No. 1

grade in 5 gallon cans reported sold at 8 cents per pound, No. 2 at 6 cents.

### BEANS

California Bean Growers Association selling prices, 100 pounds, for choice recleaned California beans (1922 crop) in carloads, f. o. b. California common shipping points November 4, 1922:

| | |
|---|---|
| Large Whites | 6.25 |
| Small Whites | 6.10 |
| Pinks | 6.70 |
| Mexican Reds | 5.75 |
| Red Kidney | 6.70 |
| Bayos | 7.40 |
| Henderson Bush Limas | 10.20 |
| Cranberry | 7.60 |
| Blackeye | 5.50 |

### HAY AND FEEDSTUFF

Under date of November 4, A. W. Scott Co. says: Receipts past week 870, 716 previous week. Tonnage on local market restricted by car shortage, values held at higher levels. Export and coast shipments brisk and well scattered, although volume has been greatly restricted by shortage of water freight space. United States government is now shipping a 2000 ton order for Panama, and in the market for their usual overseas shipments to Manila. Interior and country trade dull. Alfalfa has been doing better and prices ruling stronger, although the demand has been quiet and light. The reason for this is the difficulty of getting cars when feed is needed badly in some particular section.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges for switching, cartage, commission and handling expenses must be added according to conditions.) Transportation bad, scarcity and high prices for spot.

| | |
|---|---|
| Wheat Hay, No. 1 | 17.00@20.00 |
| Wheat Hay, Fair grade | 15.00@17.00 |
| Tame Oat Hay | 17.00@20.00 |
| Wild Oat and Barley Hay | 14.00@16.00 |
| Alfalfa Hay | 17.00@20.00 |
| Stock Hay | 12.00@14.00 |
| Straw | 11.00@12.00 |
| Barley, Ground | 34.00@36.00 |
| Rolled | 32.00@34.00 |
| Oats, Rolled Feed | 42.00@44.00 |
| Bran | 34.00@36.00 |
| Millrun | 35.00@37.00 |
| Middlings | 44.00@46.00 |
| Linseed Meal | 58.00@60.00 |
| Coconut | 33.00@36.00 |
| Alfalfa Meal | 28.00@30.00 |
| Cottonseed Meal | 50.00@56.00 |
| Molasses Beet Pulp | 43.00@45.00 |
| Milo | 42.00@45.00 |
| Corn Meal or Cr. Corn | 43.00@45.00 |
| Whole Corn | 41.00@43.00 |
| Scratch Feed | 48.00@50.00 |

### GRAIN

Prices S. F. Grain Exchange, November 7, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 2.05@2.10; feed, 1.90@2.05. Barley Feed, 1.50@1.55; shipping, 1.47½@1.55.

Oats: 1.60@1.85.

Corn: Colored Milo, 1.80@1.95; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.78@1.80.

## Citrus Markets

Los Angeles, November 8, 1922.

The citrus shipping year ended with Tuesday, October 31. The grand total of citrus fruit shipments was 40,099 cars. Of this amount the railroads report 39,499. There were shipped by water about 500 cars oranges and 100 cars lemons. Of Valencias there are between 300 and 350 cars yet to go. The early shipping sections will endeavor to supply some early fruit for the Thanksgiving market. New Navels are expected to go forward somewhat earlier than last year. Last year we reported on November 16 "New Navels now going forward, none yet being offered in the market."

The lemon year has proved far more successful than anticipated, the aggregate including water shipments being 10,000 cars.

### Shipments 1921-1922

Shipments of citrus fruits by rail November 1, 1921, to November 1, 1922:

Southern California, oranges, 24,086; lemons, 9,807; total, 33,893. For the preceding year, 1920-1921, oranges, 41,330; lemons, 11,584; total, 52,914.

Central California, oranges, 5,114; lemons, 109; total, 5,223. For the preceding year, 1920-1921, oranges, 6,676; lemons, 216; total, 6,892.

Northern California, oranges, 373; lemons, 10; total, 383. For the preceding year, 1920-1921, oranges, 305; lemons, 5; total, 310.

To the above should be added the 600 cars above referred to shipped by water.

Records of shipments of grapefruit have never been separated from oranges.

### Shipments for New Year

Shipments of citrus fruit to date since November 1, 1922:

Southern California, oranges, 217 cars; lemons, 65; total, 282. To same date last season, oranges, 197; lemons, 94; total, 291.

## Snappy Notes on Livestock

**By A. L. Spellmeyer**

The best yearling steers I have seen for years were a load from Wyoming that weighed 750 pounds average and sold to a local feed yard at 7 cents.

The large feeder steers have been selling from 5.50 to 6.50. The light cows have been, if fat, selling at 4 cents, and it takes a good cow to bring 5.50 to 6 cents.

So far the Los Angeles stockyard is the best priced heavy cattle market in the United States and a good lamb and hog market. Its feeder and stocker demand appears necessary to develop. A number of cars of various light cattle were shipped back, or on, rather than accept the slow sale, but Monday with some new buyers in evidence this tendency may change. As a matter of fact good quality feeders moved.

Things will, however, have to move faster and develop more, with cattle handled in much snappier fashion if great numbers of any but the local killing stuff are handled. It would appear the concentrated effort in the selling districts to persuade support and consignment was ill balanced without a corresponding effort among the districts that can use cattle and a general effort to attract buyers.

We would not have thought of trying to handle the country feeders by the ten thousands, in past years, without first arranging a place for the cattle, and in view of the general conditions the California buyers are being offered feeder and stock cattle at a lower valuation in some instances than they could have been bought for on the Arizona ranges, after a long expensive trip to get the catttle.

It is rumored certain financial affiliations of the livestock trade, banking, and other circles are arranging Imperial Valley and other loans and places to absorb feeders. This wil be fine if no strings are put on the beef that come in later, but with strings we will have something else to figure.

The calves seem to move well, at 7 to 7.50. I notice each day a few more prospective buyers, among local and suburban killers, and they are concentrated around the cheaper cows, steers and calves.

All this cheap stuff makes meat, and the 9 cent cow carcass from the 4 cent cow makes meat as surely as the 13 cent carcass from the 6.50 fat cow. A possible spread of 4 cents on carcass beef, steers and cows, holds all sorts of potentialities, and essentially in the end it's the carcass price that rules the live weight beef price.

One thing has already developed and that is a certain demand for pasture and alfalfa adjacent to Los Angeles within 100 miles, and preferably within 100 yards. Much of this feeder offering would have been absorbed at once at better prices if the range man had a temporary reasonably priced pasture to hold on until he made permanent range arrangements. Such a man can easily stand 10 or 15 or possibly 20 cents a day for holding up feed on a steer or cow but he can't stand 40 or 50 cents on this class of light cattle.

It is impossible for such a radical change in a marketing method as from buying on ranges to buying on a stockyards, to work out all at once as various problems must be met. Indications are everything will work out finely, though how great a market develops here must depend upon finance used, or various broad and well conceived policies, in trade and killing lines.

### POULTRY QUERIES

(Continued from Page 517)

barley or oats in the morning or at noon, keeping the mash before them and giving a good feeding of greens between 9 o'clock and noon, you will see better results. You might give the milo in the head for a treat once in a while. Those hens with the shrivelled combs are probably molting, but the pullets should be laying.

#### Overfeeding

I have recently lost about 35 of my 200 Barred Rock pullets with roup and now 12 more act as if they had St. Vitus dance, stagger when they walk and seem dizzy. They have all the sweet milk they will drink, a three-gallon bucket of prepared feed once a day, and the same amount of corn and barley twice a day. Have had no greens for three months.—Subscriber.

Overfeeding of hard grain together with the lack of greens is responsible for the condition of your hens. Keep the mash before them all day and give a mixture of corn, barley and wheat at night. As you have no greens you might sprout barley for the morning feed. It is not a very good substitute for greens but is better than all hard, dry grain. Do not feed more than a quart of grain daily for 15 hens. The roupy condition is probably caused by lack of sufficient ventilation in the hen house. Very likely there is overcrowding as well.

#### Lump on Neck

One of my fine Plymouth Rock hens has a large, foul smelling lump on her neck. She is laying and looks healthy. What shall I do?—Subscriber, Escondido.

The lump is probably an abcess due to some injury. If it seems to contain pus you had better open and wash with peroxide of hydrogen, half strength, then paint with tincture of iodine. If the lump is yellow, you may be able to wash out the poison with full strength peroxide, but be sure to use iodine whatever else you do. If she is not better in a few days, kill her.

R. J. Yates of Orland, one of the old stand-bys of the Poland China hog business, has introduced some new blood in his herd and has the best pigs this fall he has ever raised. Some of them weigh as high as 56 pounds at eight weeks of age and just in fine growing condition.

### WEATHER REPORT

San Francisco, November 4, 1922.

| Stations | Rainfall Week | Rainfall Season | Rainfall Norm. | Temp. Max. | Temp. Min. |
|---|---|---|---|---|---|
| Eureka | .47 | 3.83 | 4.41 | 58 | 36 |
| Red Bluff | .07 | 4.25 | 2.66 | 64 | 38 |
| Sacramento | .02 | .72 | 1.58 | 66 | 40 |
| San Francisco | .01 | 2.95 | 1.76 | 66 | 47 |
| San Jose | T | 1.55 | 1.39 | 68 | 36 |
| Fresno | .01 | .52 | 1.03 | 66 | 38 |
| San Luis Obispo | 0 | .47 | 1.94 | 72 | 34 |
| Los Angeles | 0 | .24 | .88 | 72 | 44 |
| San Diego | 0 | .10 | .57 | 68 | 49 |


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Clothing Prices Reduced

$45 and $50 Suits Now $33

Mr. I. E. Selix, head of the Selix Clothing Company, Eddy and Mason Streets, San Francisco, California, said to be one of the largest retail men's clothiers on the Pacific Coast, recently stated that his firm is now able to quote prices on Blue Serge Suits almost 35 per cent below what others ask. To prove his point he showed the writer a 16-oz. virgin wool blue serge which they offer at $33, whereas the same fabric is now being offered by many merchant tailors at $45 to $50. Every reader of the California Cultivator should write to Mr. Selix for a free copy of his descriptive folder, which contains cloth sample of this Special Serge.

Selix Clothing Company

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San Francisco, California

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Poland China Boars

For Sale

Spring and Fall Farrow

I am also booking orders for fall pigs to be shipped when 3 months old. Sired by Orland Pan by Peter Pan and out of big, prolific sows.

Every animal guaranteed as represented.

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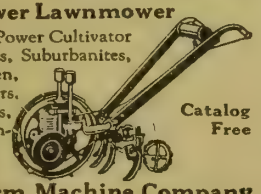

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A white paint and disinfectant in one. Comes as fine powder. Simply mix with water. In 5 minutes you have a smooth-flowing paint and disinfectant that is much better than whitewash. Will not clog sprayer. Does not peel or flake. Ten lbs. covers 2,000 sq. ft. Used for years by leading dairy and poultry farms. Saves time, labor and money. Ask your dealer, or send $1.50 direct for 10 lbs. Germain Seed & Plant Co., Los Angeles, Calif.

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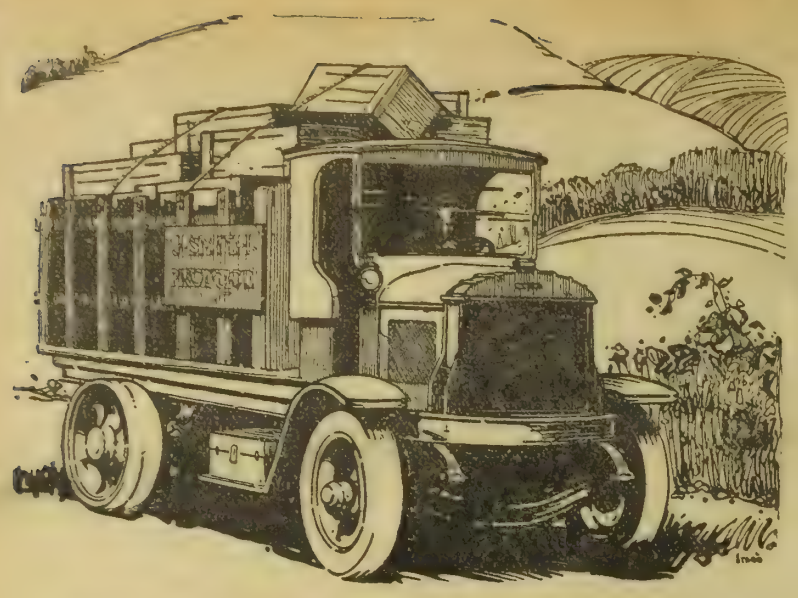

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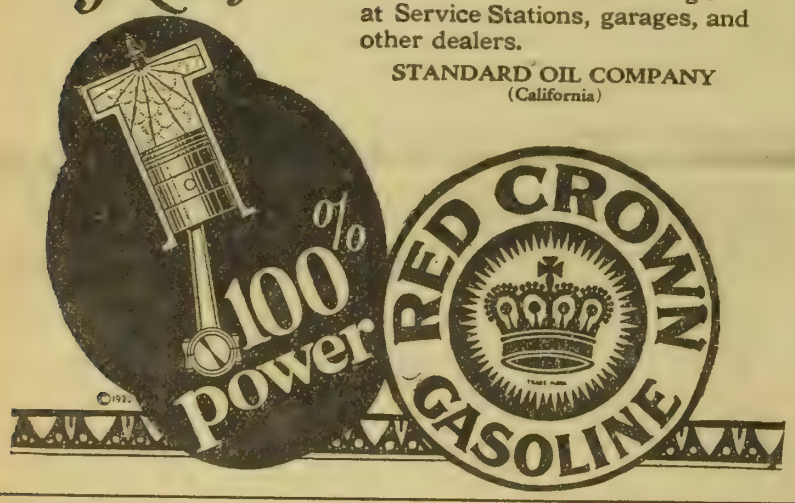




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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — November 18, 1922 — No. 21


## The Farm Under the Farm, or Down Where Fertility Is

Some of California's almost worthless lands have been turned into producers of great crops. They have perhaps been worthless only because air and moisture have not been admitted. When the power is put on the right type of tool and a scene like the above is thrown on the screen it becomes possible to grow crops—more, it becomes possible to grow profitable crops. The Cultivator has touched almost every angle of this matter of using the fertility which is actually in the soil. Fertilizers cost money, yet they are necessary for richest return. Likewise it is better to draw our checks on the deposits now available. They are not available excepting we use the forces of nature as aids at least, in putting them into active circulation. To do this we may use primitive methods of "main strength and awkwardness." We may use horse power, gasoline power or dynamite. But in any case break up the sub-soil and make available the riches below.

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and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877, Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, Nov. 18, 1922

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If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

## EDITORIALETTES

The photograph on the cover shows real doin's down in the soil. There is not much of real action visible above but it may be taken for granted those plows are running along somewhere between 18 and 24 inches under the surface. In any case there is a breaking up of clods which makes an opening for the penetration of air and water. Deep soil culture is vastly different from that of a score of years ago when "light draft" implements were in good form. Soil that is worth cultivating is worth cultivating deeply.

## ARMISTICE DAY

Business farmers who drive in to town to sell or to buy or to bank and come up against a neat sign "Legal Holiday, etc." have at times expressed a bit of restiveness because of the ever increasing number of holidays. Is there an election? The banks close. Or, some one or some thing has a birthday and everybody closes shop. While the number of these days is increasing unduly we still believe one of the newest in observance is really worth while. It is that in commemoration of the signing of the Armistice on November 11, 1918.

Every one of the four years which has passed has increased the people's appreciation of the significance of the day.

In an address on Armistice Day the President said:

"The increasing enthusiasm with which our people join in the annual observance of Armistice Day, enforces the conclusion that it is destined to be one of the notable anniversaries in our calendar, and indeed it well deserves to be all of that, for it marks the victorious culmination of our nation's most impressive participation in the affairs of the world.

"We shall not go amiss if we seek to make our observance of this anniversary, not only this year but every year hereafter, an occasion for appraisal of our relationships to and participation in these wider concerns which involve the welfare of all mankind."

## STOP THE FLOODS

The eyes of the Southwest are on Santa Fe. The Colorado River Commission is meeting. Its chairman, Herbert Hoover, is presiding. Seven states have sent delegates. Two departments of the federal government are participating. Many delegates are there to fight for all their home state is entitled to. Some are ready to fight for more than their state is entitled to.

Colorado claims: "Colorado furnishes about 65 per cent of all the waters of the river system, and the main stream rises in Colorado. Now is the ideal time to write a treaty between interested states which will prevent future conflicts, owing to the fact that there is no serious disagreement at the present time."

California has but little title to Rio Colorado on the basis of percentage of waters supplied to that stream. But California does say "If the waters are yours then you are responsible for the millions of losses because of uncontrolled floods." The quarrel continues.

However we are assured that "the most cordial feeling prevails between delegates."

Meantime the mighty power of the river is used in destruction; only half its irrigation possibilities are developed; the warmth and light for our homes and the power to turn the wheels in hundreds of mills still lies dormant—undeveloped.

"Why?" We hope Santa Fe will answer.

## NO JAPANESE CITIZENS

Japanese cannot become naturalized citizens of the United States, This is the substance of a supreme court decision delivered November 13. It was handed down in long delayed ruling on a case brought in 1914 by a Japanese, Taka Ozawa, who applied for citizenship in Hawaii and was denied. The court stated that "in all naturalization acts from 1790 to 1906 the privilege of naturalization was confined to white persons (with the addition in 1870 of those of African nativity and descent.)"

The court reviewed at the same time a similar case brought by Japanese against the secretary of state of the state of Washington. The state of California filed briefs with the United States supreme court in both the Washington and Hawaiian cases, supporting anti-naturalization.

The interest of California is as keen as that of Hawaii and Washington in these cases because of the necessity Californians have felt for anti-alien land legislation. Arguments on four separate actions to test the constitutionality of these anti-alien land laws are on the United States supreme court calendar for November 27.

## RAIL CUT REFUSED

The Pacific Coast is not to have a lower freight rate on the railroads. Last June the interstate commerce commission was asked to grant coast shippers a lower rail rate in order to meet increasing competition of all-water shipments via Panama Canal. The commission has denied the application. During the hearing the reduction was opposed by the inter-mountain cities such as Spokane, Salt Lake City, Phoenix and Denver, whose representatives insisted that no lower rate be granted to the Pacific Coast cities than was granted to them. This long and short haul fight has been a perennial and for the time being the short haul has won, but with the Pacific Ocean handy, California "should worry."

Note the interesting fact proved during the hearing that half of all the freight originating for the coast in the Pittsburgh-Buffalo section of the eastern part of the United States is now carried all the way from the Atlantic seaboard by water through the canal at much lower rates than the all-rail rates.

## LAND SETTLEMENT

We believe one of the mistakes of the recent election was the failure to pass the land settlement bond act which was No. 4 amongst the state measures on the ballot. Those opposing the act made claims that "This is a proposition to bestow the use of the public credit of the state upon people who, lacking industry and initiative, have no private credit of their own."

Viewed from the standpoint of selfish and immediate interests this claim is true. We still believe an opportunity has been lost for increase of population and advancement of the interests of California. In a recent bulletin on land settlement by Dr. Mead, Professors Shaw, Adams and Gregg it is stated:

"California made land settlement a matter of public interest and effort when the legislature of 1917 passed the land settlement act under which two rural communities, Durham and Delhi, have been created. This action was taken by the legislature because of the need for more careful study of conditions of soil, climate, and water supply than private enterprise is inclined to make, and for the better organization of the settlers in the state. In carrying out the provisions of the act of 1917 the state land settlement board has employed distinctive methods, the chief points of which are the following:

"The soil, and the water supply, and educational, health, and market conditions are studied by experts before the land is bought. The size of farms, the kind of agriculture suited to the locality, and the cost of developing a farm are investigated in order that settlers may be given expert advice and direction.

"The payments on land are amortized and extend over 36½ years, with interest at 5 per cent.

"Settlers are helped to organize for cooperation in development, and to buy and sell as a community.

"Settlers are loaned money to complete development or to buy livestock and equipment.

"Homes for farm laborers are provided."

We believe such statement by men of vision and with highest wish for California's prosperity should have meant far more to voters than the objector's best arguments.

## COOPERATORS COOPERATE

On the 14th, 15th and 16th of next month there will be held in Washington, D. C., a convention that should and we hope will be of more benefit to cooperative farm organizations than any movement of the kind that has ever been undertaken. We refer to the call issued by the National Council of Farmers Cooperative Marketing Associations for the first national convention of farmers business organizations, a notice of which appears elsewhere in this issue.

Among the matters to be discussed at this convention will be rural credits legislation from the standpoint of cooperative marketing associations. In his suggestions for such a meeting, U. S. Senator Capper says: "I have been greatly impressed with the fact that the greatest use that has been made of government credit agencies in aid of the farmer has been through cooperative marketing organizations. Extensive as is the membership of these organizations at this time, I am convinced that the cooperative marketing movement is still in its infancy. This being the case, it seems to me that the voice of the cooperative marketing associations, as business organizations of farmers for the specific purpose of marketing their products, should be heard on this question. Since the best way to benefit the farmer in helping to finance the distribution of his products is through the cooperatives, it seems to me that those engaged in framing rural credits legislation should give the gravest attention to the desires of these organizations in this matter. Convened at Washington at an early date, such a gathering would, I am sure, be looked upon with great favor and keen interest by all members of congress and government officials that have the interest of the farmer, and therefore of the country at heart."

Rural credits legislation is a matter of great importance to the general farming industry and, as Senator Capper says, can best be worked out through cooperative marketing organizations. The lack of stability in prices of farm products is responsible for the lack of credit that the farmer should enjoy, and at the same time this lack of credit very often forces the farmer to sell or bargain to sell his crop at a time when prices are low. He thus not only hurts himself but demoralizes the market for that commodity. Cooperative marketing with some system of rural credits should be able to overcome to a great extent this instability of prices and put the farmer somewhere near on a par with other business enterprises in the matter of credit.

Other matters which will be discussed are the common problems of cooperative marketing associations and particularly the problems attending upon the handling of the various commodities. The marketing associations of the different commodities throughout the United States will have a chance to get together and work out their common problems, and thus, instead of working against each other, they may be able to so distribute their products that serious competition may be avoided.

California, with her fresh and dried fruit associations and other cooperative organizations, should be well represented at this convention, and in view of the success attained by these organizations in the marketing of fresh and dried fruits we should take a leading part in the discussion of the problems confronting cooperative marketing. California is looked upon not only in the United States but throughout the world, wherever extensive farming and fruit growing is being carried on, as the leader in this movement, so let us do what we can to assist.

# California Cultivator

Vol. LIX, No. 21 | Los Angeles, November 18, 1922 | One Dollar Yearly


# Sub-Soiling Citrus Orchards

By W. R. Wood

MUCH has been said regarding the question of deep or shallow cultivation for citrus orchards, but the fact remains that the practice of deep cultivation is gaining favor with the growers.

It has not been a great many years since it was the general belief that deep cultivation or plowing would ruin an orchard and that all the cultivation necessary was just what was required to keep down the weeds and prevent the soil from crusting over and cracking after irrigations. If we stop to investigate the condition in some of the older orchards where such methods were practiced in the years gone by, we find that they were mostly planted on the lighter sandy loams where the drainage was good and where there was no hard pan or heavy clay sub-soil to obstruct the root growth of the trees. This class of soil permitted free root development and while the fiber or feeding roots came close to the surface, there was also a much better distribution of roots deeper down than could be found in the heavier soils, thus adding to the tree's vigor and ability to withstand drouth and heat. Water being plentiful, it was not necessary to consider deep cultivation for the purpose of conserving moisture and, the drainage being good, there was no danger of using too much water; therefore shallow cultivation was all that was deemed necessary. The fact that some of these old groves, now more than 50 years of age, are still vigorous and producing good crops, would indicate that they had never been seriously damaged by such cultural methods.

As the citrus industry expanded and the necessity for securing locations more free from frost damage became apparent, the planting gradually shifted to the higher lands where the heavier clay soils prevailed and which are quite often underlaid with a still heavier sub-soil and sometimes with hardpan or bed rock. In such soils the drainage was not as good and likewise the tree roots could not penetrate it as freely, the result being that all of the feeder roots, when allowed to do so, remained in the upper 12 to 18 inches of soil. Such soils crusted over and cracked much worse than the light loam and therefore required more thorough cultivation to prevent this condition and to conserve the moisture.

It soon became apparent that the methods of irrigation and cultivation practiced on the lighter soils would not give satisfactory results on the heavier lands and growers were forced to reverse their former methods of irrigating to save cultivation and were compelled to cultivate to keep from ruining their orchards and lands by irrigation.

As is the case in most all cultural changes, we are apt to go from one extreme to the other, so with the change from shallow to deep cultivation some growers changed over night, as it were, and, after allowing their trees to form a shallow root system, began deep plowing and sub-soiling, with the result that there were not sufficient roots left on the trees to support the tops and quite naturally the trees turned yellow and refused to produce. Such growers then condemned deep cultivation, forgetting or failing to see that it was their own fault in failing to use common sense in their work.

It is a difficult matter to undertake to change from shallow to deep cultivation on an old orchard where the root system is interlaced throughout the upper 12 inches of soil, and where it is necessary to make the change, it should be done gradually so as not to give the trees too great a shock. By running a sub-soiler down the center of the rows, once each way, much good can be done in the way of open ing up a heavy soil so that it will take water better and at the same time work in such fertilizers and manures as it may be deemed necessary to use. This is about all that can be done in an old orchard, and quite often it is all that is required to bring the trees back into condition. Where the trees are younger, two or more sub-soil furrows can be run between the rows and better and quicker results will be accomplished.

Once Between With a Big Sub-soiler

The illustration on the cover shows how hardpan or intractable soil may be handled so as to make both soil and sub-soil take in both air and water and fit themselves so as to be able to yield up their plant food for growing crops. The above illustration shows the method of breaking through hardpan or plow sole of a citrus orchard so as to admit irrigation water to lower feeding root levels.

In my opinion, deep cultivation and sub-soiling should be practiced on all heavy soils from the time the trees are first set out. By doing this, it will be possible to work straw and manure or any other fertilizing material into the lower subsoil and loosen it up so that it can be more easily penetrated by the root system. The deep cultivation will force the necessary plant food to a depth where it can be taken up by the roots without their having to come to the surface in search of it. Less water will be required to maintain the proper soil moisture and there will be less danger of getting the subsoil in a sour or water-logged condition. By sub-soiling in the fall or early winter, the soil can take up much more of the winter rains and thus requires less irrigation in the spring months.

Deep cultivation means a more uniform condition of the trees which in turn means better and more uniform crops.

Trees cannot produce at their best where the feeding roots are so close to the surface that they are subject to all of the various weather changes. Where there is from six to 12 inches of well pulverized soil, above the roots, there is much less danger of the trees suffering from either drouth or extreme heat.

# Miss Warner's Turkeys

By Jean A. Koethen

IF you want to know about turkeys," said a bright young Hemet woman in answer to my inquiry, "you should certainly see Miss Kate Warner. She has raised turkeys longer than anyone else round here and can tell you all you want to know."

My informant was right. Miss Warner, who belongs to the pioneer Warner family of Hemet and San Jacinto, learned turkey culture from "Turkey Myers," who for many years herded his hens and gobblers over the hills and grain fields of Hemet Valley. He raised thousands in his day, and those who watched him lead them out in the morning and back to the fold at night, and were privileged to ask him questions, got an insight into the character and habits of this most interesting of our domestic fowl which is denied the ordinary student of poultry husbandry. To this acquired knowledge Miss Warner adds that gleaned from many years' experience, and a love for and understanding of her birds. When her toms, after posing for an unsuccessful snapshot, went trooping off with swishing wings to the alfalfa field, they looked exactly like a lot of mischievous boys, released from school by the word of a teacher whose authority they never questioned.

A Model Brood Coop

Notice the sliding door, and the doorway built well off ground. Miss Warner is giving her charges their evening meal.

Miss Warner's turkeys are confined in a shady yard quite near the house where she can always have an eye on them. Even there turkey thieves have found them, and it was necessary this year to build a pen right under her bedroom window, "where I can speak to intruders," she explained with a twinkle in her eye. The turkeys roost in the open and are let out for a part of each day on the alfalfa. The breeders are fed wheat in the morning, a gallon and a half to the 40 hens, a

(Continued on Page 551)

# Agricultural News Notes of the Pacific Coast

## Northern California

Dogs killed 60 head of sheep at Woodland.

First cranberries in San Francisco sold at $20 and $22 per barrel.

California's fruit crop for 1922 will exceed $100,000,000 in valuation.

Sisson, Shasta County wants to change its name to "Mount Shasta."

B. F. Walton a pioneer farmer of Sutter County died at the age of 87 on October 31.

The annual convention of superintendents and operators of national parks was held in Yosemite November 13-17.

Father Ricard predicts for fore part of next week "partly cloudy," "possibly rainy" with week's close "fair from Imperial to Alaska."

Representatives of the California Wool Growers' Association attended the annual meeting of the Marysville District Wool Growers November 4.

A Sonoma County White Leghorn hen has passed the 300 egg mark in the farm bureau egg laying contest at Petaluma. She is the property of H. R. Thomas.

A fight on the King Tax Bill is to be made in the courts of San Francisco. The railway attorneys insist that the state has no right to levy "heavier on railways than on farms."

Modoc County potato growers are reported accepting as low as $20 per ton. There is a large crop to dispose of in the county. Growers say that they cannot ship to Eastern markets in competition with Idaho growers.

Plans for the administration and development by the board of forestry of a new state park in Shasta County, which will include Burney Falls and a virgin forest of yellow pine, are announced by State Forester M. R. Pratt.

H. R. Thomas of Petaluma has the two highest record hens in the Sonoma County egg laying contest for the 11 months beginning November 1, 1921. Their records are 292 and 259 eggs. 20 hens are reported with records of over 226 eggs for same period.

San Francisco reports: Dressed turkey prices opened the 1922 season from 9 to 17 cents a pound cheaper wholesale than last year. The range this year is from 35 cents a pound for heavy old toms to 45 cents a pound for the fancy early spring birds, as compared to the range of from 52 to 54 cents in 1921.

The annual convention of the California Fruit Growers and Shippers will be held at Sacramento, December 12-14 to form a cooperative organization for handling matters of transportation with the interstate commerce commission. Washington, Oregon, Idaho, Utah, Montana, Colorado, Arizona and New Mexico will be asked to send representaives.

As a precaution against the introduction of cattle scab, which is reported to be prevalent in parts of Texas and New Mexico, the division of animal industry of the state department of agriculture, through Dr. J. P. Iverson, head of the division, has notified the Southern Pacific and the Atchison, Topeka and Santa Fe Railroads not to accept for delivery into California cattle from several counties in these states.

## Central California

Car shortage is still serious problem before grape growers of the valley.

The new highway from Knight's Ferry to Keystone was opened to traffic on November 12.

The Almond Growers Exchange last week shipped five cars of almonds from Oakdale, Stanislaus County.

Pacific Slope Dairy Products Show at Fresno the past week brought big attendance from all over California.

The Stanislaus County cow testing association has 4,000 cows on its books and is the largest in the state.

An experimental fig orchard will be planted near Planada, Merced County, by the California college of agriculture.

The Porterville Cooperative Poultry Association increased its business $1000 in September over the preceding month.

Some damage was done to raisins by early rains of last week of October, those on paper trays were injured most seriously.

Lindsay is talking of citrus show and industrial exposition to be held the latter part of November or first part of December.

All water in the ditches of the Lindsay-Strathmore irrigation district, excepting for domestic use, will be shut off on November 15.

The new packing house of the Elderwood Citrus Association at Lindsay was dedicated on October 14. 250 guests were entertained by the packing house management.

Eighty per cent of the farmers of Stanislaus County, who started to keep accounting books last fall, completed them, according to A. A. Jungerman, county agricultural agent.

The canned raisin, the latest pack to be marketed by the Sun-Maid Raisin Growers in 8 ounce and 12 ounce air tight, sealed tins, is meeting with favor throughout the United States.

A tour of lettuce and vegetable fields was conducted by the agricultural extension service in Monterey County last week. Some interesting demonstrations were made of double cropping.

A series of spraying demonstrations will be given in Stanislaus County, November 23 and 24 by E. O. Essig of the experiment station at Mountain View cooperating with County Agent Jungerman.

The farm center at Dos Palos has been making local canvass to determine supply of hay. It is also investigating supply in nearby farmers hands in order to provide against later shortage and high prices.

The Watsonville district had shipped up to October 21 972 carloads of apples to points within the state, 178 carloads to eastern points. Last year at same date 1322 cars had been shipped within the state, 521 east. Car shortage has held up movement this year.

As result of serious shortage of refrigerator cars the United States has approved opening of the El Pinal winery at Stockton. The winery will be operated on a cooperative basis by vineyardists of the San Joaquin Valley. It is stated that the wine will be sold largely to patent medicine manufacturers.

## Southern California

The first picking of fall peas has been made at Brawley.

Pear growing districts report blight more severe than for many years.

The apple packing season is over in the Yucaipa and Oak Glen sections.

A truckload of broom corn went from Holtville to Los Angeles last week.

Palo Verde Valley has voted its second levee district bond and work will begin at once.

The Ventura Lima Bean Growers Association met November 4 to elect a new directorate.

A boys and girls pig club contest will be held in Imperial County, December 4 to March 30.

The Redlands Horticultural and Improvement Society held its fall flower show November 9 and 10.

Palo Verde Valley will show larger planting of alfalfa, grapes, cantaloupes and lettuce than last year.

Imperial County supervisors have offered 40 acres of the county farm for experimental date farm to be conducted by federal experts.

A persimmon institute will be held at Santa Ana high school on Friday, November 4. It is under auspices of the Orange County farm bureau.

The second Los Angeles County egg laying contest started October 1, 1922, with 47 entries. 39 are White Leghorns. Heavy birds are kept separate from light birds.

The Redlands chamber of commerce is pushing organization of citrus orchardists to cooperate in frost fighting. The Pomona system of spreading frost warnings is being studied.

Swine raisers held get-together meeting and banquet at Brawley on the evening of November 9. Plans for securing better market for feeder and fat hogs were discussed.

Grade of Cahuenga Pass leading into Los Angeles from the San Fernando Valley is to be lowered to accmmodoate heavy traffic from Ventura, Santa Barbara and the valley.

The soil fertilization committee of the associated chambers of commerce of Imperial Valley is planning a series of meetings at central points over the valley to be followed by a county convention in January.

The Automobile Club of Southern California has been receiving many complaints of thieving autoists in walnut and orange orchards. It has been necessary to establish patrols in many counties to protect the crops.

Dairymen of the Riverside County farm bureau are objecting to difference in prices paid by the California Milk Producers Association for milk shipped once a day, 95 cents; twice a day, $1.00. Secretary Packard will take up the matter with the association.

Newly elected officers of the Los Angeles County farm bureau are President, H. S. Bissell, first vice president, Mark Grimes; second vice president, E. D. McSweeny; secretary, W. S. Rosecrans; treasurer, Ralph McNees; state director, Robert H. Neely; directors at large, Dr. J. G. Biller, Dr. George P. Clements, D. S. Fox, and J. B. Vaile.

## The Coast and General

Medford, Oregon, held an apple show November 9.

The annual convention of the Farmers Union of Washington and northern Idaho will be held at Spokane, December 12.

A quarantine has been placed on shipments of cattle and dairy products from several counties of New Mexico and Texas into California because of scabies.

The Pasco-Kennewick bridge across the Columbia was dedicated, Saturday, October 21. It was built by popular subscription without either state or federal aid.

The average wages of male farm labor for the entire United States, October 1, was $28.97 a month with board, according to 1,300 county crop reporters. The average rate for the year 1921 was $30.14.

Along with the other modern ideas acquired by Japan during the last 50 years, that country has taken a firm hold on the use of canned foods. The Japanese have gradually acquired a taste for canned fruits, vegetables, jams, etc.

A meeting has been arranged at Washington, December 14-16, of the National Council of Farmers Cooperatives. Representatives are expected to be present of every cooperative farmers marketing association in the United States.

The Kleine Gemeinde congregation of Mennonites, recently migrated from Canada to Mexico, has taken an option on 150,000 acres of land in Chihuahua. Another migration is expected soon of 3,000 Mennonite families in Russia who have been granted permission by the Soviet government to leave that country.

The Oregon Purebred Livestock Association has asked the state emergency board for $10,000 to be used by the state livestock sanitary board the remainder of the year in testing cattle for tuberculosis. The association also asked an appropriation of $6000 for a boys and girls club exhibit building on the fair grounds.

A total pack of 13,042,000 cases of peas was put up by American canners during the season just closed, practically double the pre-war average. With the failure of the French pea crops there is every indication that foreign markets will absorb a big percentage of the large American pack, especially of the fancy grades.

The use of foreign canned and dried milk in England has increased to the extent that it is threatening the dairy industry. The daily consumption of fresh milk has dropped to less than one-quarter of a pint per person. The National Milk Publicity Council is striving in every way possible to bring the people to a better realization of the situation.

Soviet authorities are discouraging all talk of exporting any grains except "demonstrative" quantities which would show what Russia would be able to do in the future, preferring to hold any surplus grains this year as the foundation of a crop reserve both in the hands of the small holders and the large government organizations. This will also be used in the development of internal trade.

# Fertilizer Men at Sacramento

THERE has been a fairly good working understanding between fertilizer people as to the existing fertilizer law. However, there has been a bit of friction as to the proper handling of lower grade materials such as gypsum, lime, and occasionally goat and stable manure. Dealers in mineral fertilizers recently met at Sacramento and conferred with the state department of agriculture represented by Dr. Geo. P. Gray, chief of the division of chemistry. The producers requested Dr. Gray to appoint a committee of five to represent these interests for the purpose of discussing measures which would control the conditions of sale. Those appointed were: The United States Gypsum Company, represented by R. E. Henderson; The San Francisco Sulphur Company, represented by F. W. Wieder; The Bernal Marl and Fertilizer Company, represented by L. W. Stetson; The Kaweah Lime Company, represented by A. C. Root; The Agricultural Lime and Compost Company, represented by F. P. Van Hook.

The industries represented feel that as these materials have to do with the agricultural prosperity of California adequate protection should be given both to the producer and the consumer and that the conditions of the sale of these materials should be subject to control similar to that now exercised over the sale of commercial fertilizers.

The correct legal classification of these materials was considered, as well as proper tagging and sampling and the payment of a license fee and tonnage tax.

The legal classification of the materials was the subject of much debate, some members of the committee feeling that, as these materials enter into the growth of the plant to as great an extent as nitrogen, phosphorus and potash, the five elements, calcium, nitrogen, sulphur, phosphorus and potassium, should be recognized as all being of major importance and a definite guarantee be made of the percentages of these necessary elements of plant food.

Other members of the committee held the view that as the first agricultural chemists of a century ago decided that nitrogen, phosphorus and potassium were of major importance around N. P. K. that the views of the older agricultural chemists should be and trade custom resolved itself respected and lime and sulphur should receive a different classification from commercial fertilizers.

Touching upon this subject of fertilizers and the elements which should be considered a requirement of plant growth R. E. Henderson, one of the plant committee, says:

**By R. E. Henderson**

A fertilizer is material designed to be applied to the land for manurial purposes. That is the only official definition I have been able to get on the much used word fertilizer.

In the past it was supposed that only three of the elements necessary to plant life would become deficient in the soil and have to be regularly replaced. These three elements, nitrogen, phosphorus and potassium (herein after called N. P. K.) assumed the position of being regarded as the most important of all the so-called plant foods. This attitude was bolstered by the introduction of the fertilizer law, which, after producing the above definition, goes blithely ahead and concerns itself with only the N. P. K. contents of fertilizers. No legal protection has in the past been given to either the producers or the consumers of materials which are used as fertilizers but which contain no N. P. or K.

For the sake of simplicity I will refer to those fertilizers containing N. P. K. in a readily available form, as commercial fertilizers, and those fertilizer materials which contain no guaranteed percentage of N. P. K. in an available form but which contain other necessary plant foods I will designate as natural mineral fertilizers.

The manufacturers of and dealers in commercial fertilizers, in a business like manner, and no doubt sincerely, have carefully fostered the impression that the N. P. K. content was the be all and end all of fertilizing practices. The production and sale of natural mineral fertilizers has not been in the past accompanied by any such business like and educational propaganda, and the result is that misinformation and prejudice exists.

According to tonnage figures supplied by the state department of agriculture in the fiscal year 1921-22 there were approximately 80,000 tons of commercial fertilizers sold in California. The estimated tonnage of natural mineral fertilizers sold in California during the same period is well over 100,000 tons.

These figures are not an attempt to prove any greater importance of natural mineral fertilizers over commercial fertilizers because no one plant food or mixed fertilizer is any more important than another. The importance of any plant food material or fertilizer is dependent entirely on the soil and plant requirements.

If then, the equality of importance be admitted, it is only right that legislation be applied equally in order to protect equally the producers and the consumers of natural mineral fertilizers with producers and consumers of commercial fertilizers. It is well know that honest purveyors of commercial fertilizers recommend the application of one or other of the natural mineral fertilizers, and the reverse also holds true.

A fertilizer which contains one or more of the three elements N. P. K. is applied to effect an increase in the crop. Lime or sulphur or both are also applied to effect a crop increase. The success of the application of any of these materials is dependent on soil requirements.

The following is a list of the more important sources of calcium, nitrogen, sulphur, phosphorus and potash having the chemical symbols Ca. N, S, P, K, respectively; bat guano, cottonseeed meal, blood, nitrate of soda, nitrate of calcium, nitrate of ammonia, sulphate of ammonia, sulphate of calcium (gypsum), raw rock phosphate, acid treated rock phosphate (superphosphate), bone, fish tankage, meat tankage, garbage tankage, hydrated lime, calcium carbonate as (1) limestone (2) marl, potash as (1) carnellite (2) kainit, sulphur, and animal wastes.

With the exception of the tankages and animal wastes these materials may be applied either separately or as mixed by the manufacturer. The price of these materials at present range from $5 to $100 per ton. With such a big range in prices of such a variety of materials, each having its own individual properties and appeals to the consumer, the need of a centralized state control is very important.

The fertilizer law of California was made effective in July, 1903. This law, however, affected only such materials which were sold to the consumer at a cost exceeding $8 per ton. Since the introduction of the fertili er law there has been a pronounced increase in knowledge and also a considerable increase in the price of commodities.

We cannot have use without abuse, but we can at least reduce the possibilities of abuse to a minimum. As all these materials are—by the state's own definition—fertilizers, their manufacture and sale can only be controlled through the fertilizer law.

The fundamental of the whole matter is that unless their production and sale is controlled by law unscrupulous producers and purveyors of inferior materials may cheat the consumer and seriously damage a basic industry.

The equality of importance of the fertilizer materials should be admitted and the state fertilizer law be so amended that the production and sale of these materials may be controlled by the state department of agriculture.

# California Dates in 1922

## By Ernest Braunton

THE Valley Packing Association, an organization of about a score of date growers in the Coachella Valley, has this year secured a packing house at El Monte, Los Angeles County, where the entire crop is packed and shipped. During the first 60 days, or from August 15 to October 15, between 20 and 25 tons had been shipped. The affairs of the association are managed by R. H. Postlethwaite, one of the largest growers.

The normal season begins August 1 and ends December 1. The 1922 season was about two weeks late. During the four months run there are many dates of many names handled, as is the case with nearly all fruits, but the main crop is confined to about six varieties, of which two are known as soft, Khadhrawi and Nomad; three are semi-soft or firm, such as Deglet Nur, Zahidi and Damon; and the bread dates, of which Thuri is the leading variety.

### The Handling

When received the dates are first placed in a vacuum fumigator for one and a half hours under 29 inch vacuum, and treated with carbon bisulphide which kills all uests or their eggs. Then they pass on a wire screen conveyor through the washer consisting of perforated pipes above and below so the fruits are between opposing jets as they pass along. From washer they go to a hot air dryer which registers 175 degrees Fahrenheit. The grading is done by hand as the dates pass on a metal link conveyor. From the graders the firm dates go into the process room to remain under heat until the proper degree of ripeness is reached.

The soft dates go into a dehydrator in 16 tray "stacks," containing 300 pounds of dates and remain from two to eight hours, or until the right moisture content is reached for immediate packing. The last hour they are kept under a sterilizing temperature which kills all enzymic action so dates cannot sour or spoil. After packing in glass jars containing six or ten ounces they go to the capping machine and then into the sterilizer, 250 jars at a time. They are then labeled and packed in cases for shipment, 24 to a case.

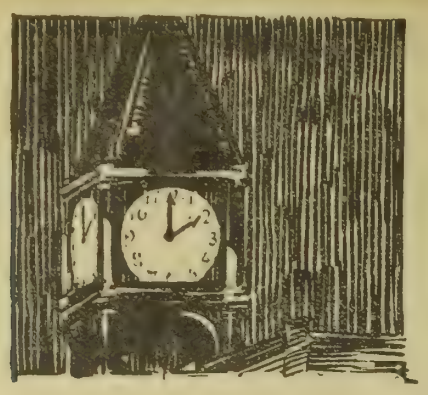
Fancy dates are packed both in cartons and glass jars, the quality being the same. This is done to satisfy the trade which calls for both packs. While the carton pack will keep for months it will gradually lose its fresh appearance although sound and of good flavor. The glass jar pack will remain in initial state indefinitely if unopened.

The soft standard grades go into cardboard boxes, the fruit covered with cellaphane, a very thin, tough and flexible material as transparent as plate glass. This is a complete protection and yet allows fruit to be plainly seen when box cover is removed. These are in one and three pound pack. The firm standards are put in three pound cartons for dealers. They are loose in carton so that dealer may pour one or two pounds in a paper sack without handling dates or, if three pounds are used, the consumer takes the carton.

This association puts out all these under the "Dos Palmos" (two palms) brand in a very attractive package. The third grade, really the best for quick local consumption, consists of soft or mashed dates which, through ripeness alone, have lost their form and have the skin broken. These are put in fruit baskets in two sizes and sold without the Dos Palmos brand as, being exposed to the air after leaving packing house, they cannot be guaranteed to consumer as are all the sealed brands. They are, however, guaranteed to be in every way as good as the best when they leave the packing house.

### The Market

The market is nation wide, the dates reaching every large city in the United States. Just recently Mr. Scott, the traveling representative, returned from a trip to every large city from California to the Atlantic Coast, and dates are shipped to every one. The demand for California dates so far exceeds the supply that it is doubtful if prices will be lower for many years to come, if at all. Aside from quality, appearance will alone sell them in any market. The extremely sanitary and cleanly methods of treatment in the packing house insure a dainty natural fruit confection that, within the experience and taste of the writer, has no equal.



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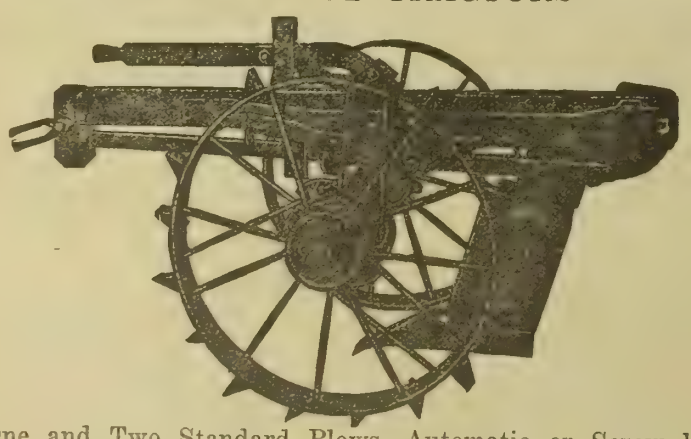

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# The Delicious Apple

A unique dedication service was held in an Iowa orchard, one of the interesting features of which is shown in illustration here given. It was the dedication of a memorial to the man who discovered a variety of apple. The discoverer was Jesse Hiatt who first saw the apple in 1872 and it was called by him "The Hawkeye." The tree was given ordinary care and attention for more than a score of years. During this time it was exhibited at certain fairs and in this way came to the attention of C. M. Stark. After Mr. Stark had observed this excellent fruit a few years he purchased it and all rights to the tree and in honor of its high quality changed its name to "Delicious." It has now been propagated and distributed in every state in the Union and has proved itself wonderfully adapted to every section where the apple does well at all.

Those standing just behind the monument in the above photograph are, reading from left to right: Paul Stark, vice president of the American Pomological Society (son of C. M. Stark, who named the Delicious apple), Prof. Lantz, of the Ames Agricultural College, representative from Canada; Prof. Herrick, secretary of the Iowa Horticultural Society; Lawrence Stark, of Stark Brothers Nurseries. To the right of the monument, Prof. N. E. Hansen of the South Dakota experiment station, famed as a breeder of hardy varieties; Prof. C. P. Close, United States pomologist, Washington, D. C.; Prof. McCoun, chief of horticulture for the Dominion of Canada; Prof. C. I. Lewis, former director of the Oregon experiment station and now managing editor of the American Fruit Grower; Prof. T. J. Maney of the Ames Agricultural College.

Regarding this apple Prof. C. I. Lewis said at the time of the dedication: "The Delicious apple represents the crowning point of achievement in the origination of American varieties. No variety has been originated which is superior to the Delicious in quality; few can equal it in production. On the Pacific coast I am very familiar with orcharding, and it is not uncommon to find this variety yielding as high as 750 packed boxes per acre, whereas some of the older varieties often do not yield more than 200 boxes per acre. The high yielding varieties like Delicious, Jonathan, Winesap, Stayman and the Winter Pearmain, which tend to produce annually big crops, are the varieties which are making fruit growing profitable in the West. No varieties of apple of American origin ever had quicker distribution than the Delicious and none was ever accepted more readily by the American public. It is one of the best known varieties which we have, and rightly so, for its large size, its beautiful color, its delicious aroma and quality. In the origination of the Delicious a high standard has been set for us in the development of future varieties. I want to say that in the City of Chicago, where I happen to live, I believe I can truthfully say that the Delicious apple is known by more people because of its size and its delicious flavor than any other apple. I have in my hand a Delicious apple picked last October, (11 months ago.) It is still a very beautiful apple and if you should have the privilege of smelling it, you would want to eat it. The Delicious apple is offered to the people of the United States 112 months of the year."

# Golden Return for Golden Fruit

A YEAR ago the citrus orchards of California made promise of the state's greatest output of oranges, grapefruit and lemons. New orchards had come into bearing and older trees took on a wonderful load of fruit which Nature was painting a beautiful golden color. Then a "Norther" swept over the hills and for days fruit was pounded and leaves were stripped from the branches.

A few weeks of fair weather permitted partial recovery when Jack Frost made his entry. January 19 and 20 of 1922 are dates which citrus growers would like erased from the calendar. It will take some time to erase them, however. But recovery is being made much faster than anticipated.

Total shipments of citrus fruit from California for the 12 months ending November 1 were 40,099 carloads. The preceding year's shipments had aggregated something more than 60,000 carloads. But good salesmanship was brought to bear and a poor market made the best of. At delivered price a valuation of nearly $100,000,000 can be claimed for oranges, grapefruit and lemons of California.

Not half bad for an off year!

Of course out of that hundred million the rails took better than a fourth for freight and refrigeration. The box maker, the packer, the picker and others took their tithe, so the grower of California received far from a hundred millions, but he received a big bunch of money in an "exceptional" year.

That bunch of money is eloquent tribute to cooperation. Without cooperation frozen fruit would have been promiscuously dumped on markets, which, with faulty distribution, would have proved the finish of many an orange grower.

The story of that cooperation for the past year is told in the annual report of E. G. Dezell, manager, since the death of G. Harold Powell, of the California Fruit Growers Exchange. From that report we quote:

* * *

By E. G. Dezell

A report of the operations of the California Fruit Growers Exchange for the season 1921-22 covers another year when the California citrus industry was faced with extremely adverse conditions, but through cooperative, intelligent handling of the many problems the final results on the crop as a whole will approach those of most normal years.

During the nights of January 19, 20 and 21, most of the California citrus fruit districts were visited by severely cold weather, and the crop and trees were damaged to an extent comparable with that resulting from the freeze in 1913, which was the most serious in the history of the industry. However, with the experiences of that disastrous season to guide them and with the federal and state laws brought about as a result of that experience, the shippers were practically of one mind in the desire to avoid the shipping of fruit that would be unsatisfactory to the consumers and thereby harm the reputation of California oranges and lemons in the markets. Shippers and growers held meetings in all districts and agreed to stop picking until the extent of the damage would become clearly apparent, and later, with few exceptions, cooperated with the authorities in the enforcement of regulations designed to allow only merchantable fruit to be shipped. The confidence of the trade and the consumer was thus retained, the public was protected and the markets maintained. The oranges shipped through the exchange, which equaled in volume only 53 per cent of the preceding season's shipments, brought approximately 90 per cent of the receipts of that season for the fruit on the tree. The returns were not evenly distributed, however, some growers being able to ship but little fruit following the freeze, while others, whose groves were situated in districts where the temperatures were not severe or who successfully protected their crops by orchard heating, received large returns because of the greatly reduced supplies.

The result clearly shows the wisdom of the policy followed when compared with that of 1913, when quantities of badly frozen fruit were rushed out immediately following the freeze which did not give satisfaction to the trade or consumers, demoralized the markets on all California oranges and created much unfavorable publicity concerning the California orange industry.

### Shipments and Returns

The total shipments of oranges and grapefruit from California, as reported by the railroads for the year ended October 31, 1922, were 29,573 carloads, and of lemons 9,926 carloads, or a total of 39,499 carloads. The members of the exchange shipped during the same period 18,581 cars of oranges and grapefruit, and 8,557 cars of lemons, making an aggregate of 27,138 cars, or 68.7 per cent of the citrus fruit shipments from the state. The exchange handled 72.5 per cent of the crop the previous year; its membership is steadily increasing and the smaller percentage this season is due to the fact that the fruit damage was most severe in the districts where it is most strongly represented.

Exchange shipments for the past season, expressed in terms of boxes, were 7,953,041¾ boxes of oranges, 169,358 boxes of grapefruit and 3,495, 117¾ boxes of lemons.

Estimating the value of the cars yet unsold, the returns for exchange shipments, f. o. b. cars California, for the year ended October 31, 1922, were $48,647,800.25, the delivered value in the markets being $65,367,127.65. For the season's citrus crop, based on exchange results, California received $71,366,464.50, the delivered value being $95,993,485.58, which includes $24,627,021.58 for freight and refrigeration.

During the era of readjustment in business and with unfavorable conditions in most lines of fruit and produce, failures have increased and credit risks have been more hazardous. Exchange losses through financial failure of customers have been greater than in other recent years but still practically negligible considering the volume of sales. They amount to $4,997.65, or 1/100 of 1 per cent of the f. o. b. value of the fruit. The returns to California through the exchange during the last 19 years have amounted to approximately $491,000,000. The losses from failure to collect for sales made during the period have aggregated approximately $17,343, or 35/10,000 of 1 per cent of the f. o. b. returns.

(Reports as to returns on varieties, transportation, etc, will appear in later Cultivator).

## NOXIOUS WEEDS SPREAD BY NURSERY STOCK

Following a current news item, pointing to the unwelcome distribution of noxious weed seeds in nursery stock bundles, County Horticultural Commissioner V. G. Stevens of Contra Costa furnished indisputable evidence of this menace. He says, in part: "The vacant lot used by a northern nursery company here at Concord, and in which nursery stock bundles were opened and inspected, is this year heavily seeded to yellow star thistle." There is no other infestation of this weed near Concord, and the thistles are growing in the exact spots where the bundles were opened."

The danger of introducing weeds into clean or non-infested regions through such a medium is clearly apparent, and if it were possible to open such bundles of nursery stock on a "tin lined table of ample dimensions, having a raised rim," any detritus such as weed seeds or earth could be swept into a paper and burned.

## PROTECTIVE QUARANTINE AIDS FRUIT GROWERS

The article printed below, from the state department of agriculture, is quite interesting from the fact that it shows what pest control has done for the horticultural interests of California. We believe that in no state has pest control been so efficient as in this state. Possibly in no other state has the necessity for guarding the horticultural interests been so important. Our immense orchard and vineyard wealth make it essential that every safeguard be placed around it to prevent the introduction of some new pest that might seriously injure if not entirely wipe out some one or more of our fruit industries.

In a general way horticultural plantings in the United States have materially decreased in the last two years. There were in 1920, 66 million fewer apple trees than in 1910. The decrease in the United States in that time was 38 per cent, but the increase in California was 18 per cent. In peaches throughout the United States the decrease was 36 per cent and in California, while we also had a decrease, it was only 15 per cent. In pears the United States decreased 14 per cent, whereas in California, an increase of 147 per cent was noted. It is apparent that it is partly a matter of quarantining and inspection that permits California to go ahead, and partly our efficient marketing systems. Perhaps it is partly our climatic adaptation, but it is in considerable part a matter of quarantine. The thing that drove the peaches and the apples out of the backyard gardens and farm orchards, was certainly scale insects and other pests and diseases, although perhaps, marketing facilities and other things played a part. Now we are not particularly interested in this decrease, as such, except that we are anxious to know what the figures are going to be in 1930. What is our tendency? Is there going to be a diversion upward in California and downward in the United States, or are we going to have plant pests come in that will turn our fruit growing industry upside down? California is 3,000 miles from the market. We have had to develop marketing agencies from dire necessity, and it has happened many times that we have barely marketed at a profit, and sometimes not a profit. We do not need a major pest to put us out of business; in a good many lines a minor pest, the control of which adds no considerable overhead, would have almost the same effect. So we are interested in quarantine because we are interested in the continual progress of this up-curve of horticultural and agricultural products.


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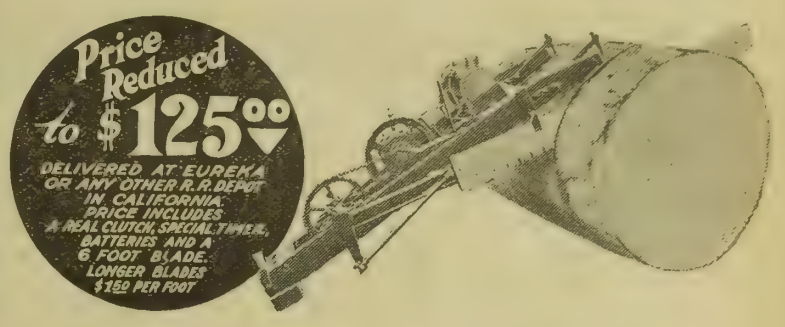
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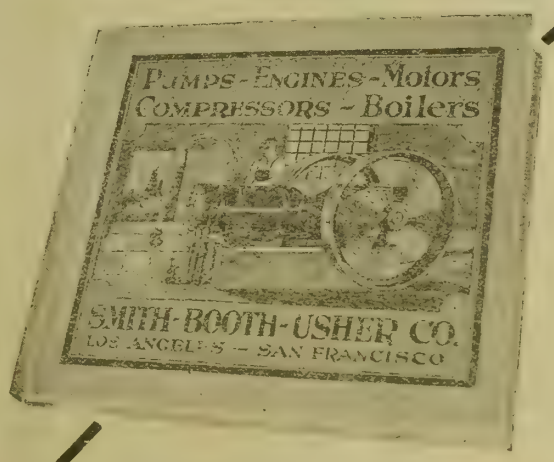


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# Growing Gladiolus

By Ernest Braunton

THE commercial growing of gladiolus is attaining considerable proportions in California. From Monterey to Santa Cruz seems to be the bulb growing section of the state, though "glads" are produced in nearly all parts of the state.

Nevertheless, the lands that best grow bulbs in general are also the best for gladiolus. Coastal sections having damp sandy soils seem to grow the best bulbs and also stimulate the greatest multiplication. Briggs of Monterey, Diener of Kentfield, Howard and Smith of Los Angeles and a half dozen commercial growers at Santa Cruz, all grow in low, damp, sandy soil. Personal experience of the writer has proved that the best of flowers may be grown on very heavy soil, but large, fine, clean bulbs with a heavy increase are not possible on dry uplands with heavy soil.

Regarding the varieties to grow one must determine what the market demands. A few varieties have been considered "standards" for several years, but varieties have their run and pass out. A few years ago America was in greater demand than any other; today it is very little grown. One must also determine if he is to grow bulbs or flowers or both. If one has facilities for speedy delivery to large markets, flowers will prove the better financial return. Remoteness from market or lack of transportation need prove no deterrent to bulb growing. Every individual must decide for himself what he will grow.

### Gladiolus Culture

Having chosen a sandy or medium loam one wishes to know what to feed "glads" that is lacking with the soil. It is well established that fresh animal manures must not be used the same year bulbs are grown; apply the previous year. Nearly all bulbs or underground crops require similar food so that a potato fertilizer is excellent for gladiolus and other bulbs. This means less nitrogen than is used for general or top crops, and plenty of potash and phosphoric acid. Some will claim that California soils are rich in potash, but none have enough for potatoes or bulbs.

In medium soil plant bulbs four or five inches deep; in sandy or light soil they are better seven or eight inches deep. Gladiolus love moisture and cool soil, and deep planting will provide these conditions. Further, the stalks stand up better with deep planting. When ripe the bulbs are dug, usually when most of the tops are getting yellow. Harvesting practice varies, but corms dug with tops and old corms left on are always safest. Allow bulbs to lie on top of soil for a day, then store for a time, several weeks if convenient, then cut off old tops close to bulb, remove last year's corm, if present, and stock is ready for sale or storage. Keep in a dry cool place; temperature should not range above 50 Fahrenheit if possible to keep so low.

### Diseases

For several years diseases of gladiolus bulbs have become more prevalent, and many stocks of bulbs from both Europe and America have to be sorted before planting. Diseased bulbs must be destroyed. The chief troubles are: dry rot, soft rot, hard rot, and scab. Some stocks have all of these troubles and but few have none. All are agreed that bulbs should not be planted in soil where diseased bulbs have previously been grown. Cold wet soil favors diseases during early part of season. Fresh manure is no doubt a contributing factor. Do not plant infected stock, no matter how little it shows. Drainage should be of the best. Nitrogenous fertilizers make soft bulbs and these are most susceptible to disease. If tops die from disease, dig out bulb at once or disease may communicate to others. No cures for the bulb rots are known.

# Inter-Cooperative Conference

National recognition of California's leadership in farmer's cooperative marketing development is evidenced by the appointment of three prominent Californians as members of the Inter-Cooperative Conference committee which will have charge of the planning of the first national convention of cooperative marketing associations scheduled to be held in Washington, D. C., about the middle of December.

The three Californians appointed on the committee are H. G. Coykendall, general manager of the California Prune and Apricot Growers Association, San Jose; Chas. C. Teague, president of the California Fruit Growers Exchange, Los Angeles; and Aaron Sapiro of San Francisco, attorney for numerous cooperative marketing organizations throughout the country.

The idea for a national conference of cooperative marketing associations was suggested by Senator Arthur Capper of Kansas, leader of the farm bloc in congress, that has been looking out for the agricultural legislative interests.

Among the cooperative matters which will be taken up at the convention will be rural credits legislation, the exchange of ideas on cooperative organization and marketing among the various farmers' cooperative associations of the country, and a comparison of the organization methods of the various associations.

Invitations to send a representative to the convention will be extended to every bonafide cooperative marketing association in the United States. Organizations marketing more than a billion dollars worth of farm products each year will be represented at the convention.

Regarding the conference and its opportunities for service to American producers, Senator Arthur Capper has written:

"As you know, some of the members of the farm bloc in congress are engaged in the consideration of important legislation on the subject of agricultural credits. The real importance of this can be appreciated when it is remembered that most financial methods and measures for government aid of the farmer, at present in operation, are of a temporary character.

"The next agricultural credits bill passed by congress should be, and doubtless will be, of a permanent character, and should be of such a nature as to close the books on this subject for many years to come. I have been greatly impressed with the fact that the greatest use that has been made of government credit agencies in aid of the farmer has been made through cooperative marketing organizations, and that these credits, so made, have been entirely satisfactory, both to the farmers through their organizations, and to the government.

"Extensive as is the membership in these organizations at this time, I am convinced that the cooperative marketing movement is still in its infancy, and it is sweeping the nation so rapidly that the best possible way to facilitate and handle rural credits for the purpose of orderly marketing of crops will very evidently be through the cooperatives.

"This being the case, it seems to me that the voice of the cooperative marketing associations, as business organizations of farmers for the specific purpose of marketing their products, should be heard on this question. Since the best way to benefit the farmer in helping to finance the distribution of his products is through the cooperatives, it seems to me that those engaged in framing rural credits legis-


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lation should give the gravest attention to the desires of these organizations in this matter.

"Furthermore, it seems to me that it might be a good plan for the leaders of the cooperative marketing movement to get together in a national conference, consider the matter of rural credits legislation, and work out collectively, for the information of congress, the consensus of opinion in this matter.

"Convened at Washington at an early date, such a gathering would, I am sure, be looked upon with great favor and keen interest by all members of congress and government officials who have the interest of the farmer, and therefore of the country, at heart."

## FROST AND FIG TREES

(Continued from Last Week)

### Cultural Methods

As previously stated various cultural methods have some influence upon the maturity and the resulting hardiness of young fig trees. Late summer pruning of young trees which continue their growth into the fall is inclined to stop the terminal growth and hasten dormancy. Young Calimyrna trees at Reedley were cut back on August 1 but the lateral buds were thus stimulated and new succulent growth appeared. Young trees at Merced pruned as late as the middle of September were found to be pushing out new laterials on October 7. Slower growing trees on a neighboring place, summer pruned July 7, had made no further growth by September 23. Late pruning to induce hardiness is necessary only on vigorous trees which are inclined to continue succulent growth. It should be done late enough in the season, probably after October 1, so that lateral succulent growth will not develop.

Several cases are on record in California where individual fig trees, receiving copious supplies of water from leaky ditches or pumps throughout the summer and fall have escaped frost injury while neighboring trees given the usual amount of irrigation water have been frozen to the ground. However, there is no doubt that serious injury is frequently brought about by the injudicious use of irrigation water late enough in the season to prolong growth. The withholding of irrigation water from young fig trees after a certain date, in general about the middle of July, is advisable. Even on unirrigated land fig trees are inclined to become dormant during the hottest summer weather and flush into growth with the cooler weather of August and September.

### Treatment of Frozen Trees

Badly frozen trees ordinarily send out a vigorous growth of suckers from below the surface of the ground, at or near the surface, or from the trunk and main branches. The selection and treatment of the permanent suckers are very important matters to consider. Many cases can be cited where the suckers have been thinned out to one of the strongest and this one trained to form the permanent tree. Experience, however, has shown that in a great many cases where one sucker only is left, something happens to that one to make it unsatisfactory. Most growers prefer to select two, three or even four suckers, well spaced, and build a low headed, permanent tree with that number of trunks. In case a strong sucker is found on the main trunk above the ground the permanent tree can be readily built from this one sucker, treating it very much as a newly planted nursery tree. On account of the growing industry in fresh figs and the desirability of having fairly low, compact trees, the starting of fig trees with more than one trunk seems justified in comparison with frozen walnut trees which are generally reformed from one strong sucker.

The important thing to learn in selecting the suckers for permanent trees is the kind of union they make with the main root or trunk. Suckers on the main trunk above or near the surface of the ground are to be preferred as the union is strong and firm. Suckers coming from below the surface are frequently poorly united with the root or trunk; many such suckers which grow very vigorously become over an inch in diameter a short distance above the ground but are less than half this diameter at the point of union. Sooner or later the suckers having a weak union fall over of their own weight or are blown down by strong winds. It is better to get rid of the weak ones while small than to leave them to blow over a few years later when bearing or just coming into bearing.

### Pruning

The pruning of fig trees injured by early fall frosts can be delayed until late winter when the extent of the damage is apparent. It is practically impossible to determine how far down the frost injury extends until several weeks following the time of injury. Buds which remain on the branch and look plump are frequently found to be brown and dried out underneath the bark. There is no evidence to show that the early pruning of frozen trees will prevent further damage. Extensive experience in pruning young fig trees, furthermore, has shown that early pruning in December or January does not make the tree more susceptible to injury from winter frost or from drying out of the tips. Both the exudation of milky sap from the cut and the natural layer of woody tissue at the joint prevent the drying out of pruned branches.

The problem of the treatment of young trees injured by spring frosts after the growth has started is a puzzling one. Various degrees of injury are usually to be found and the problem arises from the difficulty of determining the extent of the injury. Experience during the past two seasons seems to show the wisdom of delaying action in regard to injured trees for ten days or two weeks when a better idea can be gained of the seriousness of the situation. By that time the injured trees may be classed roughly into one of three groups: First, those which apparently are very lightly frosted with buds showing signs of growth. Such trees need no treatment in the way of pruning. Second, those which show plainly that the terminal buds and tender tips are killed. These should be cut back more or less heavily to strong buds or laterals which can be expected to continue early growth. Third, those trees which give evidence by dead buds and brown inner bark that the whole tree

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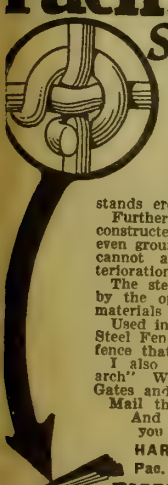

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has been seriously affected. Such trees should be cut back to the main trunk or even to the ground in order to prevent sour sap and to stimulate early development of suckers.

The pruning of bearing trees seriously injured by either fall or spring frosts should be delayed until the extent of the injury can be determined. The tops of many Adriatic trees which seem to be badly injured early in the spring of 1922 pushed into growth later and produced considerable fruit. Later in the season the dead branches showed up plainly in strong contrast to the green foliage on uninjured branches. The presence of the dead wood gives an unsightly and ragged appearance to the tops but has no injurious effect on the rest of the tree except to allow the direct sunlight to shine on exposed bark of main limbs. Badly injured trees should be sprayed thoroughly with whitewash to prevent sunburning of the trunk and main branches. The pruning out of the dead wood can be readily accomplished in late fall after the crop is off or during the following winter.

## PEACH BLIGHT

Now that the first rains have come it is advisable to spray for peach blight as quickly as possible for the dampness will soon germinate the spores and the spray should kill them before the thread like mycelium enters the buds; otherwise spraying will avail nothing. A 5-5-50 Bordeaux spray now will probably check the fungus; a few weeks later it will do litttle good.

## AVOCADO CONVENTION NOTES

Farm Adviser Walhberg of Orange County welcomed the visitors and invited them to return to attend a persimmon institute to be held at the Santa Ana high school, November 24.

At the request of President Popenoe Mr. Braunton of the California Cultivator staff announced that hereafter that journal would publish one page per month, not less, of avocado literature, news, etc.

Dr. J. Eliot Coit, speaking on plant phenomena said that in a lot of six trees of the Walker variety two bore 100 fruits each; the others none. Some Fuerte trees observed bore 500 fruits each; others none. The same was true of Taft trees, though all mentioned were exposed to cross pollination from other varieties flowering at the same time. Blooms that develop in coldest weather may be chilled so fruit will not set. The same lack of functioning could also be due to hot weather. It is plain, however, that failure to set fruit is not altogether due to climate. In regard to culture he recommended deep plowing only in autumn.

Dr. A. B. Stout, speaking on failures to pollinate, said it might be due to mechanical interference, heat, cold, etc. Trees may not interpollinate, due to a number of causes, or it may be due merely to incompatibility. He called attention to many points in the Nirody report, printed in the last avocado year book. Therein it is shown that Taft blossoms are receptive only in the forenoon, while the pollen is shed in the afternoon—too late. Many other avocadan inconsistences are shown in this report. One abnormality observed by Dr. Stout was 12 stamens in each of several Harmon blossoms—a double set.

K. A. Ryerson of the Los Angeles farm advisers staff, gave a talk on fertilizers for avocados, but admittted no trial plots are of sufficient age to warrant conclusions, so the only basis to work on at present is the fertilizing experience with citrus trees.

The only systematic fertilizer experiments on avocados known to the Cultivator were being carried on at the Huntington ranch by Wm. Hertrich, but these were cut off by the freezing of the trees in January of the present year.

## DATES NEAR SEA COAST

By Paul Popenoe

In an article on dates in Texas in your issue of October 28 you infer that sea coast conditions are quite different from those in the native home of the date. On further consideration, however, I believe it will appear that the date is, in all probability, a native of some sea coast, as its adaptation to withstanding heavy irrigation and salt water suggests.

At any rate the greatest commercial production of dates in the world at the present time is that around the head of the Persian Gulf, so near the sea that the gardens are irrigated by river water which is backed into them by the tide of the gulf.

Some of the best varieties grow in eastern Arabia on the sea coast, alongside the mango, banana, papaya, and coconut.

The principal commercial production of dates in Egypt is near the Meiditerranean, especially around the city of Alexandria.

Date palms have fruited successfully for many years in parts of India, and also, more rarely, in Cuba and other islands of the West Indies. Successful fruiting is also reported from Southern Florida.

Although the desert parts of Southern California seem to be almost perfectly adapted to the date palm, yet this plant has a wider commercial range than is often supposed.

## OLIVE GROWING IN THE SOUTHWEST

"Olive Growing in the Southwestern United States" by C. F. Kinman, pomologist of the United States department of agriculture, is the title of Farmers Bulletin 1249 just issued. It discusses briefly history and extent of olive culture in northern, central and southern California and in Arizona, then takes up consideration of varieties, culture, processing, diseases and pests. It may be secured free by request to department of agriculture, Washington, D. C.

The foreword says:

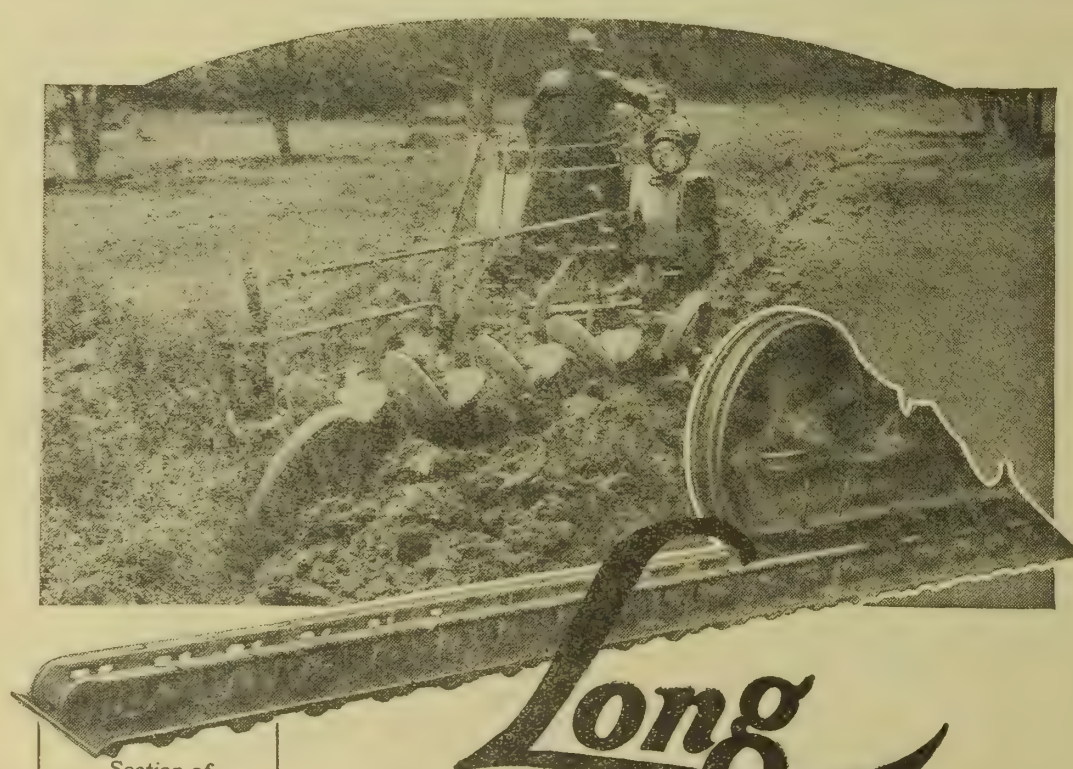
The introduction of olives into southern California took place 150 years ago, when the Franciscan Fathers made the first plantings near the San Diego Mission. Since then olive growing has become widely disseminated in many parts of California, in Arizona, and to a very limited extent in a few other sections, although it is only within the past 30 or 35 years that the olive industry has assumed a place of importance in the commercial fruit industry of the United States.

The olive can be grown successfully only in a comparatively mild climate. A temperature of 10 to 14 degrees Fahrenheit above zero is likely to prove disastrous to the tree, and the fruit will usually be injured by a drop below 28 degrees. Furthermore, there are other limitations. Although the tree thrives fairly well in the humid regions of the South where the temperature conditions are favorable, fruit production there is not sufficiently dependable to justify the planting of trees. The dry atmospheric conditions of California and the arid Southwest where the temperature range is favorable and where irrigation supplies the necessary soil moisture appear to meet the requirements of the olive.

Though few fruit trees withstand the limited soil moisture that the olive can endure, it likewise responds, as do other trees, to favorable soil conditions; in fact, it is only under such conditions that regularly successful results can be expected.

## CITRUS SURVEY RECORDED

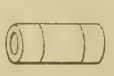
M. B. Rounds, chairman of the citrus growers department of the Los Angeles County farm bureau, reports splendid progress being made on the cooperative citrus orchard survey which is being conducted by the department and Prof. R. S. Vaile of the citrus experiment station. This survey was outlined several months ago at which time it was expected that approximately 400 records covering orchard practice with respect to fertilization and irrigation would be secured. Approximately half of the survey has been completed at the present time and Prof. Vaile has on file more than 200 complete orchard records as a result of the work done to date. Preliminary study of these records already indicates some very interesting results. It is apparent that a marked correlation exists between the amount of nitrogen contained in fertilizers applied and the yield in field boxes. So far the data accumulated tend to show that maximum yields are being secured by those growers who use approxi-



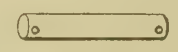
Long TRACK LIFE

Section of assembled track

Track Link



Track Spool



Track Pin



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Heat treated links—hardened spools and pins—accurately machined and assembled, form properly aligned tracks that successfully withstand hard work.

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DEEP WELL PUMPS

Will lift 18 to 250 gallons of water per minute, according to elevation

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Will not only lift the water from your well for IRRIGATION but will force it to an elevated tank or reservoir to any ordinary height above the Pump

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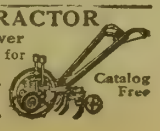

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American Farm Machine Co. 2831 Uni. Av. S.E., Minneapolis, Minn.

mately two pounds of nitrogen per tree per year. The data derived from this survey when ready, will be made available to every citrus grower in the county and will undoubtedly constitute an extremely valuable bit of information.

The dates of meetings for the rest of the districts, together with the names of local chairmen are: Claremont-North Pomona, J. B. Vaile; Pomona, H. E. Walcott, November 20; Whittier, Sam Mendenhall, November 27; Rivera, F. L. Maurer, December 11.

## SUPPORTS FOR VINES

Prof. Frederic T. Bioletti is author of Circular 252 of the college of agriculture, agricultural experiment station, Berkeley, "Supports for Vines." Prof. Bioletti says in his opening paragraphs:

"Vines cannot be grown economically without some form of support. With some varieties and some forms of pruning it is possible to obtain fair results without even the ordinary grape stakes, but the cost in extra labor, deferred bearing, and imperfect vines is greater than that of suitable staking or trellising and requires exceptional skill and experience.

"The supports needed are of two kinds, temporary and permanent. The temporary supports make it possible to obtain quickly and economically a well formed, sound trunk, free from irregularities which interfere with cultivation and harvesting, and from defects and wounds which diminish the vigor and the longevity of the vine. These supports are needed only until the vine is large and stout enough to support itself or to be supported by a permanent trellis, a period of from three to six years, according to the form of pruning adopted, and to the rapidity of development of the vine."

## COMING EVENTS

**(Corrections and Additions Requested.)**

**Short Courses,** Davis, October 2-February 15; Deciduous Fruits, December 4-9. Dairy Manufacturers' Short Courses: Buttermakers and Creamery Managers, February 5-15. Berkeley, November 13-February 8: Conference Pear Growers, Prune Growers and Apricot Growers, November 13-15. Fruit Products Conference, November 16. Canners, January 2-6, 1923. Land Settlement, February 4-8, 1923.

**Pacific Slope Dairy Products Show,** Fresno, November 13-18.

**International Health and Safety Exposition,** Oakland, November 17-26.

**California Fruit Growers and Farmers Convention,** Sacramento, December 12-14.

**Persimmon Institute,** Santa Ana, November 24.

**Yucaipa Apple Festival,** Yucaipa, November 24-25.

**Lindsay Citrus Show,** Lindsay, November 25-December 2.

**Valley Citrus Fair,** Visalia, November 26-December 2.

**Orange and Olive Festival,** Oroville, November 28-December 2.

**California State Poultry Show,** Oakland, November 29-December 3.

**First National Walnut Exposition.** Santa Ana, December 4-9

**National Orange Show,** San Bernardino, February 16-26, 1923.

**Canned Foods Week,** U. S. A., March 3-10, 1923.

**Raisin Day,** Fresno, April 30, 1923.

COAST AND GENERAL

**Northwest Fruit Growers Exposition,** Seattle, November 11-19

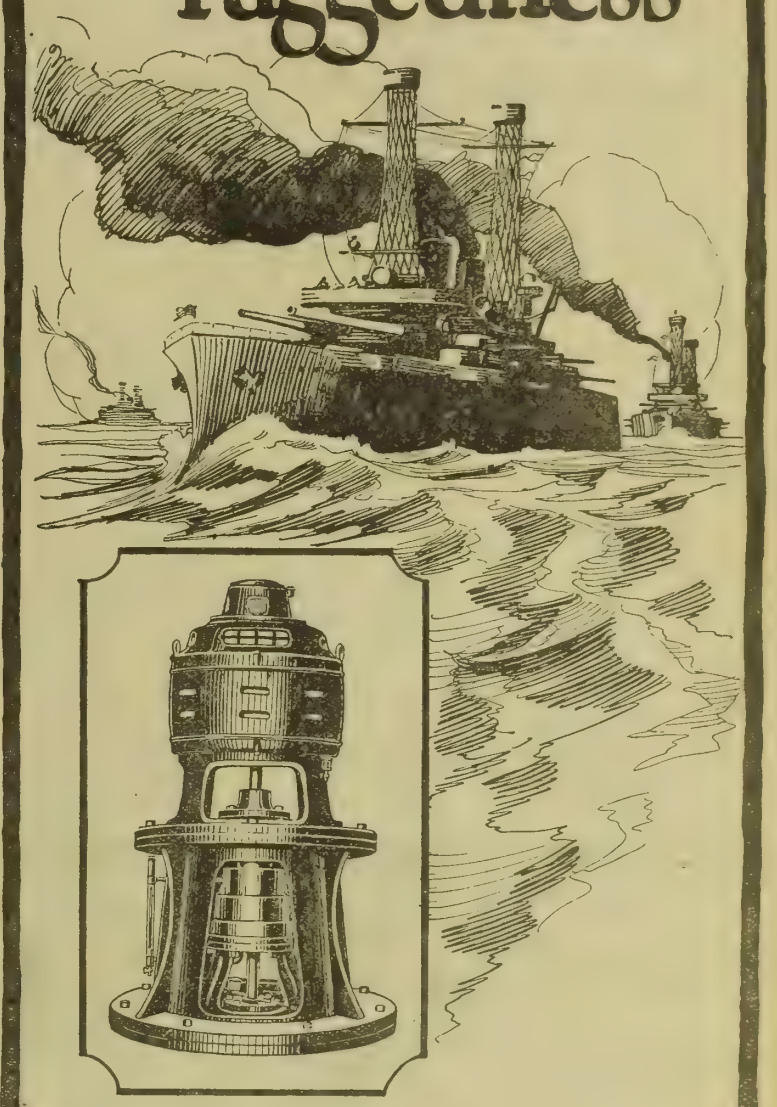
**American Farm Bureau Federation,** Chicago, December 11-14.

**National Council of Farmers Cooperative Marketing Association,** Washington, D. C., December 14-16.

## AVOCADO BOOK COMING

A. R. Rideout of Whittier, has sent notices to members of the California Avocado Association that he will have ready for sale, about January, a splendidly illustrated book on avocado culture. He wishes all prospective purchasers to send in their names, but no money, and when book is ready he will notify them of issuance and the price. Mr. Rideout's past writings on things avocadan have proved very interesting to the officers and early members of the association.

pumps built with battleship ruggedness



The unwavering confidence the Layne & Bowler owner places in his pump is no longer a matter for wonder when you have learned of the ruggedness, the stamina, the enduring quality of Layne & Bowler Pumps. Every casting is amply proportioned to insure excess strength at every point of stress. Liberal dimensioned bronze bearings give durability and provide ease in operation. Although rugged in construction every part is perfectly balanced.

It's high time now to begin the installation of the new pumping plant you have been planning. Request full information regarding these pumps.

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Fat, juicy oranges mean that the water gets right to the roots of your trees.

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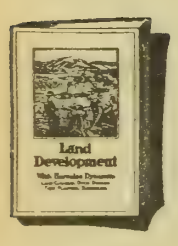
will see to that. Blasting between the rows is necessary to keep the hardpan sufficiently broken up.

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If you want to know more about blasting between the rows, tree planting, ditching, stumping, or boulder blasting, write for "Land Development"—a 75-page book published by the Hercules Powder Co., that tells you all about dynamite on the farm. It is free upon request.

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Train at NATIONAL AUTOMOTIVE—oldest and biggest auto school in the West. Wonderful fine big building—newest and most modern equipment. Actual work on Packards, Cadillacs, Fords, etc. Expert mechanic instructors give you practical training. Use tools; not books. You KNOW autos after NATIONAL training.

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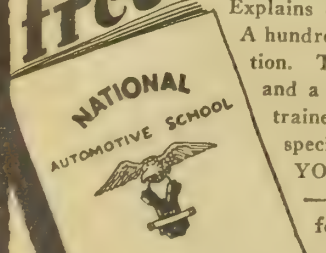


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# What Varieties of Peas Will Grow Best in Imperial

MUCH work has been done to determine varieties of peas best suited to Imperial Valley conditions and more is being carried out. E. L. Garthwaite, farm adviser of the county, outlines results of plantings made and contemplated:

About 75 per cent of the peas grown in Imperial Valley are of the Dwarf Telephone variety. The characteristics of this pea which make it especially valuable are that it is a heavy yielder and good shipper, has well filled pods, is a "dwarf" variety, and sells well on the market.

There are a number of varieties of peas which have some characteristics of the Dwarf Telephone. Whether or not any of the very large number of varieties of peas have enough desirable characteristics superior to those of the Dwarf Telephone can only be found out by actual test.

In comprehensive tests, carried out by the United States experiment farm at Bard in Imperial County, over a period of three years, the Pride of Cahuenga, the Little Marvel, and the Yorkshire Hero outyielded the Dwarf Telephone. In 1917 those three varieties besides the Premium Gem and the Notts Excelsior outyielded the Dwarf Telephone. In 1918 the Dwarf Telephone produced less than the Pride of Cahuenga, the Little Marvel and the Yorkshire Hero, Premium Gem, Stratagem or Alaska. It is apparent, therefore that it is not superior in yield to all other varieties, even though it gave the largest tonnage of all in 1916.

All the plantings were made on October 2. The main crop of Dwarf Telephone was not picked till April 10, while the main crop of Little Marvel and Alaska was picked March 20, and the Premium Gem, Nott's Excelsior and Stratagem all produced their main crop a week ahead of the Dwarf Telephone. This factor of earliness might make all the difference between profit and loss, even discounting the danger from frost. The first peas to go on the market nearly always bring several times the price per pound that later peas bring.

The earliest of all varieties tried by the University of Arizona agricultural experiment station at Yuma was the Gradus. Planted in November of last year the main crop was ready for picking when the January 20 frost killed it to the ground. No other variety would have been ready for picking for a week. Had local growers planted this variety it is quite probable that the main crop would have been picked and sold by the time the frost came.

After all the peas had been killed to the ground by the frost the first variety to recover and put on a full crop for harvesting was the Dwarf Gray Sugar, consequently this variety was the most profitable of any of the varieties grown.

From time to time energetic farmers and distributors in Imperial Valley have tried out different varieties of peas and come to the conclusion that they were no good, bad or indifferent. At least the results of the trials have not been made public, and growers throughout the valley are in doubt as to whether the Dwarf Telephone is the very best variety or not.

In order to carry out comprehensive tests, which have been carefully planned and will be carefully carried out and the results accurately recorded and tabulated, the agricultural extension service has drawn up a project to cover the ground fully. Growers who intend planting peas will be asked to devote one to five acres of their tract for the purpose of testing out the different varieties. Each plot will be carefully measured, staked and labeled and planted to a variety recommended by the United States experiment farm at Bard, the Yuma station of the University of Arizona and by the University of California, and checked against the local favorite, Dwarf Telephone. After planting, careful inspections will be made of the plots several times. Detailed notes will be taken and put on prepared charts as follows: Location, number, and size of plots, diagram of same, type of soil and subsoil, previous crops for three years and their yields, preparation of soil before planting, and notes on diseases, weather, pests, etc.

Close observation will be made and accurately recorded as to yield in pounds of the different varieties, dates of first picking, main crop and last picking, height of vines, resistance to heat or frost, quality of pods, price secured, shipping qualities, dates of planting and sprouting, rate and depth of seeding, width of rows, spacing of plants, dates of irrigations and dates of cultivations. When this extremely valuable information has been secured from a number of growers in different parts of the county and the results all tabulated, there is no doubt that a lot of very valuable information will be made available for growers, which is absolutely unobtainable now.

Varieties to be tried include Pride of Cahuenga, Yorkshire Hero, Dwarf Telephone, Little Marvel, Premium Gem, Stratagem, Gradus, Alaska, American Wonder, Alderman, Advance Dwarf Gray Sugar, Thomas Laxton, Horsford Market Garden, Laxtonian, and Improved Extra Early.

Growers in different parts of the county are enthusiastic over the test and a number have agreed to take part in this important work. Any other person interested in coooperating with the agricultural extension service along these lines should communicate at once with the farm adviser in El Centro.

# Legal Queries

**Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.**
**Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.**

### Damage from Irrigation Water

Two parties own adjoining farms. One of these parties permits his irrigation water to escape through gopher holes and drowns out the other's alfalfa. Is he liable for damages?—Subscriber, Lemoore.

This matter has been decided almost invariably under the rule that one should so use his own property as not to injure the property of another, so that the party bringing upon his land water or other substance which is permitted to overflow onto the land of another is answerable for all damages caused thereby.

### Foreclosing Mortgage

I gave a mortgage upon my farm. If I do not pay the mortgage, can the mortgagee collect anything besides taking the land? I have other property.—Subscriber, Selma.

The mode of procedure is for the mortgagee to bring suit to foreclose the mortgage. He obtains a judgment against the mortgagor upon the note for the principal of the note, his costs and usually attorney's fees, if the mortgage so provides. He then has the sheriff sell the mortgaged property. The amount brought on sale is then returned by the sheriff in partial satisfaction of the judgment and the mortgagee is entitled then to what is known as a deficiency judgment which can be levied against any other property of the mortgagor.

### Mutual Deeds

In case of the death of a husband is there any advantage to the wife in having her name upon the property with her husband's? In the case of mutual deeds what protection have the children on the death of either party?—Subscriber, Porterville.

In case a conveyance of real property is taken in the name of husband and wife the presumption is that the married woman takes the part conveyed to her as tenant in common unless a different intention is expressed in the instrument, that is to say, the presumption is that husband and wife own an undivided one-half interest in the property. In case the name of the wife is not in the deed, the presumption, of course, would be that it was either the separate property of the husband or was community property. If the wife has the undivided one-half interest, then, of course, that one-half interest is not subject either to probate or to disposition by the husband by will, his estate taking only the undivided one-half, and in case of the death of the wife, the presumption would be that her one-half would be subject to her disposition by will or go to her heirs instead of going to the husband without administration, as if her name did not appear. As to the question of mutual deeds, the writer does not quite understand what this means. Of course, if deeds have been delivered one to the other, and there is no contest as to the fact of such delivery, the person holding the deed would obtain the whole of the property. Such action might be subject to contest by children, however.

### Joint Tenancy

We have one child. Our property is held in joint tenancy. Is a will necessary? What portion of the property can I give to the church? If my daughter dies leaving no children, can her husband claim a portion of the estate or would it all go to other relatives?—Subscriber, Walnut Hill.

If the estate is all held in joint tenancy by the husband and wife, upon the death of either the whole of the property goes to the survivor. There is, therefore, no necessity for a will and no property which a will could operate upon. Upon the death of the survivor the property would go to whomsoverer the survivor might will, or, in case there was no will, then it would go to the daughter if she was then living, and if she died without issue, prior to the death of the survivor and there was no father or mother of the deceased living, then the estate would go in equal shares to the brothers and sisters of the surviving decedent and to the children or grandchildren of any deceased brother or sister by right of representation. The husband of the daughter, in case of the death of the daughter as stated, would not take unless by will. In order to effect a bequest to charitable uses, it must be done by a will executed at least 30 days before the decease of the testator, provided that no such devise or bequest to charity shall collectively exceed one-third of the estate of the testator who may leave legal heirs.

### Storing Another's Property

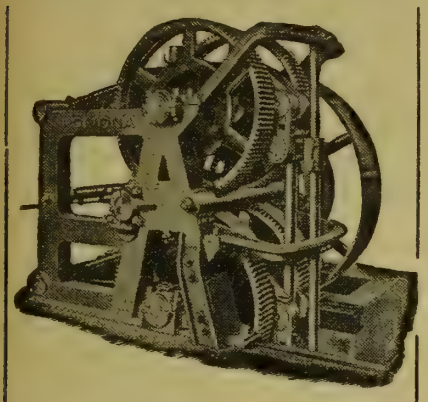
Several months ago a party left a small amount of personal property with me, saying he would return soon and take it away. I need the room occupied by the goods and do not know where to locate the owner. What should I do to remove them from my premises?—Subscriber, Orland.

It would probably be sufficient for you to remove them to a storage warehouse adapted for the storage of such personal property and leave them in care of such warehouse, such as you use to store your own property, and then give the best notice that you can by addressing a registered letter to his last known post office address. In such instance you have done all that you can and all that a reasonable person would be required to do.

### Collecting for Care of Orchards

I am taking care of several different orchards. The owners promised to pay as soon as possible. The places are all mortgaged and I have to pay from my own labor. How long can these accounts run and how can I collect if I insist on payment?—Subscriber, San Gabriel.

If you keep book accounts of your dealings with these different parties and render to them, from time to time, accounts for your services, then an action may be brought at any time would have no lien upon the property unless you might file mechanic's lien every time you do any work which would be rather expensive and troublesome. Otherwise, your only means is to take personal action against the parties employing you, in which action, of course, you could attach any property which they have. Such attachment would, however, be subordinate to the lien of any mortgage upon the property, and in case of foreclosure of the mortgage you would lose your attachment lien and be forced to resort to other property of your debtors.

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are solving the pumping problems for many users during the period of low water levels. They will lift the water to the surface, and, if desired, deliver it to high elevations above ground and at lower power cost than any other system of pumping water.

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ANCHOR BRAND SUBLIMED VELVET FLOWERS OF SULPHUR, also EAGLE BRAND and FLEUR DE SOUFRE, packed in double sacks, are the FLUFFIEST and PUREST sulphurs money can buy. The fine light SNOWFLAKE-LIKE particles float to every surface and crevice of the plant.

Do not adulterate these sulphurs with any inert material such as Lime or Kaolin, etc. Coating the sulphur particles with an inert material PREVENTS the FUMING ACTION caused by the sun's rays.

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The TELESCOPE with FIVE Magnifying Lenses makes the work a genuine pleasure, and when you finish a job of

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Which costs more ~fair weather or foul?

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Talk over color-mixing formulas with our nearest agent. Let him show you, also, how easily ORONITE SHINGLE OIL may be applied.

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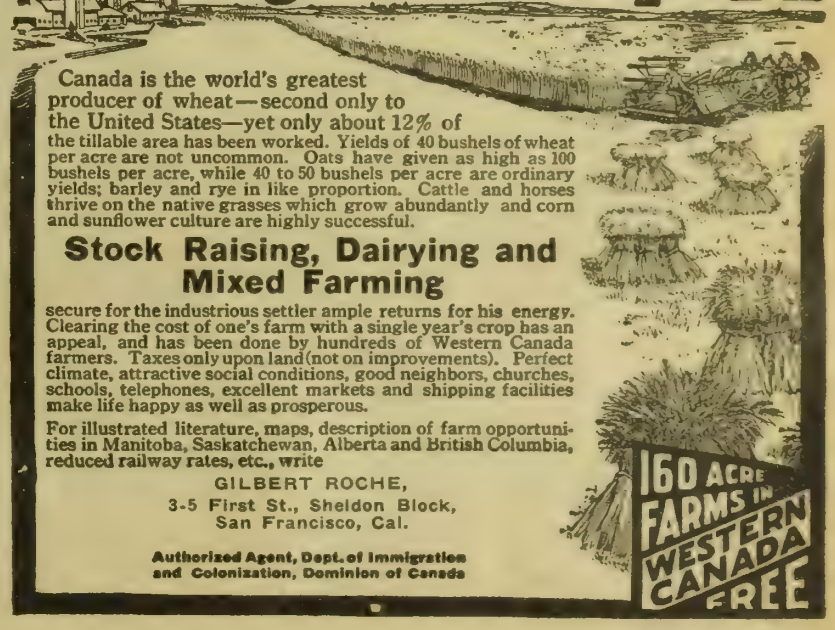
ORONITE SHINGLE OIL

WESTERN CANADA for Big Wheat Crops



Canada is the world's greatest producer of wheat—second only to the United States—yet only about 12% of the tillable area has been worked. Yields of 40 bushels of wheat per acre are not uncommon. Oats have given as high as 100 bushels per acre, while 40 to 50 bushels per acre are ordinary yields; barley and rye in like proportion. Cattle and horses thrive on the native grasses which grow abundantly and corn and sunflower culture are highly successful.

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secure for the industrious settler ample returns for his energy. Clearing the cost of one's farm with a single year's crop has an appeal, and has been done by hundreds of Western Canada farmers. Taxes only upon land (not on improvements). Perfect climate, attractive social conditions, good neighbors, churches, schools, telephones, excellent markets and shipping facilities make life happy as well as prosperous.

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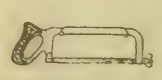
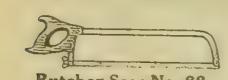
THERE'S a three-fold saving when you use an Atkins Silver Steel Saw. Saves time, energy and money, because it is made of the famous *Silver Steel*—the finest saw steel in the world. That's why Atkins Saws take a keener edge, cut many times faster, run easier, stay sharp longer, need less filing, and outlast ordinary saws.



Hack Saw Frame No. 10



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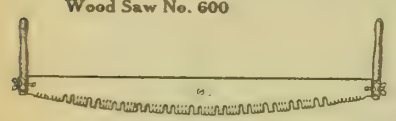
When you need a hand saw, cross-cut saw, circular saw, buck saw, pruning saw, power drag saw, meat saw, hack saw or any other saw—an Atkins will do the work quicker, easier and better. Ask your hardware dealer for the Atkins Saw you want. If he does not have it, write us at once. We'll see that you are supplied.



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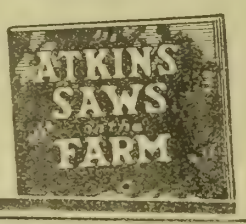


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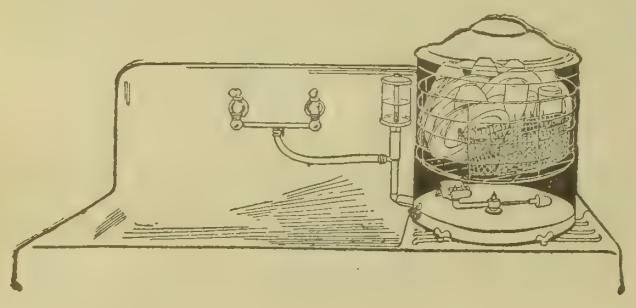

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Your appreciation of the California Cultivator can be shown best by writing to and buying from Cultivator advertisers.

# Questions and Answers

**Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Red Spider on Walnuts

I have walnut trees that are badly damaged with red spider this season. Leaves dropped badly, also nuts which are very light. Can you tell me what is the best way to get rid of them? The orchard has had a cover crop sown in it for many years past—vetch until the last three years, since then, clover. Would it be best not to put in a cover crop for a year or two? About every two years the spider seems to damage the crop badly. Would lime-sulphur in the spring be good. The trees were dusted for the first time this summer for aphis. Trees are 25 years old, 40 feet apart. Orchard has run about one ton to the acre in nuts. The spiders when clustered together are about the color of a ripe orange. Ground is covered with a white web.—Subscriber, Fillmore.

Here is a question which our subscribers can aid in answering. As a suggestion meantime, continue to grow the cover crops; the soil needs them. As soon as well established the cover crop may be well dusted with dry lime-sulphur or simply with pure sulphur. This should control the pest on the cover crop. In the springtime the trees may be sprayed with the commercial lime-sulphur solution or again may be dusted with dry lime-sulphur. In any case we would not allow the spider to prevent any benefit to the soil.

### Blackberries Not Ripening

What shall I do for black knot forming on blackberries? My bushes produce heavily but the berries do not ripen. What is the cause?—Subscriber, Hayward.

Owing to lack of detail we cannot say if your berry plants have crown gall or nematodes. In either event it would probably be better to start anew and in a new soil. It may be that the root trouble prevents ripening; it could easily do so. But complaints this year from up and down the coast for a thousand miles lead us to believe the cause climatic and seasonal. Lack of ripening is more prevalent this year than ever before. Many things could cause it, but when common over all the state it is probably due to climatic conditions peculiar to the past summer.

### Grafting Black Walnut Roots

When should black walnut roots be grafted and how should grafting wax be made?—Subscriber, Orange.

Black walnuts should be grafted in the spring just before they start to grow. February is usually the best month to do this work. See our issue of February 4 last which under the heading "Grafting Walnut Trees" fully describes grafting methods. (Copy has been mailed this inquirer). The following formula for making grafting wax is a good one: Rosin, 4 pounds; beeswax, 1 pound; linseed oil, 1 pint. The rosin and beeswax are melted in a kettle and thoroughly mixed with the oil while in a liquid condition. Some nurserymen recommend pulling the wax like pulling taffy candy, claiming that it makes a more desirable compound, but we do not know that this is necessary. The wax must be applied while hot but care must be exercised to see that it is not hot enough to injure the grafts.

### Gum on Grapefruit

Please inform me through the Cultivator the cause of gum appearing on young grapefruit trees. The gum appears on the trunk of the tree above the bud, it forms in lumps then the ants eat the gum also the bark and finally it dies.—Subscriber, El Centro.

Gum on grapefruit or other citrus trees may be caused either by improper irrigation or by planting too deep. The bud union should always be well above the level of the ground. This is especially important when planting in heavy soil. Excessive irrigation or allowing the trees to suffer from lack of moisture between irrigations will cause gumming.

Cutting out the diseased bark and gum pockets and painting the entire trunk of the tree with Bordeaux paste will give relief provided it is done before the gumming has girdled the tree, but the only cure for it is to find the cause and correct it.

### Light Crop of Walnuts

We have two walnut trees, eight years old, and apparently strong healthy trees. Although they bloomed profusely they have a very light crop, not as many as two years ago. Could it be lack of fertilizer? How much would be necessary and how often should they be irrigated?—Subscriber.

Seedling walnut trees frequently act as described in the question and if these are seedlings the remedy is to top graft them this next February to a variety known to be a good producer in your locality. If the trees are grafted and the variety good the trouble may be from want of water late in the year. There is no set rule as to time of irrigation but the irrigations should be frequent enough to keep the soil in a moist condition until the nuts are ripened. This moisture condition must be continuous as very radical changes from dry to wet sometimes cause the fruit to drop—J. B. N.

### Importing Plants

Is it allowed to import trees to this country from Europe? In Moravia, now Czecho-Slovackia, we had many fruits I should like to send for.—Subscriber, Sonoma.

We doubt if you will be able to get the trees in from Europe as Quarantine No. 37 prohibits the introduction of any plants or seeds from a foreign country excepting by special permit. As we understand it this permit will only be granted where it can be shown that the plants are not now being grown here and are of such importance that they would prove a valuable introduction to this country and further that their introduction would not be likely to bring in any serious pest or disease. We would suggest that you write to the Federal Plant Board, Washington, D. C., and explain just what you wish to bring in and they will advise you fully as to the necessary procedure.

### Pruning Lemons

Should lemons be pruned, and if so, how is it done? Have a tree about ten years old and the whole center has grown up into what I should call "suckers" if they were in any other place, very long slender shoots growing straight up from center of tree. I have frequently clipped the spreading limbs to keep them out of my way, but tree is very thick and dense. Should it be trimmed out, or rather thinned out?—Subscriber, Santa Cruz.

Lemons need more pruning than any other citrus trees. Being rampant growers their tendency is to send out long whip like limbs and produce their fruit on the ends of these limbs where it is easily whipped about and scarred by the winds. Pruning checks this rampant growth and causes the fruit to be borne on the smaller fruit limbs forced out by such pruning. It is a hard matter to get a lemon tree back into proper shape after it has been let go for ten years or more. About all you can do is to cut out the sucker growth that you say has filled up the center of the tree, and possibly some of this should now be left if it leaves the top too open. Cut out or shorten in all other long whip like growth. Cut out all interfering limbs and try to avoid making the tree too dense as sunlight and air is needed to make the tree fruit on the inside fruit wood. It will be necessary to follow up the work with a later pruning to keep out sucker growth and thin out the top as the first pruning will stimulate an excessive growth of undesirable wood.

# Household Department

### PHILOSOPHY

Philosophy is good enough, when everything is fair,
To help us see the greater plan behind life's grief and care;
It's good for talking purposes when friends drop in to chat,
And it is fine to hear them say:
"I never thought of that."
But when a fellow's in the mud, beyond the slightest doubt,
The best sort of philosophy is first to help him out.

It's fine to fill your pipe and smoke and ponder various things,
To find the hidden benefit which every burden brings;
To build your faith in what is good and see the distant goal,
And learn that every test of care is tonic for the soul;
But when a friend is fighting hard and being put to rout,
The best sort of philosophy is first to help him out.

You take a man in trouble, doubt, or danger, or distress,
He doesn't want a lecture on his future happiness;
When he is up against it hard and faint and falling fast,
It's no use then to call to mind the errors of his past;
He doesn't want a moralizing, preaching friend about.
He desperately needs a chap who'll try to help him out.

We should be philosophical. All men should try to see
The purpose back of every care and all that has to be;
But many a philosopher stands on the river's brink
And calmly tells a drowning man that he must swim or sink;
And so I hail the willing man with arms and muscles stout
Who finds a man in trouble and jumps in to help him out.—Edgar A. Guest.

### ANNA AND THE CHERRIES

(Continued from Last Week)

"Hey?" shouted the wild man, putting his hand to his enormous ear and bending his head. "Speak louder!"

"A present!" screamed Anna, holding out her basket so that the cherries winked and sparkled in the sun.

The wild man looked down and frowned.

"More trash!" he grunted angrily. "Well, walk in and I'll dump them in with the rest, but don't think you're going to get any favors out of me!"

Anna wondered how she could walk in when the path was only three feet wide but the next minute the wild man had pushed heavily against the side of the cliff and open sprang a door of stone. He stooped and walked grumbling into the cave and Anna followed him, carrying the basket carefully through the dark.

At the end of the passage was an immense room so beautiful and glittering that it blinded Anna as she stepped into it. When her eyes could stand the brightness she lifted her head and looked around.

From the many walls of the star shaped chamber hung thousands of icicles filled with changing light as blue as the sky and as green as the sea. The floor was of marble, or of ice that looked like marble, and tiny fairy forests grew here and there upon it—but they were forests made of frost, ferns and flowers and moss of sparkling white. Now and then white butterflies fluttered through the air and fell softly, but when one settled at Anna's feet she saw that it was only an enormous snow flake.

The wild man came shuffling over and took Anna's basket of cherries.

"Sit down a minute," said he. "I'll empty this and send you back down the mountain. You can be thankful to get back the basket. Every century or so someone comes wandering up here bringing trash I don't need. I've bins full of it now, and when it comes to asking me to stop my winter walks over the peaks, all I can say is, you'd better not. It's a pity a man can't walk over the mountains and toss a snowball now and then without having someone travel up to see him about it every hundred years!"

Anna sat down timidly on a bench that was icy cold. There were tears in her blue eyes.

"Oh dear, dear me! Why did I come! Others have been here and tried to stop him and if they couldn't surely I don't dare mention it."

The wild man hurried back and threw the basket over at Anna.

"You might have brought redder ones," said he. "Those at the bottom of the bin sparkled twice as much as yours. Now be off; I've got a bear roast to attend to."

"Maybe they don't sparkle," said Anna timidly. "But they're very, very sweet."

"And I say they aren't half as beautiful as the others!" shouted the wildman. "Come and see if you don't believe it."

He led Anna into a tiny hall, the walls of which were lined with ice crystals like diamonds. On a low shelf against the wall were four bins with glass sides and the light that came from them hurt Anna's eyes like looking straight into the sun, for the bins were filled with jewels; grass green emeralds in the first, sapphires in the second, golden topazes in the third and rose red rubies in the fourth.

And in on top of the rubies the wild man had thrown the cherries. He thought they were jewels!

Anna began to wring her hands. What would he do to her when he found that she had brought only cherries!

"I say they don't sparkle half as much!" shouted the wild man again. "Anyone can see that!"

"Oh, I'm so sorry," began Anna, weeping with fright. "They are only cherries. I've never had any jewels. I thought if you didn't like them raw I could make you a cherry pie."

She threw her apron over her face and cried into it.

The wild man opened his mouth.

"Pie!" he murmured. "It's a thousand years since I tasted cherry pie!"

Anna stayed all afternoon and made a cherry pie big enough for a giant. Such delicious crisp brown crust and such juicy, sugary cherries! The wild man ate every crumb and licked his fingers. After that he listened quite sadly while Anna told him how many fruit trees and houses he had smashed to bits with his great snowballs.

If you want to find the wild man now, you will have to go to the farthest valley in the Alps. He has a cherry farm down between the mountains.

And when you buy cherries that are larger and juicier and sweeter and redder than any you ever saw before, those are cherries from the wild man's trees.

### "I CHOOSE"

Do you ever play—of course you do—"I choose this one;" "I take that one?" The household editor had the luck last evening to drop in on a fast and furious game of "I choose." Bob and Marion and Billy were bunched over the Cultivator, and each was having one "choose" to a page. She suspected that thoughts of Christmas added zest to the choosing for there were many suggestions that might help an amiable Santa Claus. It was surprising the things those youngsters found that the printer and the engraver didn't know they had put on the page at all!

Bob chose a radio set; Marion took "this little chair just for my very own," Billy chose a sail boat. Bob chose a kodak; Marion took a kewpie doll; Billy chose "a funny bug that will run on the floor." Bob chose a compass; Marion took a new dress; Billy chose a hammer. Bob chose a motorcycle; Marion took a play stove; Billy chose a windmill. And so they went on page after page. Marion chose a piano which turned out on second look to be an incubator but she didn't mind Bob's poking fun at her about it because she said "It was just a play piano anyhow" and to show her independence pounced on a letter C with a curly tail and said it was a dear little white kitten and she would choose that too.

It seemed that father was really responsible for starting the game for he had been looking the Cultivator over after supper, thinking that he needed a new motor and a pump and an auto and mother must have a new stove and the kitchen painted and an electric washer and a heating pad and some rose bushes and—"Say Mother," he called, "Let's have a Christmas pool." Let's put our Christman money—most of it—into a pool and then choose one

(Continued on Page 539)

# Good November Food
## For Men on Farms

The reading of newspapers and farm journals in easy chairs calls for different kinds of food than plowing days require.

Inactivity is particularly the foe of good health on the farm.

You need foods then that tend to do what exercise does during busy times.

**Stewed Raisins are luscious and effective**

Stewed raisins served with cream is a most delicious breakfast fruit-dish, and one that brings real winter benefits.

Eat them frequently when exercise is lacking. For raisins are 75 per cent fruit sugar in practically predigested form.

**Stewed Raisins**

One package Sun-Maid Raisins; 1 slice orange or lemon rind; 2 cups cold water.

Put raisins and water in sauce-pan and bring to boiling point. Add slice of orange or lemon and cook for 30 minutes. Sugar may be added, but it is not necessary. Stewed raisins being very rich should be served in small portions.

Sun-Maid Raisins should cost you no more than the following prices:

**Seeded** (in 15 oz. blue pkg.)—20c

**Seedless** (in 15 oz. red pkg.)—18c

**Seeded or Seedless** (11 oz.)—15c

*Red Package (Seedless) Best for Stewing*

And this sugar and the raisin skins make a mildly laxative food that's the most effective natural fruit-laxative we know.

Raisins furnish *food-iron* also—fine food for the blood.

You need but a tiny bit of iron daily but that need is vital. Stewed raisins will help you get your daily portion of it in a most attractive way.

The fact is, you will like this dish so well that it will be your regular morning fruit-food the year round.

Try it now and note how delicious. Try it every morning for ten days as a test. Decide then if it's also a health food that you need.

Always ask for

## Sun-Maid Raisins

Get delicious Sun-Maid Seedless Raisins from your grocer. Stew them as directed in the column to the left.

Mail coupon for valuable free book, "Sun-Maid Recipes," describing scores of other luscious raisin foods.

**Sun-Maid Raisin Growers**
*Membership 13,000*
DEPT. B-511, FRESNO, CALIFORNIA

CUT THIS OUT AND SEND IT

Sun-Maid Raisins Growers,
Dept. B-511, Fresno, Calif.
Please send me copy of your free book, "Recipes with Raisins."

NAME .....

STREET .....

CITY..... STATE.....

## HOUSEHOLD QUERIES

### Canning Pimentos

Will you please send me your recipe for canning pimentos?—Subscriber, Woodland.

The recipe for canning pimentos was given in the Cultivator of August 19, 1922, page 180, copy of which has been forwarded to subscriber.

### Spanish Herbs—Canning Time Card

Please send me names of grocers carrying Spanish herbs also time card for canning pork using wash boiler.—Subscriber, Buena Park.

Names of dealers carrying Spanish herbs have been sent to our subscriber. Complete timetable for canning vegetables, soups, fruits and meats will be found in the issues of June 24, 1922, page 682.

### Requested Recipes

Could you furnish me with the following recipes: Chicken tamales, chili con carne, genuine French bread, Boston baked beans, ways of salting or sugar coating almonds?—Subscriber, Marysville.

Chicken Tamales—Soak the corn husks in cold water for two hours. Place in a saucepan 2 cups chicken stock, 1 teaspoon salt, ¾ cup cornmeal. Cook until thick mush, cool and place in a bowl ¾ cup finely chopped chicken meat, 1 onion, chopped fine, 2 green peppers, chopped fine, 6 olives, chopped fine, 2 dozen seeded raisins. Mix thoroughly and then drain the corn husks. Spread a layer of the corn mush on one part, place a tablespoon of chicken filling in place and cover with more corn mush, forming a roll a little larger than a sausage. Tie securely in corn husk and place in a steamer or double boiler and cook for 1¼ hours. Other meat may be used to replace the chicken and water may be used in place of the chicken stock to make the mush.

Chili Con Carne—Cut 1 pound stewing meat into inch pieces and place in a saucepan 2 cups water. Cook slowly until tender, then add 1 cup baked beans, 2 onions, minced fine, 1 cup tomato, 1 teaspoon chili powder. Bring to boil and cook slowly for 20 minuates and then place in a bowl 4 tablespoons flour, 1 teaspoon salt, ½ teaspoon paprika, 1 tablespoon vinegar, 5 tablespoons water. Beat to dissolve and add to the chile con carne. Cook for 5 minutes and serve.

French Bread—Pare and cut 2 medium sized potatoes. Cook until very soft in three cups water. When cooked rub through sieve and cool. There must be two cups of this mixture. When it is about 80 degrees Fahrenheit pour into mixing bowl and add yeast cake crumbled in ½ ounce shortening (1 tablespoon), 1 ounce sugar (2 tablespoons), ¾ ounce salt (2 teaspoons). Stir to thoroughly dissolve and then add 8 cups flour. Work to a smooth dough then knead 10 minutes. Place in well greased bowl, turning dough over to thoroughly coat. This prevents a crust from forming. Cover bowl and set aside to rise for 3½ hours. Now lay over the dough by pulling toward center the sides and ends of the dough, until it forms a compact mass. Turn over the dough, cover and let rise for 1 hour. When ready for the pans cut or divide into 6 pieces and mold into loaves 3 inches thick and 12 inches long, rolling loaf on board, making pointed at ends. Place clean cloth in deep baking pan and sprinkle cloth with cornmeal. Place loaf of dough on cloth and sprinkle lightly with cornmeal. Now lift cloth up close to dough, making cloth partition between each two loaves. Let loaves rise about 45 minutes and when ready to bake lift dough carefully from cloth, lay on a baking sheet and gash slightly with sharp knife. Wash with egg and water and bake 45 minutes in hot oven, adding small saucepan of boiling water to provide steam to keep loaf moist while baking. One-half this quantity for small family.

Boston Baked Beans—Soak one pint of beans in plenty of cold water overnight and in the morning carefully wash and place in a saucepan and cover again with water. Bring to a boil and cook for 10 minutes and then drain and place in a casserole or baking dish and add ½ pound salt pork, cut into 2 inch blocks, 1 cup stewed tomatoes rubbed through a sieve, 4 tablespoons molasses, 1 teaspoon salt, 1 onion, chopped fine, ½ teaspoon pepper, ¼ teaspoon mustard. Mix well and add sufficient water to cover. Bake in a moderate oven for 3 hours.

Salted Almonds—Heat 1 tablespoon olive oil in chafing dish; add 1 cup blanched and dried almonds. Stir until evenly colored. Drain and sprinkle with salt.

## HINTS FROM HOUSEKEEPERS

### French Pickle

Will you publish this recipe for "French pickle" in the California Cultivator as soon as possible?

One bucket green tomatoes, ½ bucket ripe tomatoes, 2 big cabbage heads, 6 onions, 1 cup grated horseradish, 6 green peppers, 6 red peppers. Grind together and add one cup salt and let stand over night. Strain and heat but do not let boil, with 3 quarts vinegar, 3 pints sugar, 2 tablespoons mustard seed, 2 tablespoons celery seed, 2 tablepsoons cinnamon, 1 tablespoon black pepper.—Ethel Hollingshead, Fresno.

The pressure of the atmosphere at sea level is 14¾ pounds per square inch.

# Will Your Child Be Next?

Here are some startling facts:

"The New York State Health Department," says a leading national farm journal, "has found that twenty-one percent of the country school children have defective vision as compared with five percent of city children."

*Four times* MORE eye trouble in the country than in the city—*WHY?*

The farm journal gives its own conclusion: POOR LIGHT IN MANY COUNTRY HOMES!

**Install a Colt "Gas Well" and Get Sunlight After Dark**

How is your home lighted? Preserve good vision by installing a COLT "Gas Well." Live, work and read indoors under sunlight!

The COLT generates carbide gas which gives a clear, steady light exactly the color of sunlight. A *white* light—not a *yellow* one. A light that rests and soothes the eyes instead of taxing and straining them—"Artificial Sunlight."

Goes on at the twist of fingers, too—no matches.

Generated automatically by the COLT from carbide and water—no bother. Simple and economical—nothing to fuss and tinker with.

Use the gas also for cooking—a city refinement brought to the country home.

**From Factory to Farm**

The COLT comes to you complete and ready for installation from the factory—no dealers. Sold direct by COLT solicitors. Easy to install—within reach of all.

**You Insure Your Life, Home and Car**
***—Now Insure Your Family's Eyes***

Poor eyesight is a lifelong handicap. Don't burden yourself and children with it—*install Carbide gaslight NOW, before Winter with its long nights sets in.* Easy and quick to do. Dependable and preferable—a half million in rural communities use it. Just drop us a postcard and we'll give you full particulars.

## J. B. COLT COMPANY

30 East 42nd Street, New York — 8th and Brannan, San Francisco

COLT TRADE MARK

*Oldest and largest manufacturers of Carbide Lighting-and-Cooking Plants in the World*

31ST SUCCESSFUL YEAR

# A good old Friend

**Remember the good old-fashioned mustard plaster grandma used to pin around your neck when you had a cold or a sore throat?**

**It did the work, but my how it burned and blistered!**

**Musterole breaks up colds in a hurry, but it does its work more gently,—without the blister. Rubbed over the throat or chest it penetrates the skin with a tingling warmth that brings relief at once.**

**Made from pure oil of mustard, it is a clean, white ointment good for all the little household ills.**

**Keep the little white jar of Musterole on your bathroom shelf and bring it out at the first sign of tonsillitis, croup, neuritis, rheumatism or a cold.**

Sold by druggists everywhere, in jars and tubes, 35c and 65c; hospital size, $3.
The Musterole Co., Cleveland, Ohio

BETTER THAN A MUSTARD PLASTER

MUSTEROLE
WILL NOT BLISTER



# Unbounded Faith

Years ago Grandmother learned that the secret of health is to keep the powers of resistance strong. That is why her faith in

# Scott's Emulsion

remains unbounded. For fifty years it has had world-wide recognition as a tonic which is rich in health-building vitamines, *to nourish and help keep the powers of resistance strong.*

Scott & Bowne, Bloomfield, N. J. 22-44



# Marvel Ant Exterminator

## I guarantee to rid your premises of ants

The time to permanently rid your premises of ants is in the fall and winter. My Exterminator is a slow acting poison that the worker ants eat and carry to the nests where the producing queens and males stay. A can on each ant trail does the work. Absolutely safe—the cans are always sealed, never opened. The ants crawl through small holes to reach the poison. 60c per can; 6 cans $3.00. SPECIAL PRICES TO ORCHARDISTS. Ask for literature.

H. W. McSpadden
Mfg. Chemist and Entomologist
710 Towne Ave.,
Los Angeles

# Nu-Way Strech

**Suspenders and Garters**

Unequalled for Comfort and long Wear. One Year's Lasting Stretch Guaranteed.

Thousands get two and three years wear. Suspenders, 75c. Garters, 50c.

Ask Your Dealer—If he hasn't them, send direct giving dealer's name. Look for "NU-WAY" on buckles. Accept no substitutes.

Nu-Way Strech Suspender Co.
Dept. E7111 Adrian, Mich.

### CHARMS

By Louise Driscoll in the Milwaukee Arts Monthly

I heard the hooded owl cry,
He told me to go carefully.
There was no path at all, but I
Tried not to let the moon get me.

I wanted to go on and see
What magic waited—so I made
A little charm that I could say
To keep me unafraid.

Briar, thistle and thorn
And teasle seed,
Mandrake apple unborn,
Wait on my need!

Close the evil way,
Give me the scent I know,
Turn me when I stray,
And let me go!

The wood that I went through
Was full of muttering.
I felt the edge of fur
And wind of wing.

Partridge-berry, burn!
Willow-wand, bend!
Show me the turn.
Lead a friend.

Then the offended moon
Drew her scarf of blue
Over her wicked eyes
As if she knew

She couldn't catch me
In her silver net,
But I thought perhaps
She was watching yet.

So I said—

Small blue flower
With a green hood,
Mark my way
Through this wood.

Thimble-berry
And red rosehips,
Give your grace
To my fingertips!

### SMOOTH INSIDE

A private was shaving himself in the open air when his sergeant came along.

Sergeant: "Do you always shave outside?"

"Of course," answered the private. "Did you think I was fur lined?"

### AN IMPROVEMENT

Doctor—You cough with much greater ease this morning.

Patient—I ought to; I have been practicing all night.—Medical Pickwick.

### AN INSINUATION

"I was told," he said, "in my early youth, that if I didn't quit smoking cigarettes I'd be feeble-minded when I grew up."

"Well," answered she, 'why didn't you quit?"

### DON'T BE UNEASY

The mistress—Really, Justine, you are wearing very pretty silk stockings. The maid—Don't be uneasy, madam; I got these at my last situation.—London Opinion.

### FISHERMAN'S WIT

Owner—Here, what are you doing? Don't you know you're not allowed to take fish out of this water?

Angler (three hours without a catch)—I'm not taking them out. I'm feeding them.

### A POOR RICK

"I don't blame you for turning out 'best sellers' and getting rich at it," said the author's friend, "but you ought to write something for posterity."

"Can you imagine me buying a motor car and telling the dealers to charge it to posterity?"

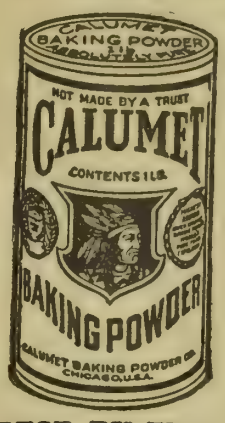
### QUALIFIED

Negro Rookie—I'd lahk ta have a new pair o' shoes, suh.

Sergeant—Are your shoes worn out?

Rookie—Worn out! Man, the bottoms of mah shoes are so thin Ah can step on a dime and tell whether it's heads or tails!—Arkansaw Thomas Cat.


# BEST For a Generation




American housewives are using Calumet Baking Powder today with the same success that their mothers experienced over a third of a century ago. This perpetual growth of favor has made

**BEST BY TEST**

# CALUMET

**The Economy BAKING POWDER**

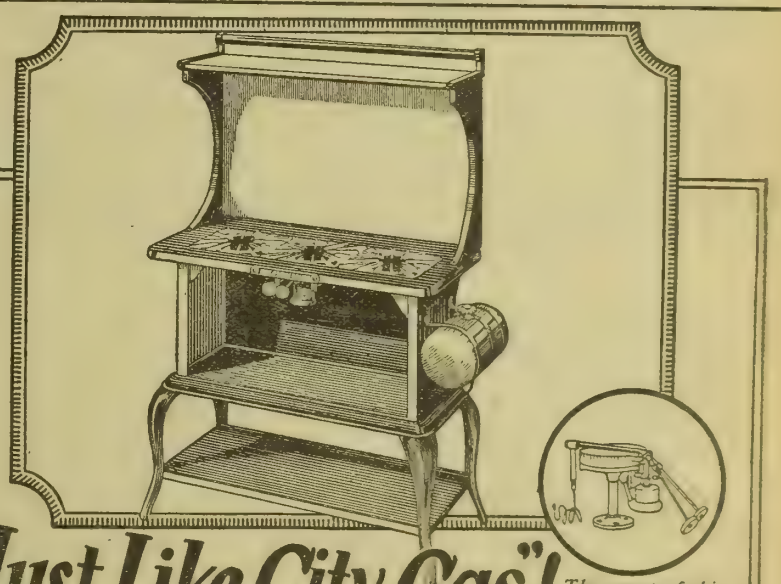
**—sales over 150% greater than that of any other brand.**

There isn't a baking powder of greater merit—there isn't a leavener obtainable that will produce more satisfactory or positive results. That's why the largest baking powder factories in the world are always busy turning out enough Calumet to supply the great demand.

***A pound can of Calumet contains full 16 ounces. Some baking powders come in 12 ounce instead of 16 ounce cans. Be sure you get a pound when you want it.***

**THE WORLD'S GREATEST BAKING POWDER**





# "Just Like City Gas"!

*The secret of this wonderful stove—the Coleman Burner. A couple of matches—a minute or two—then light the burner, just like city gas. Clean, safe, economical.*

Here's the stove which gives housewives city gas convenience, regardless of location. The Coleman Cooker is really a gas stove! Makes its own gas from common motor gasoline. No wicks, cones or chimneys. Simply generate with ordinary matches, then light each burner as needed—just as *easy*, just as *quick* and just as *clean* as a city gas range.

**BAKES**—Cut your biscuits, put them in the pan, then in the oven. In six minutes they will be ready for serving. Flaky, light and crispy brown. The Coleman Cooker is a wonderful baker.

**ROASTS**—The real test of any stove is its efficiency in roasting. The Coleman Cooker roasts just as quickly, just as thoroughly, as a city gas stove.

If a dealer near you hasn't Coleman Cookers on sale as yet, write us, mentioning his name and we will give you full information about this wonderful stove and tell you how you can have a free demonstration. Address Dept. CA3

THE COLEMAN LAMP CO., 120 S. Los Angeles Street, Los Angeles, Cal.

# Coleman Cookers

*Make their own Gas*

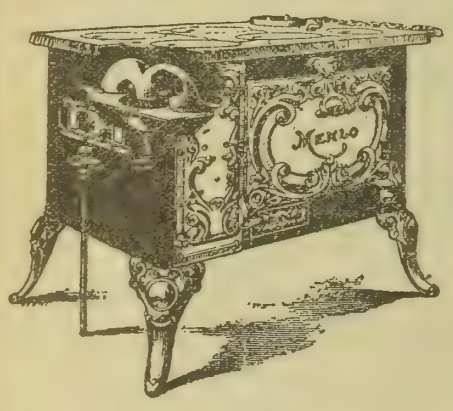
# all-in-One

Not only as a delicious food beverage—but for cakes, for puddings, for icings, for ice cream, candy and all frozen desserts—Ghirardelli's Ground Chocolate is the all-in-one chocolate. It is the chocolate of 100 uses—keep it handy in the pantry always. Say "*Gear-ar-delly*" and send for recipe booklet—free!

Since 1852 D. GHIRARDELLI CO. San Francisco

**Ghirardelli's Ground Chocolate**

## Cheapest Heat You Can Buy

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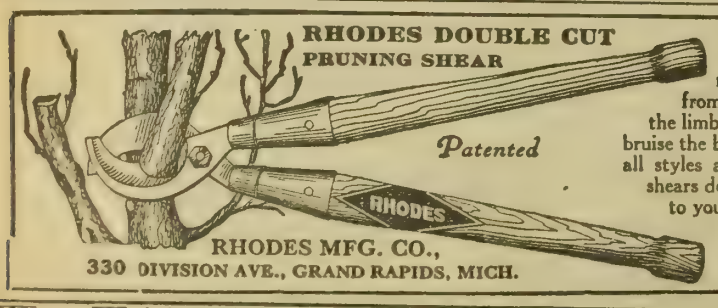


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### THE THANKSGIVING DINNER

THANKSGIVING is a happy day for the family circle, even including the cook. Perhaps we should say, especially the cook, for she is usually the house mother as well who is as happy as she is busy in bringing together her loved ones on this day. That it may this year be even more than ever before a day of happy reunion here are suggestions for a simple Thanksgiving menu which may practically all be prepared the day before so that the mother may be the unhurried and unworried and unwearied center of the feast.

#### Table Decorations

The fruits and nuts which will be used for dessert make the most beautiful and appropriate Thanksgiving centerpiece, emblematic of peace and plenty. These may be prepared the day before, red apples polished, bananas wiped clean, grapes washed and drained, choice raisins and dates and dried figs prepared, nuts cracked, and all arranged in bowl or platter or hollowed half of a pumpkin. Cover with paper or cloth and set away on pantry shelf ready to be placed on the dining table the next morning when the table is set.

#### The Menu

Oyster Bisque Olives
Roast Turkey Olive Stuffing
Creamed Cauliflower
Candied Sweet Potatoes
Cranberry Jelly in Orange Cups
Orange and Cherry Salad
Pumpkin Pie Coffee
Fruits Nuts and Raisins

#### Oyster Bisque

Six cups milk, 2 eggs, 4 tablespoons butter, 4 tablespoons flour, 4 cups oysters, 2 teaspoons chopped parsley, mace, salt, pepper, cayenne. Cook oysters in milk until edges curl. Strain, reserve liquor and chop oysters; press through a sieve; add butter and flour cooked together, seasonings and cook five minutes, add to eggs slightly beaten and serve.

#### Roast Turkey

A good turkey should be plump, the cartilage at the end of the breast bone soft and pliable, and the legs smooth. If very young there will be many pin feathers. These and all the feathers should be carefully removed. Then scorch well by holding over a direct flame, burning paper or otherwise. With a sharp knife cut through the thick skin on the leg 1 inch below the knee. Break the bone at this point. Insert a stiff skewer under each one of the tendons found on the back and front of leg and pull carefully, removing as many as possible. A few may break. Then remove the leg, leaving an inch of bone below the joint. When baked this will come off easily, leaving a fresh, unburned end. Split the skin down the back of the neck and cut the neck out even with the shoulders, leaving the skin loose. Remove the crop, windpipe, etc., from the neck. This can be done, especially if the crop is full; otherwise, remove the rest of the entrails, loosening thoroughly by breaking all the connecting membranes with the finger. Be careful not to break the skin over the breast. Remove the oil sac from the tail. Insert sharp pointed knife and cut vent loose from the skin. Make an incision under the left leg. Insert the fingers and break through the membrane. Then work the fingers up around between the breast and the intestines, and around next to the back thus loosening everything. Take hold of the gizzard and remove carefully, bringing with it all of the entrails. See that the lungs and kidneys, which lie against the back, are removed.

Put fowl into a pan of water to which has been added 1 teaspoon soda for every 2 quarts water. With a small cloth wash carefully inside and out, rubbing the skin well. Then rinse thoroughly, letting plenty of water run through the fowl. Dry well. Lay the fowl on the back, season inside with salt and pepper and stuff the breast until it is smooth and plump. Fold the skin of the neck down on the back and pin with a small steel skewer. Stuff the body of the fowl, press the legs close to the body, hold firmly with one hand and with the other push the thigh up into the side. Fasten with a skewer run through from one leg to the other. Lay wings to the body and fasten with a skewer. Insert a skewer under the tail. Wrap a piece of cord around the tail, bringing one end up on the right side, wrapping it twice around the leg skewer, then up around the wing skewer across under the back, repeating the process on the left side, bringing it down and fastening at the tail. Season all well and rub over with melted butter.

Prepare and stuff the turkey the day before. If it is a large turkey, weighing over 10 pounds, it would be best to bake it for an hour the night before, leaving it in the oven as it cools off. Then start the baking again about 8 o'clock in the morning, keeping the temperature very low and basting from time to time. While baking it should be laid first on one side, then the other and as soon as browned turned on


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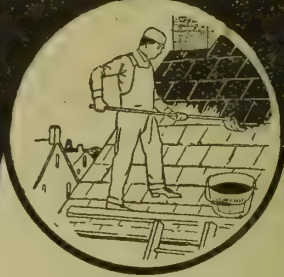

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the breast and left there until a few minutes before taking from the oven when it should be turned on the back, allowing the breast to brown.

**Assuring Tender Turkey**

To assure a tender turkey, if you have facilities for cold storage, have it killed 3 to 5 days before the day you wish to use it. If you have not ice storage kill it one or two days before. Steaming before roasting will make certain a tender bird. When ready for cooking place in bottom of large vessel—wash boiler does very well—a bucket or steamer to hold turkey out of water. Then fill boiler with hot water to come just up to the turkey. Cover tightly and steam about 20 minutes to the pound. This will cook bird thoroughly. Remove from boiler and fill with dressing. Then place in moderately hot oven and baste every 10 minutes for about 40 minutes till well brown.

**Stuffing**

Stuffing for small turkey (double quantity for large bird). Two tablespoons melted butter or bacon fat, one tablespoon chopped onion, 3 cups soft bread crumbs, chopped liver and heart, one teaspoon salt, one teaspoon poultry seasoning, one tablespoon chopped pickles, one-fourth teaspoon pepper, one-half cup chopped walnuts, one cup ripe or green olives.

**Creamed Cauliflower**

Separate cauliflower into sections, wash well, and cook in boiling salted water until tender, about 30 minutes. Drain and cover with medium white sauce made by melting four tablespoons butter in sauce pan, adding smoothly four tablespoons flour and gradually two cups of milk. Stir constantly till it thickens, add salt and pepper to taste.

**Candied Sweet Potatoes**

Wash, pare and parboil 8 good sized sweet potatoes. Drain, cut into lengthwise slices about one-half inch thick and lay in a baking dish. Spread thickly with a syrup made from one-half cup butter, one cup brown sugar and one-half cup hot water. Bake until tender, basting frequently with syrup in the pan.

**Cranberry Jelly in Orange Cups**

The cranberry jelly can be made the day before, reheated in the morning and poured into the orange cups. The orange cups may be prepared by cutting well shaped oranges into halves, crosswise. Remove pulp carefully so that it can be used for salad. If desired, scallop the edges and fill with the cranberry jelly, putting in a cool place to set.

Four cups cranberries, 3 cups sugar, one-half cup cold water. Wash cranberries, add water, and boil 20 minutes. Press through sieve, add sugar, and cook 3 minutes. Pour into moulds and allow to set.

**Orange and Cherry Salad**

Remove the white membrane from the pulp of 4 oranges and cut each section in half, crosswise. Mix 2 cups pineapple, cut into cubes, with 1 cup candied cherries, halved, by tossing together with forks. Add orange and cover the salad with lemon cream sauce.

**Lemon Cream Sauce**

To 1 cup cream, whipped, add 8 tablespoons sugar and 6 tablespoons lemon juice. Pour over salad.

**Cultivator Pumpkin Pie**

Cut up small pumpkin, put in steamer or covered colander and steam till soft, then remove peel; put on pan in oven and leave door open till it is dry but be careful not to let it brown or bake. Press through colander and measure. To 2½ cups pulp add 2 cups cream or very rich milk, 1 teaspoon each salt, butter, cinnamon and ginger, 1 tablespoon molasses, sugar to taste, and after cooling and beating well, 2 well beaten eggs or yolks of 4. Make rich pie crust, line extra large and deep tin and leave an edge on top. Pour in pumpkin, bake slowly 40 minutes, or a little longer, till there is a good brown crust on top. Serve very cold and all around the edge put large spoonfuls of whipped cream. The pie will of course be made the day before.

---

**"I Choose"**

(Continued from Page 535)

big thing we all would like to have for our house instead of getting a lot of little things that maybe we don't care so much about. What would you like most of all, anyway?" "O—" said mother, and looked at the kitchen floor. "That means linoleum, I'll bet" said father. Mother smiled and said "It just does, but there's a lamp for the living room, and a real desk for your papers and a rug in the boys room and a new dining table and pretty paper on Marion's room and an auto robe and—O, my goodness, such a lot of things!" "Well," said father, "I guess we'll have to make a pool of all the wishes too and pick out just one." "A wish pool," broke in Marion, "O that's more fun than a fish pond." I choose—and they were off, Bob and Marion and Billy, on a wishing game.

"Good idea," the household editor, thought on the way home, "Believe I'll tell the other Cultivator folks about it."

---

**BE A MEMBER**

The drive for Red Cross membership is a regular annual function of the American people; this year it is November 11-30. There may be little need for this organization in war relief at this moment but the Red Cross insists that it makes for efficiency in peace times as well as in time of war. Be a joiner of the Red Cross.

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The inventor, W. V. Johnson, 31 N. Fifth St., Portland, Ore., is offering to send a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help him introduce it. Write him today for full particulars. Also ask him to explain how you can get the agency, and without experience or money make $250 to $500 per month.

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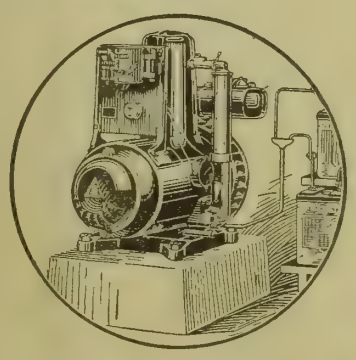

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## CURING MEAT ON THE FARM

"MEAT Production on the Farm" is the title of a timely book issued by the E. H. Wright Company, 819 Broadway, Kansas City, Missouri. It gives in 32 pages practical information on selection of meat animals, preparations for slaughtering, slaughtering, scalding and scraping, dressing carcass, cutting carcass, trimming hams, rendering lard, curing and smoking, dry curing, brine curing, saving spare parts, liquid smoke, wrapping cured pork, sausage making, etc. Pork, beef and mutton are all carefully treated. Many pages of specific recipes for use of liquid smoke follow, a few of which we give below.

Copies of this book may be secured free on request to address in first sentence above.

### Smoked Country Sausage

The following recipe makes what is known as "smoked country sausage," a product in high favor with city buyers:

Eighty-five pounds lean pork, 15 pounds beef, 1½ or 2 pounds salt, 4 ounces black pepper, 1 ounce red pepper, 1 ounce mace, 1 ounce sweet marjoram.

Thoroughly mix the seasoning ingredients. Cut the meat in small pieces, spread it out on a table and sprinkle the seasoning over it. Then run it through the grinder, using the small plate, and mix into it thoroughly one large tablespoon condensed smoke for each 50 pounds of meat. After it has stood in a cool place for 24 to 36 hours, stuff it into casings. Dip in liquid smoke about 30 minutes. Drain well and hang up to dry. A week later dip again and hang up for another week when they will be ready for use. For second dipping ten minutes is enough.

### Bologna Sausage

This is another very popular style of sausage of excellent keeping qualities.

Forty pounds pork, 60 pounds beef, 20 pounds water, 1½ or 2 pounds salt, 4 ounces black pepper, 2 ounces mace, 1 ounce coriander.

Cut the beef into very small pieces, or put it through the grinder, using the coarse plate, and let it "cure" 36 hours in a cool place. Then grind it very fine, put the pork through the grinder, using the medium plate, and mix the meats, seasoning and water. Work the mixture thoroughly until it becomes sticky and takes on a dull color. Stuff it into beef casings or large hog casings, divide it into links about a foot long and let it hang in a cool place 12 to 24 hours. Smoke with liquid smoke, as directed in other sausage recipes. When the second coat of smoke has dried thoroughly, cook the sausage in water at a temperature of 160 to 175 degrees Fahrenheit—which is far below the boiling point—for 30 minutes to one hour, according to the diameter of the links. Then plunge the sausage into cold water for about 30 minutes and hang it up in a cool place to keep.

Owing to the popularity of these sausages containing beef, it may pay you to buy this part of your supplies from a butcher, or one of your neighbors, if you are not prepared to slaughter beeves on your own place. For full instructions on beef slaughtering, see the section entitled "Beef and Beef Products."

There are two important points to remember in connection with sausage making. One is that sausage meat invariably should be allowed to "cure" 36 to 48 hours before being stuffed. Otherwise, it is very likely to spoil. Another is that the high temperature of the ordinary smoke house will ruin sausages if the smoking is prolonged. The heat renders out the fat and makes the casings brittle. The sausage as a result, is likely to be dry and hard. The best way to smoke any kind of meat or meat product is with liquid smoke.

### Pickled Pig's Feet

Clean the feet thoroughly and remove the toes. Soak them in cold water 12 hours or longer and boil them until they become soft. Salt them when partly done. About four hours' boiling will be required for average sized feet; five hours for large ones. Pack the cooked feet in a stone jar and cover them with hot, spiced vingear.

### Headcheese

Headcheese is supposed to be better when made from the head of the hog alone, but the odds and ends can be included without harming the product. The head must be shaved clean, the snout skinned and the nostrils cut off just in front of the eyes. The eyes and ear drums should be removed and the fattest part of the head cut away for lard.

Great care must be taken in soaking and rinsing the head to free it from all dirt.

Boil the head until the meat comes off the bones. The heart and tongue may also be included, if desired. Take out the meat and chop it fine, saving the liquor, which will be needed again. For every 25 pounds of meat use three-fourths pound of salt, one and one-half ounces of black pepper, one-half ounce of red pepper, two ounces of ground cloves and one gallon of the liquor in which the head was cooked. Mix these thoroughly with the firmly ground meat and stuff into large casings or thoroughly cleaned hogs' stomachs. If you use casings, boil them again, in the liquor in which the head was cooked, until they float. Place them in cold water about 15 minutes, drain and lay them away in a cool place. If the meat is not stuffed it should be packed in shallow vessels and kept cold until used.

### Scrapple

Both head and feet of hogs are generally used in making scrapple, but it can also be made from any other hog meat. Clean and dress the head and feet as directed in other recipes. Put them in a vessel with water enough to

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cover them and cook them till the meat separates from the bones. Drain off the broth, pick out the bones and chop the meat very fine. Then put it back into the broth and boil it, adding corn meal until the mixture is as thick as mush. Put the meal in slowly and stir vigorously to avoid lumps. When the mixture is smooth, boil it one hour and pour it into shallow pans or molds. When cold, it can be sliced and fried.

**Pickled Tongue**

Pickled tongues of hogs, beef and sheep bring fancy prices when properly cured and attractively packed. Clean them thoroughly by scraping, soaking and repeated rinsing. Put them into a brine made with salt and ham pickle mixed in the same proportions as directed for curing hams and bacon. Leave them in the brine two or three weeks, according to size. They may then be smoked with liquid smoke, as directed for other meats, or put into glass jars and covered with hot, spiced vinegar. The jars should be filled to the top and sealed perfectly.

**Smoked Tongue**

Smoked tongue is a great delicacy. After thoroughly curing the tongues as above they should be taken out of salt or brine, washed off and hung up to dry for a week or so. Then the tongue should be dipped in liquid smoke or the smoke applied with a brush.

**Liver Sausage or Pudding**

All the odds and ends left from cutting up a hog can be used in making liver sausage. If the head is used, it should be cleaned as previously directed. The liver, cut into slices, and the skin from which fat for lard has been trimmed should be cooked in a cloth sack, as they will become soft sooner than the other parts. A small amount of beef will improve the sausage, but is not necessary. Cook the meat till it falls from the bones, taking out the liver as soon as it becomes soft. When the meat is thoroughly cooked, grind it all together, using the finest grinding plate. For each 20 pounds of meat use three-fourths pounds of salt, one and one-half ounces of sweet marjoram, one-half ounce each of allspice and black pepper and half a gallon of the broth in which the meat was cooked. Onions may be added if desired. Work the meat and seasoning together thoroughly and stuff the sausage into beef casings or pack firmly in jars and seal with paraffin. If the sausage is stuffed into casings, it should be cooked again until it floats and then cooled thoroughly in cold water.

**Summer Sausage**

Although "summer" sausage can be made in cold weather only, it will keep the year around in a cool dry place. The recipe is:

Fifteen pounds of pork trimmings, 25 pounds well cured beef, 6 ounces white pepper, 1 ounce whole black pepper, 1 ounce whole mustard seed.

No salt is necessary, as the cured beef will make the sausage salty enough. Put the meat through the grinder, then add the spices. Mix until evenly seasoned. Spread it out in a cool place and leave it 36 hours or slightly longer. Then stuff it into hog casings and let it hang 12 to 24 hours. Smoke the sausage three times, a week apart, with liquid smoke, hang it up until thoroughly dry and it is ready for use. No harm will be done if the sausage becomes moldy. Simply wipe off the casings and the product is as good as ever How to prepare the cured beef needed in this recipe is explained in the "Beef and Beef Products" section of this book. The cured beef may also be purchased at a meat market.

### THE OLD TIME FOLKS

Give us more of the old time folks—the folks whose only style
Was kindly love in a human heart, and a face that spilled a smile;
Folks that found life simply sweet with the sunlight on the sod
And thought it wise and good and right to walk and talk with God.
Give us more of the old time folks—the folks who didn't shirk,
But gladly tackled each job that came, and found their joy in work;
Folks who wasted no time on jazz, and never ached for fame,
Just satisfied to live and love and play the human game.
Give us more of the old time folks—the folks who day by day
Were shaking hands with other folks on the same old stony way;
Folks who dreamed of better days—and made their dreams come true
By whacking out of the tough hard times a world for me and you.
The heart of the world is sore today, and its sky is dark and drab,
The lives of men are all worn out with hate and greed and grab.
Let's get back to the old time days, with the sunshine on the sod,
As old time folks went singing on because they trusted God.—Anon

### GRAPE CONSERVE

Four quarts grapes, 2 oranges (juice), 2 lemons, 1 cup chopped nut meats, sugar equal quantities as you have mixture. Wash fruit, remove grapes from stems. Remove skins from pulp. Cook pulp until soft. Strain to remove seeds. Place strained pulp and skins in the preserving kettle. Add orange and lemon juice.

### MIXED PICKLE

Two cups string beans, 2 cups wax beans 1 quart cucumbers, 1 quart onions, 1 tablespoon stick cinnamon, 1 tablespoon whole cloves, ½ tablespoon allspice, ½ tablespoon mace, ½ teaspoon celery seed, 1½ quarts vinegar, 2 cups sugar, 1 tablespoon mustard seed. Cook vinegar with spices and sugar, then remove spices. Cook vegetables in vinegar three minutes. Put in jars and seal.

### EGGLESS, MILKLESS AND BUTTERLESS CAKE

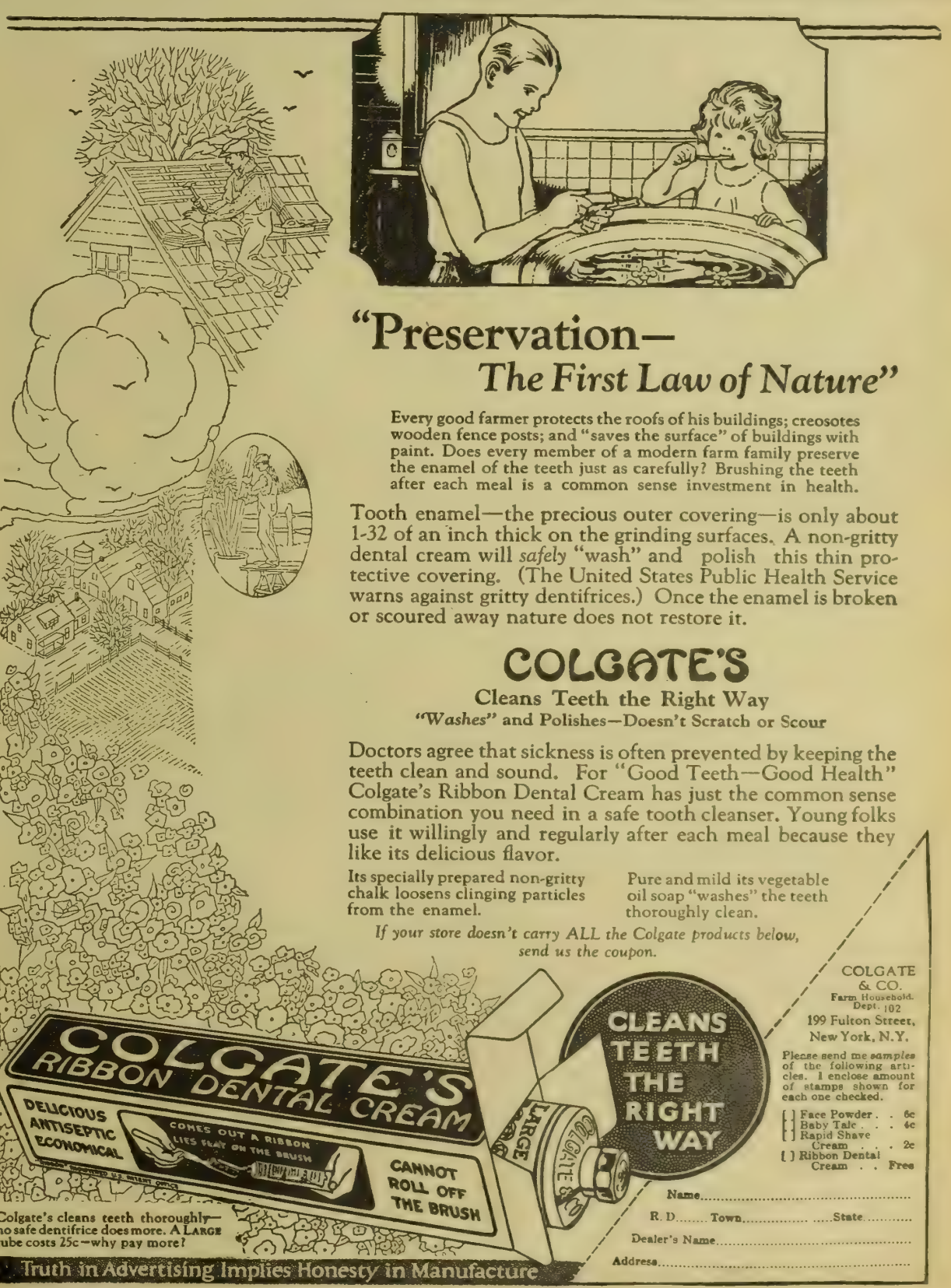
One cup brown sugar, one-third cup lard, 1 teaspoon cloves, 1¼ cups water, 1 teaspoon cinnamon, ¼ teaspoon nutmeg, salt. Boil 5 minutes. Add 1 teaspoon soda and 1 teaspoon baking powder to 2 cups flour. Add to cooked mixture. Bake 30 to 40 minutes.

To give a nice polish to the top of the range, rub with a cloth dipped in melted paraffin to which has been added a few drops of kerosene. Polish with a soft, dry cloth.

A suggestion for saving hems of sheets and tablecloths: Always hang on line from corners doubled back and the wind and strain will not wear them out.

In this country about the only retired business man we have is the one who has gone to bed and is dreaming about what he has to do in the morning.—Cleveland Commercial.

Nothing great was ever accomplished without enthusiasm.—Emerson.


"Preservation—
*The First Law of Nature*"

Every good farmer protects the roofs of his buildings; creosotes wooden fence posts; and "saves the surface" of buildings with paint. Does every member of a modern farm family preserve the enamel of the teeth just as carefully? Brushing the teeth after each meal is a common sense investment in health.

Tooth enamel—the precious outer covering—is only about 1-32 of an inch thick on the grinding surfaces. A non-gritty dental cream will *safely* "wash" and polish this thin protective covering. (The United States Public Health Service warns against gritty dentifrices.) Once the enamel is broken or scoured away nature does not restore it.

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Colgate's cleans teeth thoroughly—no safe dentifrice does more. A LARGE tube costs 25c—why pay more?

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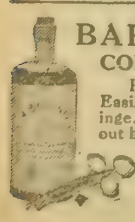
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# Dairy Industry Facilities Increase

The dedication of the dairy building at the university farm, Davis, has greatly increased the enthusiasm of dairymen in the work of the college of agriculture. The meeting was not only largely attended but a thorough going inspection was made of the various class rooms, laboratories, and practical working rooms of the new building. The Cultivator camera was brought into action and gives herewith photograph of one of the recitation rooms.

In describing the building and some of the equipment Prof. C. L. Roadhouse gave a bit of the history of the effort to secure the building and its equipment. In 1917 a bill was introduced by Senator Rush in which provision was made for an appropriation of $50,000. Soon after war was declared with Germany and it was decided unwise to undertake the construction, and nothing definite was accomplished until the last legislature passed a bill introduced by Senator Duncan appropriating $400,500 for construction of buildings and equipping them for the better work of the college. Of this $225,000 was used to cover the dairy building and equipment. Of this building Prof. Roadhouse said in his address:

"Modern sanitary construction is provided in all manufacturing laboratories with well drained tile floors, tile wainscoting, skylights and ventilating flues through the ceiling. The first floor of the main building will include laboratories for butter and market milk, commercial testing, student testing, farm dairy and bacteriology; a salesroom, office and student locker rooms. The second floor will be occupied by three lecture rooms. Director Hutchinson's office, reading and dairy products judging rooms and office and storage space. The manufacturing wing will house the large creamery laboratory which will be used for teaching advanced students and those electing practice work in butter, cheese, ice cream, market milk and milk condensing. There will be also a milk receiving department, a student cheese laboratory, refrigerating, ice making, storage and machinery rooms. A distinctive feature of the new building is the provision for several small units of equipment in each department, making it possible for each student to work independently. The increased equipment will make it possible also for instructors to teach larger sections which will accommodate a larger number of students."

A Recitation Room in the New Dairy Building at Davis

Prof. Roadhouse ends with: "The dairy industry of this country is in need of well trained men. The best source of them is found in the dairy departments of the various state agricultural colleges. The University of California now adds further support to the agriculture of the state by increasing the facilities for dairy teaching."

# Hartsook's Draft Sale Goes Well

Everyone who is interested in Holsteins in California or most anywhere else has heard of Fred Hartsook and the wonderful herd of Holsteins he has assembled in the past few years. Some of these people were present at his ranch on the 10th to take advantage of his experience in selection of dairy cows when he offered the first animals he has sold at public sale. Others probably had the old idea that when a man with a big herd sells part of them that he is culling the herd. This is sometimes done but it was not so in this sale, every animal offered was a good one and as sound as a dollar with t. b. certificate to go with her. True enough, Mr. Hartsook did not offer for sale any of his 40 pound cows nor any of his grand champions. He offered a good selection of milking cows and heifers, many of which could have been retained in his herd without being out of place. The majority of these had been bred to his great bull, Sir Aaggie De Kol Mead, but quite a number were bred so recently that the buyers could not be sure that they were in calf. They were given the opportunity of returning them to be bred or leaving them until they were safely settled, but oftentimes people would rather pass a good animal up than to be bothered with carting her around. A number of new buyers showed up and reaped a harvest in picking up good ones at a cheap price. With two exceptions the breeders did not open their mouths to assist the man who has paid them higher prices than anyone in the state. Probably the offering did not appeal to them but a little reciprocity at times goes a long way to boost business.

The 47 head sold for $14,780, or an average of $315 each. Considering that many of them were young heifers the price was very good. Two cows sold for $550 each and these topped the sale. The real top was a heifer due to freshen soon which was sold to Carl McCullers of Santa Maria for $525. This was a sweet youngster sired by Hartsook's former herd bull, Hazelwood Finderne Fayne, and out of a 24 pound cow. Mr. McCullers added eight head to his good herd which he is establishing near Santa Maria.

A. M. Dunn, proprietor of the Wayside Press in Los Angeles, stepped out and bought 16 heifers for the place he is establishing at Roscoe in the San Fernando Valley. The top of his purchase was Nancy Calamo Korndyke 2d, the calf which was first at the San Joaquin County fair and which was always in the money at eight shows. She cost him $475 and was worth it.

The San Diego County Farm, represented by Dr. Charles L. Good, supervisor in charge, and C. D. Church, manager, bought five head of good ones at the head of which was Parthenia Champion, a 24 pound senior four year old record cow. She cost them $550. The San Diego County Farm has an exceptional bull in Salambo Pontiac De Kol who heads the herd, and his grade daughters have proven to be

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great producers, milking more with their first calves than their dams do as full aged cows. The men in charge have decided that he should be used on some good cows, and this will help to make a foundation herd.

Mrs. Perle Penrose of Pomona and Charles W. Anderson of Burbank picked up some excellent cows at bargains. There were few good ones in the ring without these two bidding on them.

Taking it all in all it was a good sale, but the average could have been $100 an animal higher, and still they would have been bargains, considering their breeding and the bull they are bred to.

The sale was in charge of Charles L. Hughes of the California Breeders Sales and Pedigree Company of Sacramento, and Rhoades and Rhoades of Los Angeles were the auctioneers.

**List of Purchasers**

San Diego County Farm; Parthenia Champion, $550; Anoakia Princess Korndyke, $300; Fern Pietertje Korndyke, $150; Meadhart Juliana Fayne, $175; Rosie Hazelwood Fayne, $160.

A. M. Dunn, Los Angeles: Juliana Beets Fayne, $235; Dora Jeek Ormsby Pontiac, $210; Burbank Lady Juliana, $235; Jewel Roderick Mechthilde, $275; McCloud Pietertje Floa Princess, $400; Queen Segis Pontiac, $285; Meadhart Maud De Kol Segis, $210; De Kol Pet Pontiac Segis, $260; Syacres Gold Drop, $185; Uneeda Maid Walker, $260; Abyla Roderick Fayne, $310; Meadhart Abyla Lincoln, $125; Meadhart Colantha Hengerveld, $185; Meadhart Duchess, $200; Susa Newton Ormsby Snowball, $260; Nancy Calamo Korndyke 2d, $475.

Carl McCullers, Santa Maria: Win-O-Dee De Kol $400; Nena Johanna Selah, $475; Fayne Canary Segis, $450; Hazel Colantha Pauline, $300; Juliana Akkrum Fayne, $450; Cornucopia Paul Segis Fayne, $525; Meadhart Pontiac of Donnybrook, $200; Blanche Ciruela De Kol Fayne, $275.

Perle Penrose, Pomona: Ciruela Juliana De Kol, $525; K. S. P. Inka Flush, $520; Lady Artis Segis Pontiac, $405.

Charles Anderson, Burbank: Lady Korndyke Lilith, $550; Meadhart Lilith, $215.

Emil Mehl, San Diego: Dora Netherland Segis, $425; K. S. P. Lucy Wayne, $315.

A. H. Moore, Huntington Beach: Susa Newton 3rd, $385; Queen Roderick De Kol, $180.

Carl Ray, Lankershim: Annie Langtry Alcartra De Kol, $350.

Charles Huggenberger, Lankershim: Butterfly Segis Sadie, $325.

V. Del Fonte, Van Nuys: Rose Beets Juliana, $385.

W. R. Simpson, Lankershim: Anoakia Princess Walker, $175.

George Wilson, Los Angeles, Meadhart Pietje, $335.

S. Edmondson, Compton: Belle Ormsby Hengerveld Skylark, $200.

W. W. Gates, Lankershim: Twisk Segis Agatha, $260.

Dr. L. M. Hurt, Pasadena: Beauty Pietertje Pauline Pontiac, $285.

W. D. Hamilton, Van Nuys: Piebe Hazelwood Fayne, $225.

# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

**Slobbering**

I have a mare that about two years ago had an abcess form at the root of her tongue from barley beards and it broke out under her throat. I fed her bran and alfalfa until nearly healed then put her on green pasture until it healed completely. At the time of the abcess she slobbered badly. I had a veterinarian fix her teeth as he said that was the trouble. When she came from pasture she seemed all right but in a few weeks began slobbering again and I had another veterinarian fix her teeth, which was about a year ago. Now she is worse than ever. Have the barley beards permanently injured her or shall I have her teeth treated again? Have fed only oat hay since her trouble.—Subscriber, Carlsbad.

Slobbering is caused by indigestion or by eating certain kinds of feed or by irregular teeth. First we would advise reducing the feed by giving a small amount in the morning and at noon and a fair amount at night. Give a teaspoon of baking soda in the feed at night. The teeth should be in proper condition but it is a fact that only a few veterinarians are good dentists. We would advise having the teeth properly cared for but can not advise who to get to do it.

**Sow Ailing**

My Duroc-Jersey sow has a large lump on the front part of her stomach and there is an opening in the center of it from which a thick rotten flesh runs slowly. The lump has been there since August. Can it be a cancer? Is it safe to let her run with other sows? —Subscriber, Chowchilla.

She may have a splinter in it that broke off. Split it open and examine it. Scrape out all you can and wet the cavity twice a day with a solution of permanganate of potash, using two drams of it to the pint of water.

**Pig Swelling**

I have several sows that have had pigs within the last four weeks. One pig began to swell a little when about two weeks old. I watched him and found that the swelling increased slowly. He was active like the rest of them but would often stand in one place for a time. At first a little water ran from the eyes but that soon stopped. The rest of the pigs seem to be all right. After two weeks I killed him as he seemed to be in some misery. The bowels contained a substance like half digested alfalfa, and had a great deal of air in them. In the stomach I found air and a substance about the color and appearance of a hard boiled egg. Would appreciate any information on the subject.—Subscriber, Bakersfield.

There may have been an obstruction in the bowel, way back. The writer has seen such cases and found that the cause was a closed bowel that had been so from birth. It is hard to understand how they can live, but they will for several weeks and seem to enjoy very good health and grow almost as fast as the others.

**Wire Cut**

Have a horse with a bad wire cut above the knee. It has healed but left a swelling and the knee is stiff. I walk him every day. What will reduce the swelling?—Subscriber, Chowchilla.

Grease it with bacon fat. That will soften it and reduce the swelling in time. Those cases do not yield quickly to treatment. Keep on exercising him.

**Gorged with Milo**

I have a cow that was fresh in June. She gave ten quarts of milk until the last of July when she broke into a field of milo and sugar cane. I watched her

(Continued on Page 551)

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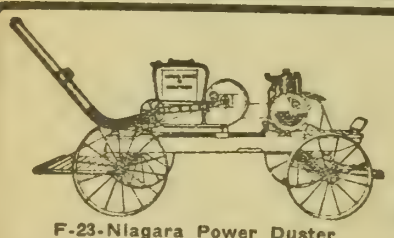

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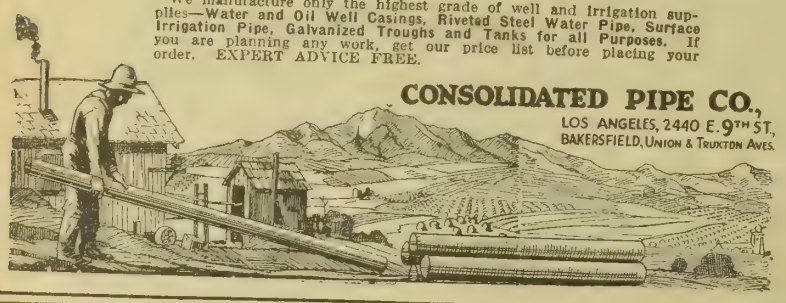

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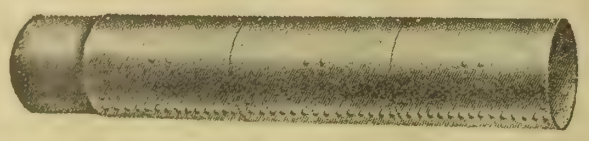

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# Honey in San Diego

By Robert R. McLean, Horticultural Commissioner, San Diego County

THE present season marks one of the best honey flows, if indeed not the very heaviest, ever experienced by San Diego County apiarists. Our normal average of extracted honey in other years has been about three-quarters of a case per hive, and in some of the bettter located apiaries perhaps a case to the hive, but this year many commercial beekeepers have extracted from one case up to two or even three cases per hive, spring count.

Display of San Diego County Beekeepers Association at County Fair

This splendid yield is directly due to two factors. First, the heavy and continued rains of the past winter brought out an unprecedented bloom on such honey plants as the sages, deerweed or wild alfalfa, wild buckwheat, mountain lilacs and countless others that produce honey in varying degrees of quality, flavor and body. The white and black sages in particular, from which our lightest colored and most delicately flavored honey comes, have bloomed more profusely than for many years, resulting in a very large proportional flow of the lighter grades of honey. Second, constant supervision of the apiaries by the county authorities and intelligent handling by the beekeepers themselves have resulted in the diseases being reduced to a minimum, thereby putting the apiaries, so far as disease is concerned, in the very best possible condition to take advantage of the honey flow.

San Diego County has always been a leader in honey production, for a number of years holding the record as the heaviest producer in the state. The first carload of honey ever sent east from California came from this county, being shipped by the pioneer apiarist, John S. Harbison, some time subsequent to 1869. The industry has grown steadily until at the present time there are 825 registered beekeepers here, controlling some 40,000 hives, not all of which are in commercial apiaries, however.

Last year's honey production in the county amounted to some 700 tons, or about one-sixth of the total output of the state. This year prominent beekeepers estimate a San Diego County yield of nearly 80 carloads of 20 tons each, or approximately 3,000,000 pounds, the larger portion of which consists of light, extra light, white and water white grades. If the state production this year goes to 12,000,000 pounds, a gain of 2,000,000 pounds over last year, San Diego County will have produced one-fourth of the entire amount, probably a larger yield than that of any other county.

The exceptional rains of the past winter undoubtedly benefited all sections of the state, but the honey plants in San Diego County's vast mountain region certainly received more direct benefit than those in other districts where the normal rainfall is heavier.

Largely because of the interest a very heavy honey flow naturally stimulates, a remarkable exhibit of bees, honey, honey products and appliances was put on at the San Diego County farm bureau fair, excelling anything of the kind attempted here before.

It is unfortunate that the present price of honey is only the approximate cost of production. Many apiarists are holding their honey in the hope that the recent tariff laws will benefit them by discouraging importations from foreign countries. The money value of the honey produced in this county is considerable and much credit is due the men who have persistend in the industry in spite of adverse conditions.

# Applying for Delhi Lands

The farms and farm laborers' allotments of the fourth and last unit of the Delhi state land settlement are now open for the inspection of all who desire a home in that colony. Until November 30, intending settlers can make filings on equal terms. Applications will not be considered until the end of the month. On November 30 all the applications will be dealt with by a board. Where there are several applicants for a single farm the board will decide after a hearing who is to obtain it. There are in all 105 farms and eight farm laborers' allotments. Some of these adjoin or are near the Ballico station on the Santa Fe railway and the others are near the Delhi station on the Southern Pacific.

Applicants are already visiting the farms and looking over the development of the older part of the settlement. There are now about 240 settlers at Delhi, and this gives those looking for farms a chance to see the working of the state land settlement policy and learn what can be done with this land.

In order to save time and money for applicants, Dr. Elwood Mead, chief of the land settlement division, whose headquarters are at Berkeley, intends to spend the greater part of November in Delhi. In this way he can deal directly with applicants.

Since notice of the opening of this land to settlement was sent out letters of inquiry and applications for farms have come in from widely separated sections of the United States. The land settlement division hopes that most of the settlers will be Californians. It believes that this opportunity for young men and women of this state to get a farm of their own under conditions that require no more capital or practically any larger payments than they would have to pay as renters, should go mainly to people of the state. There is a selfish reason also in hoping that most of the settlers will be from California because they have a knowledge of California agriculture and need less advice and direction.

### YEARBOOK 1921

The United States department of agriculture Yearbook for 1921 is being mailed to constituents of senators and representatives and the few copies available from the department are being supplied to correspondents and collaborators. As was the case with the volume for 1920, the volume for 1921 is bound in buff cloth instead of the old familiar dark blue or black.

As to contents the first part of the book is given up to the report of Secretary Wallace, the remainder to "A Graphic Summary of American Agriculture" based largely on the census of 1920. With it, however, are the usual statistical tables giving productions for 1921 and three or more preceding years. The make-up of the book is materially different from that of its predecessors. Instead of the discussion of cultural practices or descriptive articles similar to those which might be used in agricultural magazines there is an extended discussion of the marketing problems affecting four of our principal crops. However, we will allow Secretary Wallace to make his own statement. Here is from the foreword:

"The Yearbook for 1921 is a departure from previous Yearbooks. It represents an effort to present in a somewhat detailed way the economic situation with respect to four of our principal agricultural products—wheat, corn, beef, and cotton. The subject is treated in four separate chapters. These discussions take the place of the briefer, less comprehensive articles, chiefly on production subjects, presented in previous Yearbooks. A graphic summary of the agricultural census of 1920 is added, and the statistical section has been strengthened by the inclusion of cost of production data and by some new statistics of marketing and production.

"The Yearbook for 1921, therefore, emphasizes the economic side of our agriculture, because help in their economic problems is now the most urgent need of our farmers. That is not to say that the department of agriculture is losing sight of production matters. The farmer needs all the help in his production problems that the department and the agricultural colleges and experiment stations can give him, but the thing of most importance now is the development of an entirely new realm of organized knowledge bearing upon the economic factors of agriculture, looking toward cheaper production, improved methods of distribution, and the enlargement of markets, all to the end that prices the farmer receives shall be more fairly related to his cost of production."

Succeeding volumes will take up other products.

In a personal letter Secretary Wallace says: "The four articles have been prepared with a great deal of care and through the cooperation of various bureaus in the department. What we have tried to do is to give a correct picture of these four major activities. It is planned to pursue this policy with the next three Yearbooks. The one for 1922 is already well under way. We hope to have most of it ready for the printer in January and hope to have the complete book ready for delivery in the late winter or early spring. The delay this year was unavoidable because of the change in plans."

### AMERICAN FEDERATION OF FARM BUREAUS

The Sherman Hotel in Chicago will be headquarters for the fourth annual convention of the American Farm Bureau Federation, December 11-14. Arrangements have been completed for taking care of the delegates and housing the convention. A block of 200 rooms has been reserved for the delegates. Those who want reservations should write at once to A. R. Simpson, American Farm Bureau Federation, 58 East Washington Street, Chicago.

Reduced rates on all railroads leading into Chicago have been secured. Delegates may make the round trip from any point in the United States at the rate of a fare and a half. The rates are made available by the certificate plan used last year. Purchasing dates have been set far enough ahead to permit arrival in Chicago in time to attend a part of the International Live Stock Exposition.

Purchasing dates are from December 5 to 11, inclusive. Tickets from distant points may be purchased on the 4 to 10, inclusive. December 18 will be the last day on which tickets may be validated at the reduced rate for the return trip.

In buying tickets, buy a regular one way traffic fare for the going trip. When purchasing same, ask for a certificate. Do not make the mistake of asking for a receipt.

### UNIVERSAL DEMAND FOR FEDERAL POTATO GRADES

More than 75 per cent of the buyers of potatoes in carlots are demanding that shippers do business on the basis of United States grades, a survey among field representatives of the United States department of agriculture shows. "It is almost impossible for us to sell any potatoes except strictly United States No. 1," a leading buyer declared. "Buyers also insist that each bag be tagged United States No. 1. They like branded bags and we believe they are a big help in getting repeat orders. If a customer gets some nice potatoes under a certain brand, he will want more of them."

Another buyer said: "We believe that it is more essential this year than ever before to have potatoes put up strictly No. 1. Should a car arrive on which government inspection shows 10 per cent off-grade, the buyers simply deduct 10 per cent from their invoice, paying only for the number one stock, and nothing for those under grade. You can readily see what a loss it would mean, having prepaid freight charges on a waste of 10 per cent of the potatoes in a bag."

The October crop report forecasts the potato crop at 433,015,000 bushels. While this is a drop of a little over 5,000,000 bushels from the September estimate, larger per capita production than consumption is indicated, and the department of agriculture is continuing to urge growers and shippers to grade their potatoes strictly according to United States No. 1 specifications. Only in this way can producers hope to move such a large crop at a profit.

### TRANSPORTATION PROBLEMS BEFORE FRUIT GROWERS AND FARMERS

The California Fruit Growers and Farmers Convention will be held at Sacramento, December 12-14 instead of November 21-23 as first announced. It is hoped to secure representation from the interstate commerce commission for the opening session will be devoted primarily to transportation questions, setting forth the problems which have been met during the past two years and the needs for 1923. At this meeting will also appear representatives from 11 western states.

The interstate commerce commission, after considerable persuasion granted California fruit men priority rights on refrigerator cars during the peak of the shipping season, and while this materially helped the situation it was by no means a solution of the problem. With our increasing crops we can use several thousand more cars. Possible solutions of this problem will be pointed out at the December meeting.

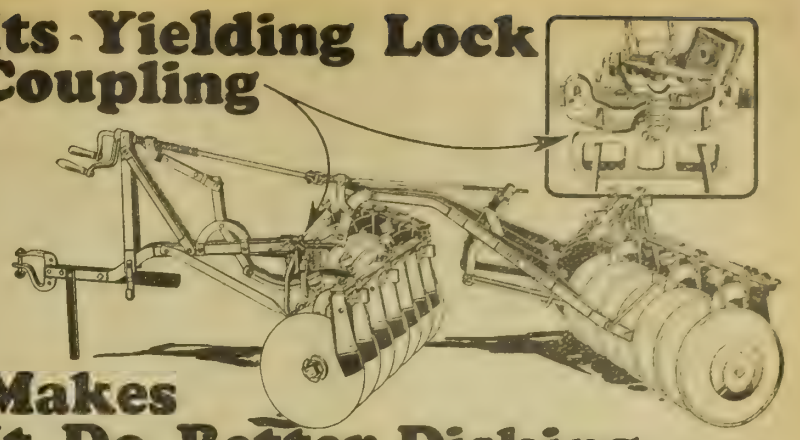
Book Review

### THE HOME GARDEN

The Home Garden by L. C. Johnson, published by author, Pomona, at 25 cents.

This booklet has 48 pages illustrated with several halftones, and touches upon all phases of gardening as carried on in Southern California. In the preface the writer says: "It is my endeavor to point out to the reader the best and most practical way of doing things right and how to avoid mistakes. A successful gardener must be more than a cog in a wheel and just revolve as the wheel goes round. He must be endowed with initiative and reasoning faculty, and if he has these qualifications this book will teach him how to use them.


Its Yielding Lock Coupling



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Ask your John Deere dealer about the *exclusive* aligning device on the Model "L"—another John Deere feature; adjustable hitch; adjustable scrapers; convenient grease cups and slotted gang couplings.

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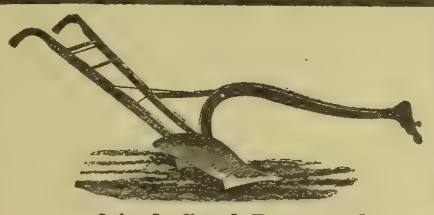

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**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

**Mr. and Mrs. Poultry Farmer:** 200,000 baby chicks for 1923 delivery from Hoganized flocks of fully matured breeders. No pullet eggs used. White and Brown Leghorns, Anconas, Minorcas, R. I. Reds, Barred Plymouth Rocks. Send your orders now. Will deliver when you want. Ansel W. Robison, 1196 Market St., San Francisco. Oakland Branch, 1737-39 Broadway, Oakland.

### BABY CHICKS

**White Leghorns, Anconas, R. I. Reds.**
Order now for Fall and Spring delivery

THREE MONTH OLD PULLETS
All selected—no culls

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ORANGE COUNTY HATCHERY
Santa Ana, California

**Penn's Quality Barred Plymouth Rocks and White Leghorns.** The last word in Barred Plymouth Rocks, 12 1sts; 8 2ds; 2 3rds and 5 specials at Fresno, Tulare and Los Angeles County Fair this fall in varied competition. True values in hatching eggs, day-old chix and breeding males from an egg strain established in 1908. The only hatchery who are specialty breeders of Barred Plymouth Rocks. GOLDEN RULE POULTRY FARM & HATCHERY, Porterville, California.

**Baby Chicks** every week until November 15th. Booking now for 1923 delivery. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write now for circular, and price list of real Producers. Order pullets now for delivery any time. Stubbe Poultry Ranch & Hatchery, P. O. Box 67-E, Palo Alto, California.

**Poultrymen Attention.** We are now booking orders for hatching eggs, baby chicks and 8 weeks old pullets, from our well selected and culled heavy laying utility stock. S. C. White Leghorns exclusively. Only a few more dates open for hatching eggs. All our cockerels are from trapnested stock. Pine Tree Poultry Farm, Los Gatos, Calif.

**Baby Chicks** of best quality are hatched in our Petaluma Electric or Hot Water Incubators. Buy chicks hatched in Petaluma Incubators or hatch for yourself. Send for advance circular and let us tell you something worth dollars to you. Petaluma Electric Incubator Co., Petaluma, Calif.

**For Sale**—Pedigreed White Leghorn Cockerels—Mother laid 252 eggs at Santa Cruz egg laying contest. Father's mother laid 306 eggs, grandmother, 312 eggs. The egg habit can not be fed into a hen, it must be bred in. California Poultry Farm, R 1, box 160, Modesto, California.

**Watch Us Grow** Quality Chicks. Booking orders now for the season of 1923. Brown and White Leghorns, Barred Rocks, Rhode Island Reds and Anconas. Order early. Ohlen's Hatchery, Campbell, California.

**S. C. White Leghorn Day Old Chicks and eggs** for hatching from stock bred by the late Walter Hogan, author of the Call of the Hen. Inquiries cheerfully answered. WALTER HOGAN COMPANY, Petaluma, California.

**White Leghorn Baby Chix** for summer and fall months from stock Accredited by Sonoma County Farm Bureau. We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Booking Orders Now for Fall and spring** delivery. Trap nested, single comb White Leghorn chicks, few pullets and pedigreed cockerels. Pramme Poultry Ranch, Los Molinos, California.

**Anconas**—Cocks, Cockerels. Satisfied customers for five years. We pay return express charges if you are not satisfied. $2.50, $5.00, $7.50 each. A. S. Wilkinson, Winton, California.

**Slighty Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

**Silver Campine Males** from prize winning stock $5.00. Roy Ward, Lindsay, Calif.

## POULTRY

**Hi-Grade Chicks For Less**—We want every one who reads this advertisement to write to us today for our new price list, just off the press. You will make a costly mistake if you are interested in BARRED PLYMOUTH ROCK, R. I. RED, W. LEGHORN, or ANCONA BABY CHICKS; if you do not get our prices. By FAIR, SQUARE, and HONEST dealing HARGETT & SON for the past seven years has made thousands of good boosters. We offer chicks from what we believe are the best flocks in Southern California, at a price that will surprise you. Output for 1923; 8000 chicks a week. Hargett & Son, Route 2, Box C, Compton, California.

**Profitable Poultry News**—Capacity 200,000 chicks off every week of year. One customer's history: In 1919 bought 1000 Leghorns; 1920, 1200; 1921, 1200; 1922, 1200 Leghorns, 5000 Reds; for 1923, 10,000 Reds alone. Why? Many practical specialists producing the best in 21 varieties for every kind of market. 200-280 egg strain Leghorns, Reds, Rocks, Minorcas, Anconas, Wyandottes, Brahmas, Andalusians, Orpingtons, Ducks, Turkeys. For quarter century imported, trapnested, selected for vigor, growth, beauty, eggs. Booking ahead reduced for every winter, Spring month. Mail address: Profitable Poultry, 13 North Fair Oaks, Pasadena.

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FIRST HATCH NEW YEARS DAY

We specialize on Hyde and Ramer White Leghorns; "Hill Crest" Reds, and Buhrman's White Wyandottes. We also hatch choice Brown Leghorns, Anconas, Black Minorcas, Barred and White Rocks, Reds, Cornish Game, Silver Laced Wyandottes and Buff Orpingtons. Descriptive folder gladly sent from THE ARCHIBALD HATCHERY, B. W. Archibald, Proprietor, Soquel, Santa Cruz County California.

**Certified White Leghorn Baby Chicks,** hatched in the world's largest Electric Hatchery, for Spring 1923 delivery. January prices $4.00 per 25; $8.00 per 50; $15.00 per 100. Special prices 500 and 1000 lots. Order early chicks now and realize big broiler profits. Choice free range, high egg producing breeding flocks. Inspected by Sonoma County Farm Bureau. Safe arrival guaranteed. Must Hatch Incubator Company, 438 Seventh St., Petaluma, California.

**Baby Chicks** from my purebred flock of S. C. White Leghorns, a result of 17 years of most careful selecting for laying and standard qualities. Orders taken now for spring delivery 1923. Good, strong chicks of high quality at reasonable prices. J. R. Heinrich Poultry Yards, Arroyo Grande, California.

**For Sale—White Leghorn Cockerels** from trap nested stock. Record of females 251 to 290 Tancred males mothers 280 to 312. Also cockerels full blooded famous Wyckoff stock. H. M. Lyman, San Jacinto, Calif.

**Booking Orders Now for Fall and Spring** delivery. Order now, prompt delivery. Rhode Island Reds and White Leghorns. All orders given prompt attention. Oroville Hatchery, Irene Uren, Prop., Oroville, California.

**Baby Chicks of Seven Varieties.** Order now for early Spring delivery from Fresno headquarters. Rohrs & Anson, 2028 Belmont Avenue, Fresno, California.

**Pacific Poultryman,** West's oldest and best poultry magazine. Special rate two years $1.00. Trial subscription four months 25c. Seattle, Wash.

**Thoroughbred Black Leghorn Cockerels** and Pullets for sale. Max O. Burkhardt, Boonville, California.

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**Manufacturer of Garden Tractor** now doing business in all parts of the world is offering extensive territory to dealers and agents. This is a sturdy, practical and proven power cultivator for truck farmers, nurserymen, florists, home gardeners, suburbanites and small fruit growers. Big profits. Unlimited field. Machinery experience unnecessary. American Farm Machinery Co., 2531 University Ave., S. E. Minneapolis, Minn.

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**For Exchange**—1 Acre; 5 room house; chicken house for 800. 500 chickens included with place. Want small dairy ranch, Manteca or Ripon. John Robins, 16 Locust St., Santa Cruz, California.

## GEESE

**For Sale—Mammoth Geese** $5.00 each—will not last long at the price. An early order gets the bird. Chas. McNeely, Alpaugh, California.

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BUY DIRECT FROM THE OWNER
Irrigated river bottom lands in Sutter County. Rich, deep soil with a complete irrigation and drainage system. Southern Pacific Railroad and Sacramento River Transportation. Liberal terms, six per cent interest.
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**Level Irrig. Land,** plenty water; 5 to 7 cuttings alfalfa per season; Shasta County takes first prize at State Fair on prunes. Produces top quality all fruits and berries. Prices $50 to $200 per acre, easy terms. Stock, dairy and mountain ranches, all prices. No snow. G. E. Oaks, Redding, California.

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**For Sale—180 Acres** in famous San Joaquin Valley. Fenced, cross-fenced, good buildings, plenty of water for alfalfa and rice. Two crops grain, wheat or barley followed by corn. Fine grape land. Will divide to suit. Write owner, C. L. Bartlett, Wasco, California.

**A Post Card** will bring you a list of little farms and chicken ranches in the famous San Gabriel Valley near Los Angeles. Fred W. Kelsey, 209 So. Rosemead Avenue, El Monte, California.

**For Sale**—50 acre bearing orchard on highway near Chico; prunes and pears; easy subdivision. A good home. Levi H. Maxwell, RD. 1, Chico.

**Florida—Information Indian River Section;** book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**Write C. E. Canfield,** Santa Cruz, for information on bulb, artichoke, poultry and pear lands.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## GOVERNMENT LAND

**Attention:** Million acres Government land for farming, grazing, timber. Near R. R. Plenty water. Send for folder. Rally 941 So. Union Avenue, Los Angeles, California.

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**For Sale**—Rebuilt windmills, tanks pumps, cylinders. Another cut on these articles. New galv. tanks better work for less. 10 sizes, 175 to 2000 gallons capacity. Special 600 gallons, $25.25; 1000, $35.25; 2000, $48.25. Used redwood, 3000, $38; 5000, $48.00; 8000, $68; 12,000, $88; 25,000, $135; 50,000, $235. Fine shape and about 35 per cent of first price. Call, write Demmitt Co., 120 N. Main, L. A.

**For Sale**—King 8, $250 cash. Can use furniture. Auto has Victoria top. Fine looker. Good mechanically, touring cost $2600. in '17. Why ride in tin Lizzie. Use it a year turn it in on new car. Furthermore, has $100 worth extras. Ask anybody who owns one. Call, write Demmitt Tank Co., Brdy. 1984. 120 North Main, L. A.

**For Sale**—12 foot John Deere Grain Drill with Grass Seed attachment. Practically new. L. M. Railsback, 115 South Los Angeles, Los Angeles, California.

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**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aaggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

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**For Sale**—10 cows, bull, heifer calf, Hinman milking machine, all dairy tools, milk bottles, stanchion, corral, fence $1500. George A. Rice, R. 2 Box 105, Anaheim, 3 miles west of Anaheim on County Road.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

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**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

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**High Class Jersey Bull Calves** for sale, from R of M Dams. Grant A. Brown, El Monte, California.

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**Natural Leaf Tobacco.** Chewing 5 pounds $1.75, 10 pounds 3.00; Smoking, 5 pounds $1.25, 10 pounds 2.00, 20 pounds $3.50. Pay when received. TOBACCO GROWERS UNION, Paducah, Ky.

**Hemstitching and Picoting Attachment;** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

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**3-Pound Box Absolutely Boneless Codfish,** fine, white, new catch fish, delivered by mail, $1. Coffin Fish Co., Seattle, Wash.

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**For Sale**—Bourbon Red Turkeys of large size and good markings. Young Toms and Pullets, also a few yearling hens. Henry E. Hill, Route C, Box 132, Hanford, California.

**Berry's Giant Bourbon Red Turkeys.** A real Western Strain—Giants in size and wonderful color. Sweepstakes winners last two California State Fairs. Write for circulars. J. J. Berry, Oakdale, Calif.

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

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**For Sale—Wild Turkeys**—Best, cheapest, most certain and indispensable producers. Cash deposit secures stock. Blanche Dresser, Route C, Box 194, Tulare, Calif.

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**For Sale**—Registered Percheron Stallion, "Avelene 11" Kentucky bred saddle stallion "Jack Rogers" and three saddle horses (two geldings and one mare). Also three registered Jersey bulls by "Merry King Pogis" and five young Hereford bulls (Repeater strain) all ready for use. These can be seen at the ranch which is seventeen miles north of Santa Barbara on the main highway or particulars can be had through the mail on application to the Secretary. DOS PUEBLOS RANCHO, Naples, Santa Barbara County, California.

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**White King Pigeons**—Selected and mated for breeding at $5.00 per pair. Orchard Lofts, Box 306, M. V. R., Oxnard, California.

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Sweet Clover. White Blossom Per lb. 14c
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**Write For Prices** on fourteen different samples of alfalfa seed for your trial plot and free circular telling how each kind behaves under California conditions BOMBERGER SEED COMPANY, P. O. Box 986, Modesto, California.

**Strawberry Plants For Sale**—200,000 Mountain grown strawberry plants, Banner and Magoon. All stock first-class and strictly true to name $10 per 1000. Juan Rodriguez, Arroyo Grande, California.

**Raspberry Snell Has It.** The wonderful Giant everbearing Red Raspberry La-France. Many of the berries are one inch in diameter, delicious flavor. Order your plants now from Ralph L. Snell, Mountain View, California.

**Rooted Vines**—700,000 Alicante Bouchet Rooted Vines; hardy and well rooted. These vines have been inspected, certified and guaranteed true to name. They do not require dipping. Direct from Grower to You. F. C. Chapman & Son, Box 906, Modesto, or phone 1372 or 663.

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**Cory's Thornless Blackberries**—One year strong transplants from heavy producing vines. 12—$2.00 postpaid. Wm. Mortenson, Route 4, box 20, Lodi, California.

**Best D. Lotus** seed for Japanese Persimmon stock, also choice budded Japanese persimmon trees. It will pay you to write me today. Fred W. Kelsey, El Monte, Cal.

**Carolina Strawberry Plants** for fall planting. The most prolific and best berry. Gives crop the first year. For sale in large quantities. Write for prices. G. M. Hawley, El Cajon, Route No. 2.

**Strawberry Plants**—Passed thorough inspection. Progressive Everbearing $1.50 per 100 prepaid. Gold Dollars, Magoons, Oregons, $5.00 per 1000. F. O. B. J. W. Vinacke, Aurora, Oregon, R. 1.

**Guaranteed Best Grade Sour Orange Seed** $55 per bushel. $53 five or more bushels. Cash with order. G. Lee Anderson, Leesburg, Florida.

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**For Sale—Giant Argenteuil Asparagus Crowns.** Mather's Avocado Nursery, 160 Ventura Street, Pasadena. P. O. Box 585, Phone Colorado 6044.

**500,000 Carolina Strawberry Plants,** guaranteed true to name $5.00 per 1,000. Address, I. Asbeck, Route 2, El Cajon, California.

**Strawberry Plants,** Brandywine, Gibson, Carolina $5 per M. Banner $10—from new planting, all stock inspected. E. A. King, 1158 W. 4th St., Riverside.

**Cory Thornless Blackberry**—Large 2-4 ft. plants ready, 12, $2.25 postpaid. Satisfaction guaranteed. Illustrated folder. Chas. Mortenson, Lodi, Calif.

**We Carry a Complete Stock** of Vegetable, Flower and Field Seed. Turlock Seed Company, Turlock, California.

**For Sale**—50,000 Black Monukka grape cuttings $50 per thousand. Chris Westgard, Brawley, California.

**For Sale**—Rooted grape vines. Y. Lee, P. O. Box 270, Delano, California.

**For Sale**—About a million cabbage plants. L. C. Johnson, Pomona, Cal.

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**Get My Prices** on Japanese persimmons, Kadota and Black San Pedro figs, Concord grapes, Muscats, Malagas and Thompson Seedless, rooted and Black Monukka cuttings. Nursery stock growing at El Monte, and Vista near San Diego. Easily accessible to Southern planters. Good stock at right prices. Fred W. Kelsey, El Monte, Cal.

**Grafted Walnut Trees** on Northern California Black Roots. Placentia Perfection, Eureka and Payne. Tuscon, Phillips and Lovell Peach Trees. Stock first-class. Prices reasonable. Los Nietos Valley Nursery, Downey, California Phone 692.

**Fruit Trees and Grapevines**—Still have unsold few varieties grapes grafted on resistant root. We ship all stock on approval, if not entirely satisfactory return at our expense. Write for our special prices. J. F. Miller & Sons, Healdsburg, California.

**California Black Walnut Seedlings,** three-four feet. Send for sample. Ripon Nursery Company, French Camp, California.

## TREES

**For Sale—Florida Sour Orange Seed Bed Stock** from fruit growers seed. All leading varieties Avocados, grafted Placentia Walnuts. Mathers' Avocado Nursery, 160 Ventura Street, Pasadena. P. O. Box 585, Phone Colorado 6044.

**Trees and Plants**—All kinds, Berries and Small Fruits a specialty at lowest prices. Over 25 years in business. Send for price list. M. J. Moniz, Berry Specialist, P. O. Box 264, Sebastopol, California.

**Nursery Stock**—We specialize in growing all kinds of fruit and nut trees. Also Grafted Grape Vines. Send for price list. We feel sure we can please you. Santa Rosa Nurseries, Fred Baruch Company, Santa Rosa.

**Citrus Trees**—1500 Marsh Seedless Grapefruit trees. 1500 Washington Navel Trees, 2500 Valencias, 500 Eureka Lemon. "Fruit Growers Supply Co. Buds used." F. A. Tetley & Son, Riverside, California.

**For Sale—Wonderful Pomegranite Trees.** Rooted grape vines, all varieties of mixed fruit trees and ornamental trees. Write, W. M. Burton Nursery, Box 43, Porterville, California.

**For Sale Grafted Walnut Trees** for searus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E 4th Street, Santa Ana, California. Phone 572-W.

**5000 Grafted Walnut Trees on Northern** California Black Root Stock, Placentia Perfection and Eureka varieties. Reasonable prices. F. A. Tetley & Son, Riverside, California.

**For Sale—Grafted Walnut Trees** for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**For Sale—Hachiya Persimmon Trees,** grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

**Palms**—Washington Robusta, Phoenix Cararíensis. All sizes—Reasonable. F. A. Tetley & Son, Riverside, California.

**Tree Agents** and working partner wanted. Cash Nursery, Sebastopol, Cal.

## DUROC-JERSEYS

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

## HOGS

**Tamworths, The Bacon Breed.** James J. Summerfield. Santa Rosa.

## STORRS EGG LAYING CONTEST

Storrs, Connecticut, October 31, 1922. —Final report for the year.

Hollywood Farm's pen of White Leghorns from Hollywood, Washington, won the eleventh annual egg laying contest conducted by the Connecticut agricultural college at Storrs. The final score of the pennant pen was 2,215 eggs, or an average of more than 221 eggs for each pullet in the pen. Unlike the winners in some contests this pen lagged behind for a large part of the year, but steady laying in the fall months and a strong spurt during the last three weeks put this pen under the wire a winner by 48 eggs. Hollywood Farm finished in second place a year ago and in fourth place two years ago. During the last three years their three pens, consisting of 30 birds, have laid 6,552 eggs, or an average of 218 eggs per hen, an enviable record for consistently good laying. Leghorns have not won the contest since back in 1914 when Francis F. Lincoln of Mt. Carmel, Connecticut, sent in ten pullets that proved to be the best layers in the country. The following list shows the winning breeds at Storrs during the last ten years.

| Year | Breed | Score |
|---|---|---|
| 1913 | White Leghorns (only 5 birds | 1190 |
| 1914 | White Leghorns | 2088 |
| 1915 | White Wyandottes | 2072 |
| 1916 | White Wyandottes | 2265 |
| 1917 | Barred Rocks | 2119 |
| 1918 | Oregons | 2352 |
| 1919 | Barred Rocks | 2022 |
| 1920 | Barred Rocks | 2234 |
| 1921 | White Wyandottes | 2234 |
| 1922 | White Leghorns | 2215 |

There was a total of 1000 hens entered in the contest. They came from 14 states, England and one province in Canada. The laid a grand total of 162,857 eggs, the second highest annual lay in 11 years. The following table shows the number of birds in each of the principal classes, the average individual egg yield for the year, and the general average for all varieties that took part in the contest.

| | |
|---|---|
| 100 White Wyandottes | 168.4 |
| 400 White Leghorns | 165.6 |
| 260 Plymouth Rocks | 162.0 |
| 240 Rhode Island Reds | 156.8 |
| 1000 Average all breeds | 162.9 |

Barred Rock Hen No. 28 owned by the agricultural college at Guelph, Ontario was the outstanding individual in the contest. Her production of 301 eggs in the 52 weeks makes her the second best hen ever trap-nested at Storrs and during the last ten years over 10,000 hens from Canada, England and 30 different states have tried to reach this pinnacle of hen fame. The second best hen in the contest was White Wyandotte No. 264 from Tottington, England, with a mark of 277 eggs. In the White Leghorn group hen No. 672 in the winning pen was high with a score of 276 eggs. In the Rhode Island Red class hen No. 599 from Southboro, Massachusetts, was at the top with 250 eggs. The best Connecticut hen was White Wyandotte No. 328 from Woodbridge with a record of 265 eggs.

### Pen Records for the Year

Hollywood Farm, White Leghorns, 2215; Frank P. Matteson, White Wyandottes, 2167; Harry G. Culver, Barred Rocks, 2124; W. H. B. Kent, Barred Rocks, 2043; Woodbridge Orchards, White Wyandottes, 2037; Walter Bradbury, White Wyandottes, 2008; Ontario Agricultural College, Barred Rocks, 1983; H. E. Dennison, Barred Rocks, 1959; George B. Ferris, White Leghorns, 1953; The Orchards, Rhode Island Reds, 1940; Rapp's Leghorn Farm, White Leghorns, 1937; Andrew D. Ohr, White Leghorns, 1935; Goshen Poultry Club, White Leghorns, 1933; Michigan Poultry Farm, Barred Rocks, 1927; Beck Egg Farm, White Leghorns, 1903; Merritt M. Clark, Barred Rocks, 1879; Meadowedge Farm, White Leghorns, 1869; Small's Poultry Farm, White Leghorns, 1850; Charles D. Pierce, Rhode Island Reds, 1849; Purdue University, Barred Rocks, 1836.

## DAIRY CATTLE SALES AT L. A. UNION STOCKYARDS

One of the features of the new Los Angeles Union Stockyards will be the facilities for dairy cattle sales. A separate pavilion and pens are being erected and every effort is being put forward to make this division of the yards a big feature.

The opening sale will be of 35 head of top dairy cows from Wisconsin which are being consigned to the Simon Livestock Commission who will specialize in this class of business.

Most of these are high grade Holsteins but there are five registered Holsteins and three registered Ayrshires in the shipment. Most of these cows are from accredited herds and all are federal tested and carry federal certificates of t. b. test. They will also be subject to a retest on the sales grounds. The first sale will be held on November 22, 1922, with Rhoades and Rhoades as the auctioneers.

W. G. Simon, head of the commission firm handling the cows, is an old time Chicago man who has been located here for the past two years in which time he has imported over 70 cars of cows from the Middle West.

## NEMATODE EEL WORM

The nematode specialist of the United State department of agriculture, W. A. Orton, has warned Californians that we will always have nematodes with us and should direct control measures along cumulative lines. The most promising lines of work will be the breeding of nematode resistant varieties, especially on all kinds of truck crops; for therein lie our greatest monetary losses.


# A New Discovery Makes Hens Lay

Any poultry raiser can easily and quickly double his profits by doubling his egg yield through the remarkable discovery of M. B. Smith, a Kansas City chemist.

Working along entirely original lines, Mr. Smith discovered why hens lay less in winter than in summer and perfected a formula that turns loafers into layers and profit makers.

Within five or six days this discovery, which is called Ditto Egg Tablets, will rejuvenate your flock. Your hens will go strutting and cackling about with red combs and full of life and pep. Every nest will yield an egg nearly every day in the week, which means a lot, since eggs are certain to sell for 60 cents or more. This is not guess work as over 100,000 successful poultry raisers testify to the value of Mr. Smith's products.

Although different from anything you ever heard of, Ditto Egg Tablets are easily administered by simply dropping in drinking water.

So confident is Mr. Smith you can double or triple your egg yield, that he offers to send two large $1 packages of Ditto Egg Tablets (enough for a season) to any reader who will write for them. If you are satisfied they cost only $1 on this introductory offer, otherwise, nothing.

Send No Money—just your name and address to M. B. Smith, 1217 Coca Cola Bldg., Kansas City, Mo. The two $1 packages will be mailed immediately. When they arrive, pay the postman only $1 and postage. Use the tablets 10 days. If you are not getting more eggs or are not satisfied for any reason, simply return unused tablets and your money will be returned immediately without question. A big Kansas City bank guarantees the reliability of this offer. Write today before this introductory offer is withdrawn, as you can sell one package to a friend and thus get your own free.

# Baby Chicks

**With Laying Strain That Live and Thrive**

Hatched with our new mammoth, forced draft incubators, from pure bred, farm raised, Hegamized stock. This insures you a large fluffy chick, full of pep and grows from the very start.

We are now booking orders for 1923 delivery. Write today for our price list and reserve your delivery date. We guarantee 100% delivery anywhere within 72 hours from Long Beach. We hatch nothing but S. C. White Leghorns and S. C. R. I. Reds.

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PERMANENT PIPE FOR IRRIGATION DRAINAGE CULVERTS SEWERAGE
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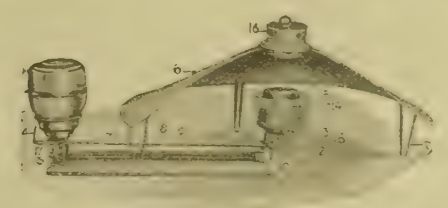

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Eggs are scarce and prices steadily going higher. Every poultry raiser can greatly increase and maintain the daily egg production of the entire flock during the fall and winter by using Imperial Egg Tonic.

All that is necessary is to occasionally drop a few of these highly concentrated tablets in the fowls' drinking water. This standard, time-tested remedy acts as a splendid tonic and blood purifier, stimulating the egg production qualities. Starts hens and pullets laying faster than ever. Every day you put off using Imperial Egg Tonic you are delaying big egg production. Start now to get your share of these high prices

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Send no money. Just your name and address to Imperial Laboratories, Dept. 5100, Kansas City, Mo., and they will send you by return mail, two regular $1.00 size packages of Imperial Egg Tonic (double strength). Pay the postman only $1.00 and a few cents' postage when they arrive. Enough for yourself and neighbor.

NOTE — California Cultivator readers risk no money in accepting the above special introductory offer. Imperial Laboratories are fully responsible, and will refund your $1.00 on request any time within 30 days, if you are not entirely satisfied.



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You know the symptoms—face swollen, running at eyes and nose, comb pale, whistle or sneeze when breathing—catarrhal odor—**that's ROUP.**

**STOP IT QUICK WITH**

**Conkey's ROUP REMEDY**

Just put it in the drinking water. Chickens doctor themselves. It kills the Roup germs and saves the fowl. Equally important as a preventive, for it keeps Roup from getting a start. Sold by dealers everywhere.

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**Keeps Hens Healthy—Gets Winter Eggs**

It is a Regulator, Laying Tonic, Moulting Powder and Chick Conditioner of the highest type. No cayenne pepper—No filler. It pays to buy it by the pail. (95)

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**Coulson Co.**
PETALUMA, CAL.


# Poultry Queries

Conducted by Jean A. Koethen

### Bronchitis

I want to thank you for the help and encouragement you have given me. This is my first year in raising turkeys. I have only 27 but I watch eagerly each week for what you have to say about them. I tried Mrs. H. W. Monroe's treatment for blackhead and it worked like a charm. One of my turkeys makes a noise when breathing. Sometimes he makes a clucking noise as if he were trying to clear his throat and at times wheezes as if he had asthma. I have been giving olive oil with red pepper in it.—Subscriber, Brawley.

Your turkey evidently has bronchitis, for which there is no better cure than olive oil given in doses of 1 to 2 tablespoons twice a day. A one grain capsule given at night sometimes has a beneficial effect, but the best cure is prevention, which means keeping him in a comfortable, dry place and feeding plenty of green. Thanks for your kind words about this column.

### Whole Corn

Is it a good plan to feed whole corn with milo for fattening turkeys?—Subscriber, Brawley.

Whole corn is the best of fattening feeds. Most turkey breeders begin in October by adding cracked corn to the ration of rolled barley which the birds have had during the summer. After the birds become accustomed to cracked corn it is gradually changed to whole corn and the proportion of barley diminished, though it is safer to feed some barley till a week or so befor the birds are to be marketed. Some breeders keep both whole corn and rolled barley before them the last month.

### Amputating Wing Joint

My turkeys must not fly on account of high voltage wires. Can the last joint of the wing of a young turkey be amputated as successfully as that of a chicken? Clipping wings is a great nuisance.—Subscriber, Caruthers.

I have never heard of amputating the wing joint in young turkeys and should not dare advise it. If any reader of the Cultivator has tried this method of controlling turkeys won't they please tell us about it. So many people nowadays are keeping their turkeys closely confined that this would seem to be the way out. If yards are kept clean and plenty of green feed given the turkeys do very well and their owners are saved a great deal of anxiety. Keeping the birds on range is easier in many ways, but where range is not available keeping them in small, covered yards does very well.

### Poultry Adviser

Can you give me the name of some experienced poultryman who makes a business of advising beginners? My hens are not doing well and I cannot afford to experiment.—Subscriber, Ontario.

The county farm adviser is paid for this very thing and will no doubt be glad to look in on you if you ask him. Then you are very fortunate in having close by one of the most active and progressive poultry associations in the state, that at Pomona. A postal card addressed to Cornele G. Ross, Pomona, who is also president of the Poultry Producers of Southern California, will no doubt bring you information as to when and where the association meets. Like the farm adviser, it exists for this very purpose. The poultry division of the University of California also has an extension poultryman who, when he is in this part of the state, is at the service of any poultryman who needs him. A postal card addressed to Poultry Division, College of Agriculture, Berkeley, would put you in touch with him.

### Ventilation

My new poultry house is 20 feet long, 10 feet wide and about 10 feet high and faces west. How many hens will it house, and why are my hens taking cold in it? We find your paper very interesting and instructive.—Subscriber, Middletown.

From 2 to 4 square feet of floor space per hen is allowed according to amount of outside yard space, that is, you can keep more hens in a house if the birds have yards than if they are confined to the house. Many poultrymen allow only 2 feet per hen when they have yards, but this allowance is small. Three square feet is bettter. You ought to be able to house 75 hens comfortably if they have outside runs. You do not say what provision your have made for ventilation. If the front is open (except for nests and hoppers) and you have doors at the ends which will give circulation of air when it is needed your hens should be pretty well supplied with air. Many houses, in addition to open front and doors, also have a window under the roosts for use in very warm weather. The main trouble with your house seems to be its width and height. It is too high and too narrow. There is too much air space above the heads of your birds and not enough opportunity for air circulation in front of the roosts. It also fronts in the wrong direction. The best type of house is from 14 to 20 feet wide, so that the roosts will not fill more than half its width, and not over 7 feet high at its highest point. and fronts south or east, so that prevailing winds are always behind it. I am afraid you will always have colds in that house.

### Air Puff

What makes my chickens swell up, their wings stick out and their feathers stick out? When the skin is punctured the wind escapes and they die in a short time.—Subscriber, Orange.

The swelling comes from a wound or abrasion of the lung tissue and is due to violence of some kind. Little chicks that have been trampled on by their mothers and young roosters that have been fighting often develop this trouble. All you can do is to keep them in a comfortable place and give a nourishing diet, including milk, if possible, and plenty of green feed. Puncture the skin if the swelling is large.

### Nits

Enclosed find sample of feathers from one of my chickens. What is it on the lower ends of the feathers?—Subscriber, Perris.

These are the nits of lice. You will have to dust well two or three times to get rid of them. The first time you will kill the lice that are on the bird. A week later dust again to get the lice that have hatched from the nits. A week later dust again to get what lice are left. Sodium flouride has proved to be a satisfactory louse powder and may be had from any supply house.

### Scaly Leg

What can I do for a scale that has come on a few of my fowls legs? They seem healthy otherwise.—Subscriber, Berkeley.

Your hens have what is known as scaly leg. It is passed from bird to bird by contagion but has its origin in filthy yards and houses. Treatment consists in dipping the legs and feet in a half and half mixture of kerosene and linseed oil or anointing with lard into which an equal quantity of sulphur has been mixed, or soaking well and rubbing with balsam of Peru. Never take a bird with this disease into your flock, for it spreads with surprising rapidity.


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Tryanad!

When your goods stick on the shelves,
Stick—and will not move themselves—
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When biz seems all out and down,
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Tryanad!

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This advice is worth a trial—
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Soon you'll wear a steady grin,
Folks who "try it" always win—
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When you're feeling sad and blue—
Try it, try it, try it—do!

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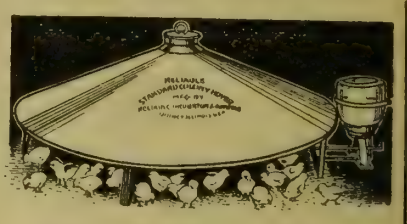

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Burns kerosene (blue flame) on an oil level, without valves to clog. No fumes, smoke or gas, and no overflow of burner.

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42 inch..... 500 chicks or less
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SIZES: (56)
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Hovers
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# Poultrymen's Guide

The value of chickens and eggs produced in California (1919 census) was $34,727,935.00. There is poultry on 92,409 farms in the state—78.5 of all farms. January 1, 1920, poultry of all kinds on farms in California numbered 10,811,183, a gain of 4.723,916 since 1910, indicating the rapid and important development of the industry. At the present prices of eggs, hens and baby chicks and the big demand upon hatcheries for more stock it is wise to order early. The representative advertisers whose announcements appear below are recommended to prospective purchasers.

BABY CHICKS
Hatching Eggs
Breeding Stock

## The Charles Weeks System

of Intensive Poultry and Berry Farms.

### One Acre and Independence

or

### The Fine Art of Earning a Comfortable Living on ONE ACRE IN CALIFORNIA

For those who desire to dwell in sunny California without living up hard earned capital.

For 18 years proprietor of the most intensive Egg Farm in the world and Founder of the Famous Charles Weeks Poultry Colony at Palo Alto, California.

The Charles Weeks Poultry Colony No. 2 is now being established at Owensmouth, California, 26 miles from Los Angeles.

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## We Guarantee 100% Fertility in All Hatching Eggs

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We are now booking orders for hatching eggs and baby chicks from Emerson & Martin exhibition W. Leghorns, also the heaviest egg-laying strains in America and England. It will pay you to arrange for yours now. Make a 10% payment and know that you will have them when you want them.

Our heavy commercial egg-laying hens are mated up to males from Emerson, Martin, Tancred, Hanson of Oregon, Hollywood Farms of Washington, Barron, Ferriss and Hillview Farms of Illinois. Why don't you arrange for some of each. Let us toe punch the chicks and see which produces the type of hen you like best?

HATCHING EGGS—From Nov. 1st to April 1st, 15 for $2.00. In 100 lots, 12c each. In 500 lots, 11c each. In 1000 lots, 10c each. BABY CHICKS—January, February, March. In lots of 100, 25c each. In lots of 500, 24c each. In lots of 1000 or over, 23c each.

WE ALWAYS HAVE THREE, FOUR, FIVE AND SIX MONTHS OLD PULLETS FROM PEDIGREED, TRAPNESTED STOCK

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CALIFORNIA STATE FAIR, September, 1922—First Old Tom; first and second Yearling Tom; first and third Yearling Hen.
SOUTHERN CALIFORNIA FAIR, Riverside, October, 1922—1st, 2nd and 4th Old Tom; 1st, 3rd and 4th Old Hen; 1st, 2nd and 4th Yearling Tom; 1st, 2nd and 4th Yearling Hen; 2nd Young Tom; 1st Pullet.

**AN UNEQUALLED RECORD**

LARGE TURKEYS can be raised at practically the same cost as small ones. It is in the strain. One of our toms will give you five more pounds of meat to market in all his get for the first year, besides vitality and beauty.

Toms and Hens for sale. Eggs in season. Book orders for December and January shipment as each year we are sold out early. Address,

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Capacity 200,000 Eggs

**WHITE LEGHORN CHICKS ONLY**

Order spring chicks now; delivered by our Special Tan colored Auto delivery around your brooder. We have Wyckoff, Hillview, Tancred, England, Beal and other high record male lines. If you want the best in laying strains, tried out and proven for years, buy from us.

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Prices Eggs: $3.00, $5.00, $7.50 and $10.00 per 15; fertility guaranteed. Cockerels, $10.00 up. Visitors Welcome

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White Leghorns, R. I. Reds, Barred Rocks. Also Light Brahmas from an extra fine pen.

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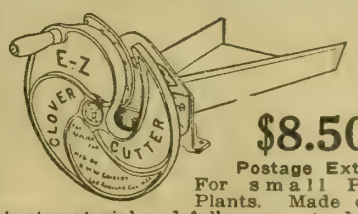


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# Los Angeles Markets

Los Angeles, November 15, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 47 cents.

### CHEESE

Brokers' prices:
California flats, 24.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 61; case count, 55; pullets, 46; pewee pullets, 30.

### POULTRY

Price to producers L. A. produce exchange: Hens, 34; colored, 30; broilers, 36; roasters, 26; old roosters, 14; fryers, 26; ducks, old, 20; ducklings, Pekin, 3½ up, 26; others, 22; geese, 25; turkeys, live, young toms, 33; dr., 38; old, live, 31; dr., 36; hens, live, 32; dr., 37; small hen and tom, 15 squabs, 25@50; capons, 43.

Belgian hares, 12@17; old 8.

### LIVESTOCK

Weekly livestock market summary, Tuesday, November 14, 1922. (Furnished by Federal-State Livestock Market News Service, 1028 Pacific Finance Building, Los Angeles:

Cattle: Plentiful supply at Union Stockyards latter part last week and opening days this week. Good proportion fat steers, mostly from Wyoming, Utah and Idaho. Arizona and Texas had stock here, as well as California. Local packers fairly supplied, movement slow, price tendency downward.

Top of 8.25 was scored Monday on two loads strictly good Idaho steers, averaging around 1100 pounds. String of 195 good Wyoming steers, averaging 1083 pounds, went at 7.80, and 77 Wyoming bullocks, averaging 947 pounds, went at 7.30 with four other loads at 7.25. Shipment of 28 medium Wyoming grassers brought 7.25 Tuesday, with 26 head averaging 1021 pounds at 7.10. Common Arizona steers went as low as 6.00 and on last week's market, tailenders on the cutter order had to go as low as 4.50.

Active demand for desirable beef cows. Saturday's top of 6.50 on strictly good 1024 pound Texas cows. Three cars meaty Jackson Hole, Wyoming heifers scored 6.25 Tuesday, three loads avering 898 pounds, 922 pounds, and 978 pounds. Idaho cows the same day made 6.00, with 814 pound good cows and heifers at 5.85. Other lots went at 5.00 to 5.50, common cows down to 4.00, canners and cutters, 2.00 to 3.50. Bologna bulls pegged at 3.35 to 4.25.

Fairly good demand existed for feeders, shipments going mostly to nearby California points and the Imperial Valley. A string of 53 very good Wyoming feeder steers, averaging 937 pounds, cleared Tuesday to a California feeder at 6.75. A load of good rangey Californiia steers last week brought 6.50 and Arizonas went at 5.50 for feeding purposes.

Calves: Receipts limited to few loads, largely from Arizona points. 88 choice 171 pound Arizona veal calves scored 9.00 Tuesday. Most calves arriving medium to good quality but weighty, bulk of 225 to 275 pounds selling 7.00 to 7.50 with heavy calves, averaging 386 pounds, at 6.00.

Hogs: Bulk of hogs being slaughtered in Los Angeles are coming from Missouri River points, shortage of cars holding down Texas and Oklahoma shipments. Only a few loads of hogs have arrived for sale at the stockyards. A 3-car shipment of porkers from Kings County, California, averaging 179 to 193 pounds, scored 11.00 last week, with 141 pound New Mexico porkers at 10.50. Packing sows averaging 294 pounds, went at 9.00.

Sheep and Lambs: Receipts of sheep and lambs were light and no choice tidy lambs in full fleece have arrived since the opening of the yards. A 3-car shipment of choice Idaho shearlings, averaging 70 pounds, brought 12.75 Saturday. A band of 804 coarse Inyo County, California, lambs had to sell Tuesday at 10.00 with 200 cut at 8.50. The band averaged 93 pounds, being on the yearling order. —Nelson R. Crow, local representative.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, November 14, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement moderate, market steady. Northerns: Rivers, 1.85@2.00; poor, low as 1.60 cwt. Idahos: Russets, 1.75@1.90; mostly, 1.85 cwt. Sweet Potatoes: Locals: Nancy Halls, 2; Jerseys, 2@2½ lb. Northerns: Nancy Halls, 3 lb.

Onions: Demand and movement moderate, market firm. Stocktons: Yellow and White, 2.25@2.40 per cwt. Locals: Whites, 60@75; Spanish, 75@90 lug. Garlic: Mex. and Northern, best, 8; poorer, 7.

### FRESH FRUIT

These are actual prices obtained November 14 by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Bellefleurs fancy, 3½ tier, 1.35@1.40; 4 tier, 1.35@1.45. Utahs: Jonathans, loose, 3@4 lb.; Delicious, 6 lb. Idahos: Jonathans, loose, orchard run, 3 lb. Washingtons: Jonathans, packed, extra fancy, 2.15@2.25; fancy, 1.85@2 per box. Delicious, extra fancy, 2.50@2.65 per box. Oregons: Delicious fancy, loose, 7@8; poorer, 5@6. Spitzenburgs, extra fancy, 2.25@2.40 per box.

Casabas: Northern, 1.75 cwt.; local, 1.50 cwt.

Cranberries: Cape Cod, Early Blacks, 17 per barrel; 8.50 per half barrel crate. Late Howes, 20 per barrel; 10 per half barrel crate.

Grapes: Demand slow, market unsettled. Locals and Northerns: Muscats, 4@4½; poorer, 3@3½; Missions and Zinfandels, 5; poorer, 3@4; Malagas, 4; Tokays, 5; poorer, 3@4; Cornichons, 4½@5; Red Emperors, 5½@6½ lb.

Melons: Demand moderate, market dull. Locals and Northerns: 50@1.00 cwt. Persians: 2½@3 lb.

Pears: Demand good, market firm. Northerns and Locals: Bartletts, best, 7@8½; poorer, 5@6.

Persimmons: Lb., 8@12.

Pomegranates: Lb., 6@8.

### CITRUS FRUIT

Grapefruit: Arizonas, 64-96 sizes, 5.00@6.00; Imperial Valley, 6.50@7.00; Northern, 5.00@5.25 box.

Lemons: Demand and movement light, market steady. Special brands, fancy, 9@10; choice, 6.50@8.50.

Oranges: Demand moderate, market steady. Valencias, special brands, $10@11 according to size.

### HONEY

(Honey same as last week.)

### WALNUTS

(Walnuts same as last week.)

### GRAIN

Prices L. A. Grain Exchange, November 14.

Barley 100 ton lots, November del., 1.50 1/6. Milo, 100 ton lots, November del., 2.10.

# San Francisco Markets

San Francisco, November 14, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras (Nov. 15) | 46½ |
| Prime Firsts | 45 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats | 23 |
| Oregon Trips | 27½ |
| Oregon Young America | 27½ |
| Cal. Y. A. fy. | 27½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras (Nov. 15) | 64½ |
| Extra Pullets (Nov. 15) | 40½ |
| Undersized Pullets No. 1 (Nov. 15) | 42½ |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of November 13 by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers: 1 to 1¼ lbs. 36@40 per lb. Very fancy, 42@44; per lb. 1½ to 1¾ lbs., 32@35 per lb. Colored, 28@30 per lb.

Fryers: Leghorn, 2 lbs., 28@30 per lb. Colored 2 to 3¼ lbs., 28@30 per lb.

Young Roosters: Colored, 3½ lbs. and up, 28@30 per lb. Staggy, showing spurs, 21@23 per lb.

Colored Old Roosters: 17@18 per lb. Leghorn old roosters: 14@18 per lb. Leghorn hens, 2½ to 3 lbs., 18@20 per lb. 3 lbs. and over, 24@27 per lb. Large colored hens, 28@30 per lb. Off stock 26@27 per lb.

Ducks: Young, 18@20 per lb. Off stock, 10@15 per lb.

Geese: Young, 20@22 per lb. according to quality.

Live Turkeys: Old, 32@35 per lb. Spring, 36@40 per lb. Dressed turkeys, spring, 43@47; old hen, 40@45; gobblers, 35@40.

Belgian Hare: Live, 15@18 per lb. Dressed, 18@25 lb.

Jack Rabbits: 2@2.50 per doz.

Squabs: Live, fancy, 50@52 per lb. Common, 3.00@3.50 per doz. Old pigeons, 2.50 @3.50 per doz.

Guinea Fowls: Young, 8.00@10.00 per doz.

### FAT HOG AUCTIONS

California Farm Bureau Marketing Association reports:

| No. Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Corcoran, November 6** | | | |
| 84 | 189 | .... | 10.00 |
| 84 | 186 | .... | 9.85 |
| 5 | 220 | .... | 9.50 |
| 7 | 258 | .... | 8.85 |
| 2 | 395 | 20 | 6.85 |
| 1 | 600 | stag | 2.50 |
| 183 hogs | | | |
| 2 cars, 13 consignors, $3,461.82. | | | |
| **Tulare, November 7** | | | |
| 97 | 161 | .... | 10.55 |
| 90 | 179 | .... | 10.25 |
| 21 | 123 | feeders | 10.25 |
| 81 | 197 | .... | 10.05 |
| 88 | 190 | .... | 10.20 |
| 93 | 186 | 70 | 10.15 |
| 44 | 182 | .... | 10.05 |
| 57 | 228 | 20 | 9.65 |
| 4 | 300 | .... | 9.15 |
| 2 | 575 | 40 | 7.05 |
| 577 hogs | | | |
| 7 cars, 44 consignors, $10,873.54. | | | |
| **Visalia, November 8** | | | |
| 22 | 133 | feeders | 10.45 |
| 100 | 165 | 60 | 10.10 |
| 2 | 165 | 10 | 10.10 |
| 88 | 186 | .... | 10.00 |
| 36 | 213 | .... | 9.70 |
| 14 | 238 | .... | 9.45 |
| 4 | 147 | .... | 9.00 |
| 10 | 327 | 140 | 7.20 |
| 1 | 420 | stag | 5.25 |
| 277 hogs | | | |
| 3½ cars, 18 consignors, $5,055.11 | | | |
| **Hanford, November 9** | | | |
| 102 | 133 | feeders | 10.65 |
| 75 | 174 | .... | 10.25 |
| 53 | 164 | .... | 10.20 |
| 80 | 193 | .... | 10.10 |
| 24 | 158 | .... | 10.10 |
| 41 | 122 | feeders | 10.00 |
| 88 | 180 | .... | 10.00 |
| 32 | 228 | .... | 9.60 |
| 10 | 274 | 130 | 7.20 |
| 545 hogs | | | |
| 6 cars, 39 consignors, $9,403.72 | | | |
| Totals: 1,585 hogs, 18½ cars, 114 consignors, $28,794.19. | | | |

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, November 13, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per lug, 15.00@17.00.

Beans: Kentucky Wonder and Wax, 8@10 per lb.; French, 14@15; Limas, 7@8 per lb.

Brussels Sprouts: 7@8 lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: 75@1.00.

Cauliflower: Doz., 1.00@1.50.

Celery: Local, 2.00@3.50 cr.; 15@25 per half doz. bunches.

Corn: Green, 1.50@3.00 sack.

Cucumbers: Lug, 1.25@2.00; pickling, 4@5; small, 6@8.

Eggplant: Lug, 65@75.

Lettuce: Local, best, 1.50@2.00 cr.; Sacramento fy., 3.00@3.25.

Mushrooms: Lb., 50@75.

Peas: Lb., 7@13.

Peppers: Cal. Bells, 1.50@2.00 lug; Chili, 1.25@1.50.

Rhubarb: So., 1.25@1.50 box.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 75@1.00; beets, 1.00@1.25; pumpkin and squash, 1.25@1.75 sk.

Spinach: 6@7.

Squash: Summer, 1.50@2.00 L. A. lug; Italian, 1.50@1.65 box; Cream lug, 1.75@2.00.

Tomatoes: Bay and Peninsula, 1.25@2 lug. San Diego, 1.25@1.75 crate; 1.75 @ lug. San Diego, 1.50@1.65 crate; 1.75@2 L. A. lug. Plum tomatoes, 25@35 a berry drawer for best.

### FRESH FRUIT

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, November 13, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Apples: Gravensteins, fancy, 3½@4 tier; 1.50@2; smaller, 1@1.50 box. Bellflowers, best, 1.10@1.50 box. Winter Pearmains, 1.25@1.50 box. Newtowns, 3½@4 tier; 1.40 @1.75 box. Spitzenburg, fancy, 1.25@1.50 box. Wealthy fancy, 1.25@1.50 box. N. W. Jonathans, 3½@4; tier, 1.75@2.25. Spitzenberg, 1.75@2.10 box. Choice, 1.50@1.75. Winter Banana, 2@2.75 box. Lady apples, 3.50@4.00 box.

Avocados: Cal. small, 75@1.25 doz. Florida, 3.00@4.50 doz.

Bananas: Best Eastern, 8@8½ lb.; Hawaiian, 7@7½.

Blackberries: 50@75 drawer.

Casabas, 50@85 crate, or 60@1.00 doz.

Cranberries: Eastern, Late Howe, 19.00 @20.00 bbl.; Oregon, 5.25@5.50 box.

Figs: Black, 1.00@1.50 double layer box.

Grapes: Thompson Seedless, 1.50@1.75 crate; 2.00@2.75 large lug. Tokays, Malagas and Muscats, 1.25@1.50 crate; Malagas and Tokays, 1.50@3.00 large lug. Muscats, 2.00@2.50 lug. Rose of Peru and Isabella, 1.25@1.50 crate; Black Prince, 1.50@2.25 lug. Cornichons, 1.25@1.50 crate; 2.25@3.00 lug.

Peaches: 65@1.00 crate.

Pears: Bartlett, 2.25@2.75 box. No. 2, 1.50@2.00; small box, 1@1.25.

Pomegranates: 1.50@2.25 half orange box.

Persian Melons: 75@1.25 crate.

Persimmons: 75@1.50 flat cr.

Quinces: 75@1.50 box.

Raspberries: 1.00@1.25 dr.

Strawberries: 2.00@2.50 cr.

### HAY AND FEEDSTUFF

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges for switching, cartage, commission and handling expenses must be added according to conditions.) Transportation bad, scarcity and high prices for spot.

| | |
|---|---|
| Wheat Hay, No. 1 | 17.00@20.00 |
| Wheat Hay, Fair grade | 15.00@17.00 |
| Tame Oat Hay | 17.00@20.00 |
| Wild Oat and Barley Hay | 14.00@16.00 |
| Alfalfa Hay | 17.00@20.00 |
| Stock Hay | 12.00@14.00 |
| Straw | 11.00@12.00 |
| Barley, Ground | 34.00@36.00 |
| Rolled | 32.00@34.00 |
| Oats, Rolled Feed | 42.00@47.00 |
| Bran | 36.00@38.00 |
| Millrun | 38.00@39.00 |
| Middlings | 46.00@48.00 |
| Coconut | 34.00@36.00 |
| Alfalfa Meal | 30.00@31.00 |
| Cottonseed Meal | 51.00@53.00 |
| Molasses Beet Pulp | 44.00@46.00 |
| Milo | 42.00@45.00 |
| Corn Meal or Cr. Corn | 45.00@47.00 |
| Whole Corn | 43.00@45.00 |
| Scratch Feed | 48.00@50.00 |

### GRAIN

Prices S. F. Grain Exchange, November 7, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 2.10@2.20; feed, 2.10@2.15. Barley Feed, 1.50@1.55; shipping, 1.47½@1.55.

Oats: 1.60@1.85.

Corn: Colored Milo, 1.80@1.95; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.84@1.85.

# Snappy Notes on Livestock

**By A. L. Spellmeyer**

The cattle trade has not yet settled. At the union stockyards last Friday the government men, Jas. Christensen of Denver and C. H. Beauchamp, market supervisor under the department of agriculture for Los Angeles, called a meeting to explain the method and application of government control of stockyards to the assembled commission men, stockyards people and packers. This control means a fair market, guaranteed, with no funny business. Mr. Beauchamp is thoroughly experienced in the business, and the statement was made, that Los Angeles had no past, to handicap or rectify in stockyards customs so it would be a clean market and kept that way. Producers can figure this much, whatever the prices are there will be no sideplays, combinations or squeezing.

In the last week I have noticed an attitude of general fair play and the effort to better both feeder and beef prices to producers on the part of all factors. The people that are today hurting prices and a cattle comeback are those that are not patronizing the stockyards, cleaning up the cattle there, and encouraging stronger prices in range buys, with a definite tendency of a better market in view.

Beef has not advanced and for some grades is cheaper in fact than a month ago for it takes good stock to bring the market tops or mediums. Mr. Bixby claims an average reduction of ½ cent per lb. on fat steers and ¾ on fat cows since stockyards have been established with no reduction in price of beef by killers or retailers. However true the last is, any just consideration must admit prices have generally in all markets somewhat declined in the last two weeks. Hogs are bringing the top price of the U. S. A. here and heavy steers and heavy cows more here than in other markets for the same average grades.

The great rains in California at this time are ideal for a great part of the state. The cool weather we are having is also an encouragement, and the prospects are good for a banner grass year here. Every good year, and California has not had a good one for six years, as to range feed, arrives when rains come late and when the cold weather is experienced in early winter, instead of a very warm fall that starts grass and freezes it down later. The cool weather now delays tender sprouts but if December comes right now we should have feed in many parts of the state by January. Things appear very promising for the range men.

This has helped some on feeder catttle price. While good ordinary feeder steers average around $5.50 here, and it's less than hoped for, still considring El Paso and other points the price is not so bad. On cows it isn't so bad when quality is considered, for I saw five cents refused on some very rough cows.

Last week I saw bills of meat sales that went $10.50 for good fat heifer beef and $12.50 for good steers and $13 for veal. Hides are up. I am told by an expert the present test will run close to $15 per head for hide and offal from a good steer. This offal price and hide price seems to be what is holding up prices, even to their present margin. It means a 900 pound cow at $50 brings gross for 450 pounds of beef $49.50 plus, say, at least $12 for hide and offal, or $61.50.

Selling and delivery stands with killing at least $6.75 expense so there is an apparent $4.75 in it for the packer on that basis.

On the other hand I am told the quality steers sold at 9 cents on the opening day brought 16 cents in beeef and made money. This explains the quality demand and better price.

## CATTLEMEN OF LOS ANGELES COUNTY TO MEET

The cattlemen of Los Angeles County are invited to attend a meeting of the California Cattlemen's Association in Lancaster on Wednesday, November 22.

This meeting is of particular importance since the California Cattlemen's Association is holding a meeting in every county in the state during October and November, to discuss with the cattlemen their local problems in order that the association may formulate its program of work for 1923 to be of greater service. It is also intended to discuss with the cattlemen any legislative matters which they wish to bring before the coming session of the state legislature this winter. All cattlemen, whether members of the association or not, are urged to attend.

### PUMPS, ENGINES, MOTORS

A fund of valuable information is contained between the covers of "Pumps, Engines, Motors, Compressors, Boilers for Industrial Plants, Ranches, Etc." This is catalog P of the Smith-Booth-Usher Company of 50-60 Fremont Street, San Francisco, and 228-238 Central Avenue, Los Angeles. While it is a catalog it contains information on hydraulics and the machinery and appliances which enter into irrigation and farm power. There are suggestions for setting up pumps, tables as to water pressure measurements, storage, pipes, tables showing capacity of pumps under different lifts, friction in pipe and innumerable other hints which make it

a valuable addition to the reference library.

One attractive feature of the book is that it may be had for the asking if one will write to the Smith-Booth-Usher Company at either of the addresses given above.

## VETERINARY QUERIES

(Continued from Page 543)

carefully for a time and she only bloated a little the first night. She started to go down in her milk soon after and now only gives two quarts. She also fell away in flesh and now is a walking skeleton. She is a well bred Holstein and was always well and fat. Has had alfalfa and alfalfa hay all the year. What is the trouble and what is the remedy?—Subscriber, Colton.

Some of the milo may have packed in a mass and is still in the rumen. Stir it up by pressing in on the left side with your fist. Do this every day and also get four ounces of powdered Barbados aloes, six ounces of turpentine and two quarts of raw linseed oil and mix all together and divide into four doses. Give one dose every other day while it lasts. This may move it out and the trouble will be over.

## MISS WARNER'S TURKEYS

(Continued from Page 523)

mash at noon which is half laying mash and half bran, and have their run on the alfalfa twice a day, in the middle of the forenoon and again in the afternoon. The hens average four dozen eggs in a season.

From 50 hens mated with four toms she sold last year $475 worth of hatching eggs. This year from 46 hens she has sold $250 worth of eggs, hatched 64 poults, and had the first of May 88 eggs under hens. No hen is kept more than one season. The first of June each year all the hens in her yard are sold to the Idyllwild hotel at 40 cents a pound. Last year the 42 hens she marketed averaged $4.85 apiece. The young hens used each season as breeders are mated to toms two years old or older. By this system of keeping only toms and young stock through the winter Miss Warner saves a great deal of labor and expense and she is perfectly satisfied with the fertility of the eggs and the vigor of her young stock.

### Turkey Mothers

Turkey hens do the mothering on this ranch. A turkey hen and a chicken hen are set at the same time, the turkey being given 17 eggs and the chicken 12. This number would be too great for a chicken to hatch if they were left under her, but as fast as they hatch they are removed and placed in a warm basket. As soon as the hatch is complete all the poults are given to the turkey hen. A turkey hen will mother 25 poults.

When the hatch is finished hen and poults are placed in a coop on dry ground. The cut shows the front of one of these coops and the back of another. They are covered with shingles and are about 4 feet in each dimension. The wire front admits an abundance of air but shuts out weasels and other marauders and keeps the birds confined when the weather is cold or wet. All coops are moved frequently. Miss Warner believes in keeping poults on the ground, but it must be clean and dry. After the first few days they are allowed out when the sun is shining, and the day I was there the whole flock, of various ages, were ranging about the yard together.

### Feeding

The feeding of young turkeys is always the crucial point, and I was glad to find that Miss Warner agrees with all the other experts in believing it is not so much what is fed as how much. "Only yesterday I know I overfed my little turkeys," she said. "They were so hungry I let them eat till their crops were stuffed full, and that will not do. Probably I shall pay for it later."

The first day in the coop they are not fed at all. They must be 48 hours old before they have their first meal.

The second day they are given a little hard boiled egg mixed with grit, just once, no more.

The next day real feeding begins. The mixture of hard boiled egg, bran, onion, cottage cheese and grit is given five times, but never all the birds want. This mixture is prepared as follows: For 50 young turkeys run 1 egg and ¼ of a large onion through the meat grinder, add 1 tablespoon each of charcoal and grit, a handful of cottage cheese and a handful of bran. This makes a quart pan two-thirds full, which is an ample meal for 50 birds.

After the first week there are only three meals a day. After the fifth week the egg is omitted and chick feed takes its place. Sour milk takes the place of the cottage cheese, so the ration has now become a mixture of bran, chick feed and onion, moistened with sour milk. After six weeks the onion is dropped and the birds worked gradually onto an all grain diet. Long before this the poults are spending their days on the alfalfa, of which there are three acres for their use. They must be brought in at night, but most of the day they are picking the succulent green. An occasional meal of Suregrow sprinkled over chopped alfalfa helps to keep them growing. For fattening in the fall Miss Warner has found Kafir corn and Blackeye beans the best ration.

### WEATHER REPORT

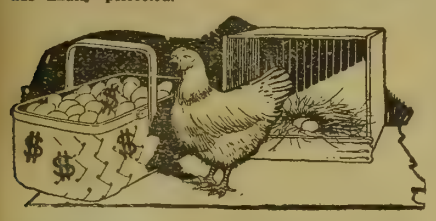
San Francisco, November 11, 1922

| Stations | Rainfall: Week | Season | Norm | Temp: Max. | Min. |
|---|---|---|---|---|---|
| Eureka | 2.56 | 6.39 | 5.36 | 60 | 42 |
| Red Bluff | 3.52 | 7.77 | 3.29 | 60 | 36 |
| Sacramento | 3.02 | 3.74 | 1.89 | 60 | 42 |
| San Francisco | .77 | 6.72 | 2.11 | 61 | 47 |
| San Jose | 2.70 | 4.25 | 1.60 | 68 | 34 |
| Fresno | .59 | 1.11 | 1.17 | 66 | 42 |
| San Luis Obispo | 7.24 | 5.71 | 2.15 | 70 | 36 |
| Los Angeles | 1.38 | 1.62 | 1.12 | 70 | 46 |
| San Diego | .36 | .16 | .76 | 70 | 46 |


# Easy-Now to Double Winter Egg Yield

**Proven Remedy Gives Remarkable Results—Turns "Boarder" Hens Into Profitable Layers—**

Winter egg yields double and treble those of former years, are now being made by many poultrymen through the use of a compound that science has finally perfected.



This wonderful medicine, which is called "Hick's Egg-Lay," contains rare and expensive ingredients mixed so as to quickly increase the egg yield. The medicine acts on the reproductive organs and causes double and treble the usual number of ova (the germ cell of the egg) to be produced. Thus you get many more eggs and get them during the time they bring the highest prices.

Hick's Egg-Lay is prepared for convenience in tablet form. Simply dissolve one tablet in a quart of water. This is the surest, easiest and quickest way ever discovered to get more eggs.

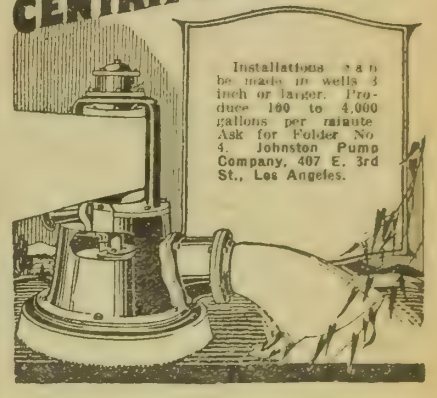
**A Trial Costs You Nothing**

Mr. Hick is so confident that Hick's Egg-Lay Tablets will double and treble your egg yield that he is making a special kuaranteed offer of one regular double strength $1.00 package of Egg-Lay Tablets and a full size $1.00 package of Hick's famous Lice-Go Tablets all for $1.00.

Lice-Go is added to the drinking water. The medicine taken into the system of the bird comes out through the oil glands of the skin and every louse or mite quickly leaves the body. Keeps the birds always free without the poultry raiser doing any work. If you would rather have two $1.00 packages of Egg-Lay Tablets or two $1.00 packages of Lice-Go instead of one of each, say so on your order. Send $1.00 today (currency, money order, check, etc.) to Chas. M. Hick & Company, Dept. 929, 1018 So. Wabash Ave., Chicago, Illinois. If you prefer, send no money. Just your name and address and pay postman $1.00 and postage on delivery. If after thirty days trial, you are not absolutely satisfied, write Mr. Hick and your money will be refunded. This offer is absolutely guaranteed, so don't hesitate to make the test.



# JOHNSTON TURBINE CENTRIFUGAL PUMPS



Installations can be made in wells 3 inch or larger. Produce 100 to 4,000 gallons per minute Ask for Folder No 4. Johnston Pump Company, 407 E. 3rd St., Los Angeles.



# HURLEYS NEW GOOSE NECK Cultivator

**The Best Furrowing and Leveling Machine on the Market—Built for Horses, also Largest and Smallest Tractors.**

This is the lightest weight efficient Cultivator and Furrower on the market. Its construction of spring steel gives it a crossbar that yields to sudden strains and it springs back. Detach the shovels and wheels and you have THE BEST LEVELER YOU CAN BUY.

Patented reinforced spring steel drawbar 5 in. x ⅜ in. with bar below 5 in. x ⅜ in. reinforced on two edges with angle iron. Shanks diamond shape 1¼ or 1½ in. Hitches for all tractors or horses. 6 ft. size only $110 with 1¼ in. shanks. 6 ft. with 1½ in. shanks $105. Made in 6, 7 and 8 ft. sizes. Horse drawn cultivator has front truck. Over 300 in use and all giving best of satisfaction. Order direct.

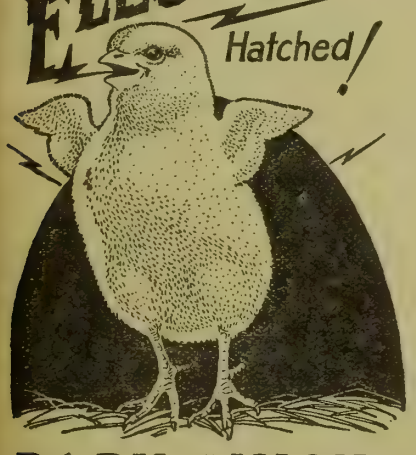
You can go any depth from 5 in. above the gound to 15 in. deep, setting the teeth to prevent cuttitng the roots.

**Don't fail to see our new single standard double lever subsoiler at only $80 for light tractors.**

**M. N. Hurley, Manufacturer, 138 So. Comstock, Whittier, Calif.**



# ELEC-CHIC Hatched!



# BABY CHICKS

Are ready for the frying pan or laying house sooner than other chicks. Therefore they make you

**BIGGEST PROFITS!**

Send coupon TODAY for prices, literature and delivery dates.

POULTRY EQUIPMENT CO.
Mfgrs. of ELEC-CHIC Incubators and Brooders
DEPT. F. ROSCOE, CAL.
(Near Burbank)

Please send me prices and delivery dates on .....
..... Baby Chicks.
(Give quantity and breed wanted)
Name.....
Address.....

Also please send me information about your COOPERATIVE HATCHERY PROPOSITION....., ELEC-CHIC Incubators....., Brooders.....
(Check items wanted)



# Lm. Railsback Co.

**Distributors of**

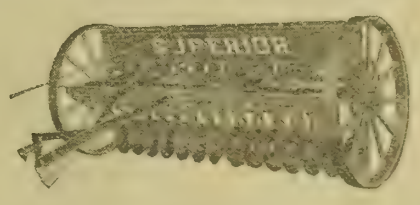
**"Leading Lines of Farm Implements"**

OLIVER PLOWS AND IMPLEMENTS
KILLEFER IMPLEMENTS
ALL WORK TRACTORS
SUPERIOR DRILLS
BLACKHAWK SPREADERS
BLACKHAWK PLANTERS
HARDIE SPRAYERS
HUDSON GARDEN TOOLS
HUDSON HAND SPRAYERS
KNAPP ORCHARD DISC PLOWS
ASPINWALL POTATO MACHINERY
THOMAS CROWN MOWERS
THOMAS RAKES
DUNHAM CULTIPACKERS
WINONA WAGONS
TOWNER CULTIVATORS
LANSING WHEELBARROWS
2 IN 1 TRACTOR GROUSERS
STAR AND PEERLESS HAY CARRIERS
HOOD RIVER MILLS AND PRESSES
KELL-OIL ORCHARD HEATERS
SCRAPERS, HANDCARTS
STEEL WHEEL TRUCKS
ETC.



# Superior

## Grain and Alfalfa Drills




Superior telescoping steel conductor tubes provide a direct, positive drop, without bending, breaking, kinking or wearing out. Extra large hoppers, double run force grain feed—no bunching, missing or cracking of seed. Superior drills are to be had in horse drills and tractor drills with power lift in sizes from six to twelve foot in both single and double disc types.

Prices are extremely low this year with immediate delivery on all sizes.

Write or call for catalogue

**Lm. Railsback Co.**

LOS ANGELES, CAL.—ANAHEIM, CAL.
115-119 South Los Angeles St., Los Angeles 114 Claudina St., Anaheim
Between First and Second Sts. Phone 863
Broadway 4781

Stark Tree Orchard of C. L. Witherell, at Middlebury, Vt.—3500 Stark Delicious Trees

← Average Size Stark Delicious Grown on a Genuine ORIGINAL TREE Strain Tree

# 74 Stark Trees = 576 Bu. Apples = $2,460.00 in Year on Vermont Farm

C. L. WITHERELL bought the land where his orchard now stands (near Middlebury, in Northern Vermont) for $40 an acre. It would have made him a scant living in corn, wheat or ordinary farm crops. Set out in Stark Trees, it is rapidly making him rich.

-$- Salesmen Wanted Good Pay Weekly Write us TO-DAY

Last year, just one block of 74 of his 11-year-old Genuine **ORIGINAL TREE** Strain of Stark Delicious trees yielded him 576 bushels of glorious apples. All but 30 bushels graded out "Fancy" or "Extra Fancy." And—they added the impressive sum of Two Thousand, Four Hundred and Sixty Dollars to his bank account.

He tells us that his **ORIGINAL TREE** Strain of Stark Delicious trees began bearing when 4 years old—and have borne every year since. He now has 1,000 more Stark Delicious 6-year-olds that he declares are "producing a bumper crop this year." On October 21, 1922, he writes: "Just shipped my last car Stark Delicious to New York. Got $6.00 per box for run of Delicious. Special Fancy $8.00 per box.

We wish that every fruit grower—every farmer—and every home-owner could see and talk to Mr. Witherell. **You** would know then WHY—

Monument Dedicated To ORIGINAL Stark Delicious Tree August, 1922 By State of Iowa

ORIGINAL TREE Strain of— **Stark Delicious** — Sold Only by STARK BRO'S

← 2 Books FREE

## Bears Wondrous Money-Crops in 44 Out of 48 States!

As E. P. Taylor, State Horticulturist and Consulting Expert on Horticulture says: **"Stark Delicious trees are now growing and bearing fruit in all parts of the world—and are adapted** to a wide range of climate and soil conditions." Nevertheless, there are not one-tenth enough **genuine** Stark Delicious trees planted to begin to supply the enormous demand for this "King of all Red Apples."

These great, big, exquisitely-flavored red apples are selling on the fancy fruit stands of SAN FRANCISCO, LOS ANGELES, NEW YORK, PHILADELPHIA and BOSTON at 15 to 35 cts. each. In the Eastern fruit markets they are selling for **$5.00 per bushel WHOLESALE** when other varieties bring $1.50 to $5.00 ber barrel.

The trees that bear them have made **land in the Northwest that was bought for One Dollar and Twenty-five Cents per Acre now worth $1,500.00 to $2,500.00 per acre!** This is the statement of Franklin K. Lane, former U. S. Secretary of Interior.

However, to grow genuine Stark Delicious trees and get big, regular crops of the prize-size money-makers you must PROTECT YOURSELF by planting genuine **ORIGINAL TREE** Strain of **STARK DELICIOUS** trees.

We alone control propagation from the **ORIGINAL TREE**—the 50-year-old Stark Delicious tree that the State of Iowa honored with a splendid monument in August, 1922. **No other Nursery or person can propagate from this Grand Old Tree,** which, though over 50 years old is still bearing fine crops of big apples and has never missed a crop (except one, in a year when all apples failed).

Our ORIGINAL TREE Strain of Stark Delicious propagation is continually renewed and kept close to ORIGINAL Stark Delicious tree. That's why the ORIGINAL TREE Strain of Stark Delicious trees that you can obtain from us (and ONLY from us) will assure you the surest, the most complete satisfaction.

They will bring you money-crops just like they did F. F. Thayer of Chelan Co., **WASH.** He was formerly an accountant but took up orcharding some years ago. **In the last 4 years he has banked Ninety Thousand, Three Hundred and Fifty Dollars ($90,350.00)** from 23 acres of Stark Delicious, Winesap and Jonathan trees.

**Investigate** this remarkable apple tree—**WRITE FOR THE BIG, 80-PAGE, 4-COLOR MASTERPIECE 1923 "PRIZE FRUITS" BOOK. USE THE COUPON.** Learn, too, about—

## Stark's Golden Delicious — 2-Year-Old Trees Bear in 33 States

This remarkable variety of Golden apple bore when 2 years old in 33 different states—California, Oregon and Washington being among them. **And last year trees of this variety bore crops in 11 different states despite 3 frosts and 2 freezes.**

Frank L. Wingard, Orange Grove, **CALIFORNIA,** sent us a photo of a wonderful Stark's Golden Delicious tree and stated: "This Stark's Golden Delicious tree has 128 big apples on it this year—the second after planting."

The great American Fruit Growers (Inc.), has a wonderful orchard filled with Stark's Golden Delicious trees at Wenatchee, Wash. It bears the title "Golden Delicious Orchard," and is a great proof of the remarkable commercial value of this variety of fruit tree.

And I. A. Klein, Stent, **CALIFORNIA,** is one more of hundreds of Californians who have planted this variety. He mailed us a photo of one of his trees and wrote: "It bore 18 apples this year—only 2 years old. Look at its simply marvelous growth."

And Prof. Paddock, noted State Horticulturist, frankly admits, "Stark's Golden Delicious beats anything I ever saw." **YOU** are sure to be keenly interested in the startling facts regarding this remarkable tree and apple. Get them all—**SEND COUPON** for **FREE** Copy of Big 80-Page, 1923 "Prize Fruits" Book.

**Stark Seed** **"Bore Heavy Vegetable Crops Despite 50-Day Drouth."** "This drouth ruined almost all of the gardens and crops around here, but our vegetable garden, planted with Stark Seeds—weathered it well and bore heavy all through the dry weather," writes Mr. Ulrich Southeimer, Rushland, Pa.

**Our Big Edition of Stark Bro's 1923 Vegetable and Flower Seed Catalog is now ready. *SEND COUPON* for FREE copy.**

STARK BRO'S, Box 7 LOUISIANA, MO.

Send me at once Free Copies of 1923 Catalogs marked with X in square below.

☐ Big, 80-page, 4-color 1923 Catalog of "Prize Fruits" Trees and Ornamental Book—**FREE**

☐ Big, 4-color, 64-page Stark Seed Catalog—**FREE**

Calif. Cult. 11-18-22

I may plant ..... this Spring
(State Number and Kind)

Name .....

St. or R. R. No. .....

Postoffice .....

State .....

Send Coupon Today!

Address Box 7

# Stark Bro's Nurseries

**Oldest in America — Largest in World**

**At LOUISIANA, MO.—For Over 107 Years**

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — November 25, 1922 — No. 22


# By the President of the United States of America

A PROCLAMATION

In the beginning of our country the custom was established by the devout fathers of observing annually a day of thanksgiving for the bounties and protection which Divine Providence had extended throughout the year. It has come to be perhaps the most characteristic of our national observances, and as the season approaches for its annual recurrence, it is fitting formally to direct attention to this ancient institution of our people and to call upon them again to unite in its appropriate celebration.

The year which now approaches its end has been marked, in the experience of our nation, by a complexity of trials and triumphs, of difficulties and of achievements, which we must regard as our inevitable portion in such an epoch as that through which all mankind is moving. As we survey the experience of the passing twelvemonth we shall find that our estate presents very much to justify a nationwide and most sincere testimony of gratitude for the bounty which has been bestowed upon us. Though we have lived in the shadow of the hard consequences of a great conflict, our country has been at peace and has been able to contribute toward the maintenance and perpetuation of peace in the world. We have seen the race of mankind make gratifying progress on the way to permanent peace, toward order and restored confidence in its high destiny.

For the divine guidance which has enabled us in growing fraternity with other peoples to attain so much of progress, for the bounteous yield which has come to us from the resources of our soil and our industry, we owe our tribute of gratitude, and with it our acknowledgement of the duty and obligation to our own people and to the unfortunate, the suffering, the distracted of other lands. Let us in all humility acknowledge how great is our debt to the Providence which has generously dealt with us, and give devout assurance of unselfish purpose to play a helpful and ennobling part in human advancement. It is much to be desired that in rendering homage for the blessings which have come to us we should earnestly testify to our continued and increasing aim to make our own great fortune a means of helping and serving, as best we can, the cause of all humanity.

Now, therefore, I Warren G. Harding, President of the United States of America, do designate Thursday, the 30th day of November, as a day of thanksgiving, supplication and devotion. I recommend that the people gather at their family altars and in their houses of worship to render thanks to God for the bounties they have enjoyed and to petition that these may be continued in the year before us.

In witness whereof I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington this second day of November, in the year of Our Lord, one thousand nine hundred and twenty-two, and of the independence of the United States of America the one hundred and forty-seventh.

Warren G. Harding.

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian, Established 1877, Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

VOL LIX No. 22

Published by
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J. H. Yetter V.-Pres. and Adv. Manager
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Subscription Price - - $1.00 Per Year

Copy for change of advertisement must be in the office on Saturday preceding date of issue. New advertising copy must be in the office Tuesday preceding date of issue to insure publication.
Advertising rates furnished on application.

All correspondence pertaining to livestock should be addressed to the home office, Los Angeles, care Livestock Editor.

The San Francisco office is Room 822, Santa Marina Building, 112 Market Street, L. W. Clark, Manager.

Member

Eastern Offices:
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S. E. Leith, Fifth Avenue Building, New York
C. A. Cour, Globe Bldg., St. Louis, Mo.
R. R. Ring, 333 Palace Bldg., Minneapolis

Member Audit Bureau of Circulations.

Entered as second-class matter February 12, 1900, at the postoffice at Los Angeles, California, under the Act of March 3, 1879.

## Saturday, Nov. 25, 1922

OUR ADVERTISING RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest, bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertisers.

☞ If among the more than 40,000 Cultivator's weekly circulation any fail to find any article they desire to purchase advertised in the Cultivator's columns, a special request is extended you to let your wants be known to the California Cultivator and we will place you in touch with proper parties.

### DITORIALETTES

The Thanksgiving scene on the cover is thoroughly Californian. The snow is on the mountain tops, the orchards have been laden with fruits, and now the cornucopia is pouring into the valleys the riches produced during the last 12 months. There is no place in the world where the president's call for "a day of thanksgiving, supplication and devotion" should meet with heartier response. "It is fitting formally to direct attention to this ancient institution of our people and to call upon them again to unite in its appropriate observance." "Let us in all humility acknowledge how great is our debt to the Providence which has generously dealt with us."

* * *

Many barley fields, especially in the northern part of the state, are changing valley and hillside into green. The green of the growing crops is all the more attractive at this season in such contrast with Thanksgiving scenes "back in the states" where so many of us were born. It has been a wonderful year for the Pacific Coast, and promise is today that the coming year will prove even greater cause for thanksgiving.

* * *

At the recent fruit growers conference at Berkeley several apricot growers insisted that if the time should come when they could be recompensed for producing high quality apricots the apricots would be produced. Several growers, however, insisted that when quality and size had been produced canners and dryers had failed to recognize it. One grower asserted that he had produced apricots running nine or ten to the pound and was offered the same amount as was paid to his neighbor for fruit running 14 to the pound.

The Cultivator Leads in Automotive Advertising

During the first nine months of 1922 California Cultivator has led all the farm papers in the United States in the volume of tire advertising carried. It has also led in the volume of tractor advertising and was second in the United States among farm papers in the volume of truck advertising, being surpassed only by an eastern dairy publication. The Cultivator also led all California farm papers in the volume of automobile advertising by a considerable margin. Advertisers everywhere recognize the importance of the farm market in California and the fact that California Cultivator reaches more farm homes than any California publication, daily, farm paperfi or magazine. The circulation of any California publication, daily, farm paper or magazine. The circulation of California Cultivator in thirteen counties in California that are among the highest fifty in the United States in crop production is greater on farms than that of any California farm paper. California Cultivator county circulation statement, also Auditor's A. B. C. circulation report furnished on request. Following is the lineage reported by Advertising Record Company:

| Kind of Advertising | Paper | Rank in U. S. | Number lines Advertising Jan. to Oct., 1922 |
|---|---|---|---|
| Tires | CALIFORNIA CULTIVATOR | 1st | 22,365 |
| Tires | 2nd California Farm Paper | 9th | 13,619 |
| Tires | 3rd California Farm Paper | 41st | 2,288 |
| Tractors | CALIFORNIA CULTIVATOR | 1st | 20,007 |
| Tractors | 2nd California Farm Paper | 2nd | 19,402 |
| Tractors | 3rd California Farm Paper | 25th | 7,658 |
| Trucks | 3rd California Farm Paper | 33rd | 1,596 |
| Trucks | CALIFORNIA CULTIVATOR | 2nd | 6,792 |
| Trucks | 2nd California Farm Paper | 15th | 2,802 |
| Automobiles | CALIFORNIA CULTIVATOR | 12th | 11,948 |
| Automobiles | 2nd California Farm Paper | 22nd | 9,382 |
| Automobiles | 3rd California Farm Paper | 29th | 6,810 |

During the year 1921 California Cultivator led all California farm papers in volume of advertising carrying a total of 540,399 lines.

California Cultivator is the first choice of California farm papers by a substantial majority of advertisers.

It costs money to thin fruit and maintain the soil conditions required for large production of large fruit. Unless the grower is convinced that he can deal with the packer who recognizes that additional cost he will very naturally produce the greater tonnage.

* * *

Dairymen and distributors in the meeting at Fresno also discussed the quality problem. The impression there prevailed that the consumer was willing to pay for quality if the quality were produced. The consumer of dairy products, as a rule, demands higher quality and better service than he does of any other production of the farm. The consumer who is asked 60 or 70 cents per pound for butter is justified in demanding not only quality for today, but quality which will be lasting.

* * *

The time was when we were admonished by the old McGuffey's reader: "Go to the Ant, thou sluggard." We may become wise by considering her ways, but the wise orchardist and the wise housekeeper find better returns from getting after the ant with a club. It has been said that "The ant is the most abominable of all animals." It nourishes and helps to perpetuate aphis; it spreads blight and other diseases of trees; it even destrcys timbers of houses; it is an insufferable nuisance in the home, and we believe there is no instance of its being in any way a benefit to mankind. Swat the ant.

* * *

There is no discount on the sun as an aid in curing California products. Neither is there discount on its ability to manufacture sugar through cooperation of vineyard and orchard. Notwithstanding that it seems the dehydrator or evaporator has come to stay. It has been used to a limited extent as an aid in drying raisins, prunes, apples, peaches, nearly every fruit grown in the state. It is asserted that it is producing a somewhat higher grade of fruit with less shrinkage and more satisfactory return to the grower. California sun cured fruit will never entirely disappear from the market, but the dehydrator is coming into more general use every year.

### LOSS TO THE STATE

Dr. Elwood Mead has tendered to Governor Stephens his resignation from the chairmanship of the state land settlement board. The dispatches do not give the reason for this action. We know Dr. Mead's ambition to push forward land settlement work. This in part to aid worthy and efficient young farmers in locating on lands fitted to their abilities, but more, we believe it was because of his ambition to serve his state by increasing its population and giving opportunity to that population for greater efficiency.

One of the steps by which Dr. Mead hoped to serve his state was to be made possible through the land settlement act providing for a bond issue of $3,000,000 and which was voted upon at the recent election. This measure failed to carry, we believe, because of misunderstanding by the majority of the voters. It now appears that there was a determination to secure greater economy at any cost of efficiency. To that end nearly every measure calling for issuance of bonds was voted down. In the case of the passage of the land settlement act any funds raised through sale of bonds would have gone into the treasury and become a revolving fund. This fund, together with the interest thereon, would ultimately have returned and liquidated the entire issue. Thousands of acres now of comparatively no value would have been turned into high producing lands, increasing the income of the state and community.

The failure of the voters of the state to endorse the great work which has been done by Dr. Mead and others of the land settlement board is, we believe, the real reason for Dr. Mead's retirement. The state suffers a great loss thereby and we hope there may yet be some means of taking advantage of his abilities.

### RIO COLORADO?

Is the Colorado River to remain uncontrolled indefinitely? Is it to remain a menace to rich lands once desert and now producing thousands of trainloads of food and textiles? Is it to be controlled and made to hold back its floods and turn them into reclaimers of other thirsty lands and producers of power and heat and light for our homes?

The only answer yet vouchsafed by Santa Fe seems to consist of one big "?." The Colorado River Commission has been meeting there for the past fortnight and has been accused of "laying down a heavy barrage of silence." It is also asserted that the silence has not been so complete within the four walls of the executive sessions.

As we go to press the dispatches announce that Governor Elect Hunt of Arizona has wired the commission, "The state of Arizona cannot enter into any compact with the other states involved in the apportionment of the waters of the Colorado River for at least two years."

Also that, "In his telegram tonight, Hunt approved the statement made by the reclamation association. The fact that Arizona lacks information as to the acreage irrigable in the state under the Colorado River and as to the engineering problems involved are given as the governor-elect's reasons for believing that Arizona cannot enter into a compact at the present time,"

We can only end as we began with a question mark, but we can not help but ask, Is the advancement of the Southwest to be stayed while selfish interests still further "investigate?"

### BETTER APPLES

Circular 137, issued by the New York agricultural experiment station at Genoa, should be of particular interest to California apple growers. It treats proper storage and handling and the necessity for having fruit clean and free from worm and scale infestation when placed in storage. This information, in itself, may not be of so much interest since most of our growers already know this from experience, but it shows that more interest is being taken in the proper handling of the apple crop. When the eastern apple growers awake to the fact that proper care in handling and packing means more demand and better prices, it is going to make the competition more keen for California, Oregon and Washington.

No one has ever disputed the fact that good apples are grown in the Eastern states, but in the past few growers have paid much attention to the handling of the crop and to putting it on the market in attractive packages. As a result our well graded and attractively packed Western fruit has had all the call.

We will have to be even more particular in the future if we hold this trade. Our fruit must not only have the attractive appearance but its eating qualities must measure up to its appearance.

Good appearance first attracts favorable attention, then if the quality proves equally good the customer will thereafter call for your brand of fruits. There is nothing that so disgusts any of us as to buy a nice appearing article and find the quality inferior and usually all the arguments that can be put forth fail to induce us to again buy that brand.

Abraham Lincoln, we think it was, once said: "You can fool all of the people part of the time and some of the people all of the time but you can't fool all of the people all of the time," and we should bear this saying in mind in the packing and handling of all our orchard and farm products. If we are going to fool the people at all let's give them something better than they are really looking for.

California Cultivator

Vol. LIX, No. 22 Los Angeles, November 25, 1922 One Dollar Yearly

# Pears, Prunes, Apricots Convene

By C. B. Messenger

A SPECIALTY convention is not an innovation. It has been here for years. Farmers and fruit growers are, however, learning more as to its real value. There is still abundant room for a state convention of fruit growers and farmers who shall gather and discuss the larger problems of transportation, legislation and innumerable other of the larger questions affecting agriculture. But in discussing cultural practices there is little inspiration to a breeder of hogs in listening to discussion on bud selection of citrus. So the convention which deals with one type of fruit, or one class of animals, or possibly with a half dozen different productions, but in a limited locality, has come to stay.

The wisdom of this procedure was abundantly proved in the gatherings last week in Berkeley. On Monday, pear growers from practically every pear growing section of the state discussed pear blight, pear thrips, red spider, root stocks, pears canned, dried, pears as a food, pears as a confection, pears in storage, in the market and pears from every imaginable standpoint.

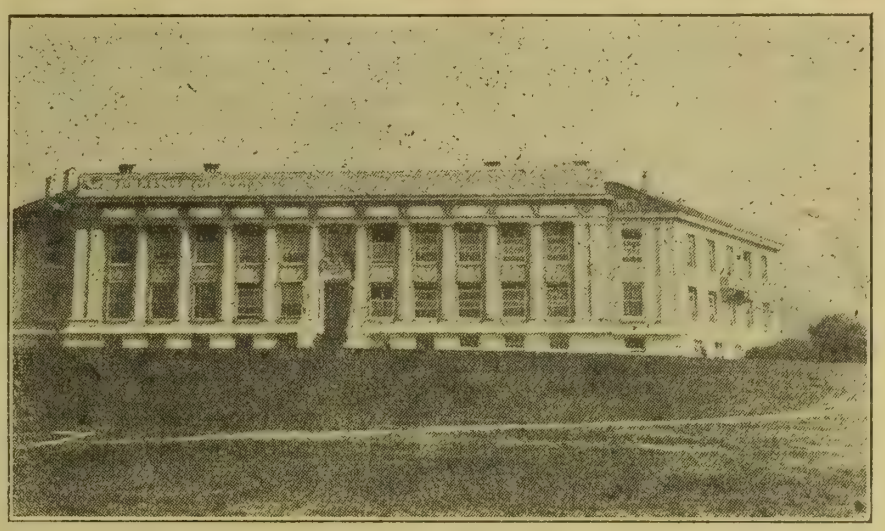
Tuesday was prune day, and again red spider, thrips, sun-made prunes, dehydrated prunes, irrigation of prunes, and a question box which brought out innumerable angles of the industry.

Wednesday was apricot day, and apricot day gave opportunity for discussion of sour sap, brown rot, root stocks, by-products, long and short pruning, likewise music by the faculty quartet. That quartet, by the way, was the life of the whole show. But in the last analysis for right down hard work and real preparation for the comfort and edification of the guests, Prof. W. V. Cruess should have been handed a medal. Naturally Prof. Cruess had anticipated a reasonable sized crowd. But at the first session of pear growers Monday morning, Hilgard Hall was filled and chairs were being placed in aisles before the meeting was called to order. Still people stood in hallways anxious to hear the program. Adjournment was later had to a larger hall, which in the afternoon was filled to overflowing. At the banquet in the evening, for which less than 200 had registered or bought tickets, more than 300 attended, and had to stand about the wall of the banquet chamber until other long tables could be supplied. Cruess always rose to the occasion and it was voted "four great days."

The attendants got punch or real kick out of every day's session. The pear growers were really the most polite, though a showing of thrips injured pears, gnarled little runts, which some grower had seen on the market, caused some warmth of discussion. Likewise Prof Howard's illustrated talks on root stocks in France and root stocks in California caused no little discussion. Manager Sheehan of the Grape Growers' Exchange, injected a bit of life into the transportation discussion which this year causes discussion whenever two fruit growers get together. Mr. Sheehan has been observing water transportation and insists that the only hopeful outlook is development in that direction. He felt there should be appeal to water transportation people to aid in the investigation of best methods, and described fully the effort of the grape growers to put California grapes into Atlantic ports through the use of carbon dioxide and refrigeration.

Prof. Leonard Day charged the ant with being one of the worst pests of the pear. The ant is more responsible for spread of blight from blossom to blossom than perhaps any other insect. The bee has usually held the place of dishonor, but Professor Day spoke a good word for the bee because of its aid in pollination, and because of that service it's carrying of blight could be well excused. If ant and aphis are both destroyed the control of pear blight is materially aided. Other insects which should be watched are thrips, squash bugs, beetles, and another source of blight spread is spatter of rain. The remedy for blight given by Professor Day was bichloride of mercury and cyanide of mercury, one part of each to five parts of water. The addition of a little glycerine maintains for a longer time activity of this remedy.

Professor Reimers came down from Oregon and scored California pear growers good and proper. Professor Reimers said that if Oregon growers conducted their fight on pear blight as did many of the growers in California's pear growing sections the industry would be terminated there. Oregon growers are compelled to face the condition of large content of moisture in the atmosphere which is most favorable to spread of the blight bacteria. Incidents like that of one pear grower on the Sacramento River who merely dumped his blight infested prunings over the bank and let them float down stream called for scathing remarks and demand for control of such abuses. Unfortunately the best method of control is through education and securing of education is an impossibility for the type of people who would do a thing so destructive to a great industry. Professor Reimers gave a tribute to Professor Day as doing most thorough and best investigational work in the United States in pear blight. In the matter of growers practices Reimers insisted: "You folks know enough. Put your knowledge into effect. Stop being so careless." "Pear blight was brought from Eastern states to the Pacific Coast in 1900. It may be effectively controled by careful work. Keep water sprouts absolutely cut out. Use resistant root stocks and trunks. Use abundance of Bordeaux paste or other disinfectants, on all fresh wounds or cuts. Subdue all flies, thrips, ants, and other insects. Save the bees if possible." "The ant is the most abominable animal with which we have to deal. It feeds on the ooze caused by blight and carries the disease direct to the blossoms as it goes in search of nectar." "For applying bichloride disinfectant use new paint."



To Rescue for Human Society the Natural Values of Rural Life

Hilgard Hall at University of California, Berkeley, where many sessions of the Fruit Growers' Conference were held.

As to stocks, Professor Howard could not recommend the much used Japanese stock, in fact, he said it should absolutely be discontinued. If dependable French seed may be had and onto that a resistant trunk for the tree be grafted very good results may be had. Of the newer introduced stocks, P. usuriensis and P. calleryana, usuriensis was especially recommended in localities where high water table might prevail. Professor Howard recommended the use of resistant French stock or possibly usuriensis on which there is grafted a Surprise trunk. This tree is set in orchard form and reworked in the branches the third year.

Frank Swett handled the transportation question without gloves. He referred to the fact that normally New York City takes 35 per cent of California's perishable products. However, in a year like the present, normal shipments are not possible because of inefficient transportation and California grape growers have lost in excess of $10,000,000 and pear growers have suffered great losses. Experimental water shipments of pears have been made to Great Britain which have netted to the grower six cents a pound. That outlet will be used more freely another year.

Dean Hunt insisted that pear growers would serve their own interests best by producing only the best pears. Once produced they would insist on recognition of quality produced. They should be like the small boy in his retort to his mother when she asked as to how much is six times eight and again as to the product of three times 16 and again as to twice 24. Each time the problem had been instantly and correctly solved and the mother remarked, "That's good." The youngster instantly retorted, "T'aint good, that's perfect."

In dehydrators there are both good and indifferent. None of the speakers placed them in these classes but gave many valuable hints in the matter of dehydrating. J. O. Holt, president of the fruit growers association at Eugene, Oregon, gave much as to Oregon practices. Climatic conditions forced early consideration of some artificial means of curing fruit. In fact, first dehydration experiments in Oregon were back as far as the '80s. The tunnel type is the usual preferred type in Oregon. The most thorough investigation of principles and practices has, however, been made by the California college of agriculture. Professor Christie referred to the "jolt of 1918" which forced thorough consideration of some means of drying fruit other than the sun. In 1918, thousands of tons of high quality fruit were destroyed by heavy rains continuing nearly two weeks. Investigations have determined that best drying temperatures are between 120 and 140 at the beginning and 165 degrees at finishing. One of the principal factors in dehydrator success is in percentage of humidity. Volume of air and rapidity of travel under forced draft are likewise important. A velocity of 750 lineal feet per minute gives satisfactory results. There have been over 40 dehydrators built in California during the past year.

Professors De Ong and Essig gave valuable information as to control of red spiders, mites and thrips. The gist of their remarks may be given in "Get 'em before they get there or you'll never catch up." Both the speakers referred to bulletins of which they are authors for formulas for control of these pests. Professor de Ong's bulletin, "The Control of Red Spider in Deciduous Orchards," is just off the press and every orchardist interested should write College of Agriculture, Berkeley, for a copy. It is No. 347. Professor Essig's is Circular 223, "The Pear Thrips," and may also be had from the college. For red spider, first spray the 12th of July, never later, some preferring even a month earlier. Professor Essig insisted pear thrips may be almost completely controlled if treatment is begun early enough. The pest is now in the soil and thorough working of the soil aids somewhat in

(Continued on Page 567)

# Agricultural News Notes of the Pacific Coast

## Northern California

Farm center meetings in Shasta County at Fall River, November 25; Mountain, 26; Mellville, 28.

The almond crop of the state will amount to about 8,000 tons. Last year's crop was 6,000 tons.

On the first of November it was estimated that only 40 per cent of the potatoes in the Delta had been dug.

Fruit Growers and Farmers Convention at Sacramento, December 12-14 instead of November 21-23 as first announced.

Rains the latter part of October and first of November have interfered with rice harvesting. Not over 60 per cent of the crop has been harvested.

November 29-December 3 are the dates of the California state poultry show at Oakland Auditorium. More than 7,000 birds have been entered.

Lodi practically ended eastern grape shipments with the coming of general rains. Many of the later shipments have not brought satisfactory prices.

The superintendent of the Libby cannery at Gridley says he has 40 carloads of canned peaches ready for delivery but cannot secure cars for shipment.

At the recent meeting in Woodland of the Yolo, Solano, Colusa Wool Growers Association a vigorous campaign was planned against coyotes and mountain lions.

Apple shipments from California to November 1 were about 2650 cars as compared with 3750 cars last year. A larger percentage than last year will be sent to the dryers.

The Honcut-Yuba irrigation district comprising 31,000 acres will vote on a bond issue for $1,655,000 on November 24. The funds are for diversion of water from the Yuba and the building of canals.

Green tomato shipments from the Centerville packing plant in Alameda County are being held back by car shortage. Practically all are destined for Chicago. Those already packed are beginning to ripen.

It has been decided to construct the Sacramento-Sutter Counties joint district boulevard on top of the levee from a point south of Nicolaus where the present road now mounts the embankment, into Sacramento.

E. J. Stirminian of the agricultural extension service has been touring Shasta County with truck loaded with equipment to carry on farm home water supply, farm home lighting and tractor repairing demonstrations.

E. E. Kaufman reports California's yield of beans "other than Limas" as varying from four sacks to the acre in some sections to as high as 23 sacks in others, with an average for the state of about 780 pounds. About 200,000 acres will be harvested.

During the month of October in sunshine, Sacramento failed to line up to normal condition with a percentage of possible hours of sunshine of only 73 against a normal of 82 per cent. Although clouds obscured the sun more than usual, not as much rain as may be ordinarily expected during the tenth month of the year was recorded. The records show .72 of an inch of rain for the past month against an average of 1.04 inches.

## Central California

Barley fields are greening up in the valley.

Madera farm bureau center is campaigning for new members.

November 25-December 2, dates for Lindsay's first annual exposition and citrus show.

Local meetings of Kern County farm bureau at Shafter, November 27; Arvin, December 1.

Dr. Elwood Mead of the state university, has resigned as chief of the state land settlement bureau.

It has been estimated that California grape growers lost over $10,000,000 this year because of car shortage.

The Oakdale Almond Growers Association has shipped 24 carloads of nuts this season, almost double last year's record.

Final contracts for equipment for Don Pedro dam have been let by the Turlock and Modesto irrigation districts.

It appears that the Sweet Potato Growers Association of Merced County will not be able to operate this season because of failure in membership.

The raisin growers of California celebrated the tenth anniversary of the organization of the present successful raisin marketing association, November 15.

Santa Clara Valley prune growers are being converted to necessity of installing dehydrators. There have been 40 dehydrators built during the past year.

The Pacific Slope Dairy Products Show at Fresno last week resulted in education of a great number of people as to the importance of the dairy industry to the state.

Tests made by County Agent Jungerman of Stanislaus show increased production of almost a ton and a half of alfalfa per acre where ground was treated with sulphur.

According to figures given out by the Pacific Fruit Express, Southern and Western Pacific and Santa Fe railroads, California this year shipped east $84,000,000 worth of grapes.

Oakdale, Stanislaus County, stockmen feel that establishment there of extensive feed yards by Allen & Pyle will make this one of the large cattle shipping centers of Central California.

Records of the Kern County cow testing association show 24 cows producing over 45 pounds fat in the first month's test of the second year. Two produced over 70 pounds, 19 over 50.

The road improvement program of Fresno County for the past year was the greatest in history, according to C. P. Jensen, county surveyor. During the year there were 154 miles highway constructed, 42 miles oil road and 113 miles improved mountain road. Several large units in the highway system are now under construction.

For the first eight months of 1922 exports of raisins have amounted to four times as much as the entire year of 1921, according to report released this week by the Sun-Maid Raisin Growers. All exports this year amounted to $4,500,000. The Sun-Maid Raisin Growers has offices in London, Birmingham, Manchester, Glascow. Amsterdam and Copenhagen.

## Southern California

A citrus and poultry show is planned for Brawley in the near future.

The Woman's Club of Yucaipa held an apple festival, November 24 and 25.

Highways in Riverside County are to be resurfaced with gravel to halt deterioration.

Dried sliced oranges are being placed on the market by J. H. Strait of Redlands.

The Howard Rose Gardens at Hemet has just set in cold frames more than 2,000,000 cuttings.

Mayor Evans of Riverside is attending meeting of the Colorado River Commission at Santa Fe.

Thousands of new sign posts are now being placed by the Automobile Club of Southern California.

The annual election of officers in the Riverside County farm bureau will be held at Corona, December 12.

The Poultry Producers of Southern California, has under erection a concrete packing plant in Los Angeles.

The Westmoreland Waste Ditch Association will ask the Imperial Irrigation District to take over its system.

Cattlemen of Santa Barbara County met at Los Alamos, November 20, to discuss the association program for the winter.

The San Bernardino station of the Poultry Producers of Southern California will be discontinued after the present storage season.

The Palo Verde Cotton Association assures cotton growers payment on basis of 20 cents a pound for 1923 crop. A large acreage is expected.

Location of deciduous fruit specialists and experiment station in Southern California was asked by recent fruit growers institute at Van Nuys.

Mrs. Woodworth, for five years in charge of home demonstration work in Riverside, resigned her position. Her successor has not yet been appointed.

The Coachella Valley Grapefruit Association has just shipped a carload of grapefruit through the Mutual Distributors of Redlands which will market the association's crop this year.

Effect of burning, over of watersheds in San Bernardino mountains was felt during the recent rains when flood waters in Warm Creek and City Creek overflowed hundreds of acres and damaged several bridges.

Annual meeting of stockholders of the Southern California Fair Association will be held at Riverside, December 11. 45 directors will be chosen, among them representatives from Orange and Los Angeles Counties.

Citrus growers will ask quarantine inspection of all automobiles entering the state. This matter will be presented by A. E. Bottel of Riverside at the Farmers and Fruit Growers Convention at Sacramento, December 12 to 14.

Local farm bureau meetings will be held in Los Angeles County at Littlerock, November 28; Whittier, citrus survey meeting, 27; Whittier, December 1; San Fernando, 1; Downey, 4; Glendora, 4, Zelah, 6; Rivera, citrus survey meeting, 11.

## The Coast and General

Spain's citrus crop is from 25 to 30 per cent larger than last year's.

The Pan-Pacific Commercial Congress held session in Honolulu, October 26 to November 6.

Cooperative marketing as practiced by California farmers is being studied by Ontario, Canada, producers.

The Columbia basin project has been approved by report of F. M. Goodwin, assistant secretary of the interior.

The annual picnic of the Jersey Cattle Club of Oregon was held at Grays River, with 100 attendants.

Early October rains in the Yakima Valley of Washington have damanged alfalfa hay for baling and shipping.

The National Rivers and Harbors Conference will meet in 15th annual convention at Washington, December 6-7.

Enormous crops of fruit in Switzerland are embarrassing growers. Effort is being made to turn much of the surplus into cider and other juices.

Prune evaporating plants are busy in Oregon. They report that growers are delivering more than they can handle. Growers receive $20 a ton delivered at dryers.

Meat canning and meat products factories are proposed for Durban, South Africa, and other cities in the grazing area to profitably handle the large surplus of cattle.

A Seattle concern is planning to establish a large plant in Honolulu for handling cane sugar molasses as stock feed. Many of the sugar planters do not store or ship their molasses.

Speaking of high prices for vegetables. At Aden, Arabia, potatoes and tomatoes retail for about 80 cents a pound; onions and sweet potatoes 60 cents; spinach about $1.10 per pound.

The famine region of central China will this year harvest a crop of rice. Fruits, sweet potatoes, beans and peanuts gave good yield. Extreme famine conditions have prevailed there for more than a year.

Banana plantations in southwestern Mexico have been seriously damaged by hurricane sweeping the Gulf of Mexico. Heavy winds were followed by torrential rains which inundated great stretches of Campeche, Tobasco and Chiapas.

Switzerland this year is continuing her practice of the last seven years of buying up the entire domestic production of bread making grains and has guaranteed her growers a price higher than that prevailing on the international market.

Manitoba vegetable growers have a cooperative marketing organization chartered at $100,000, divided into shares of $30 each. The organization has a warehouse with storage capacity of 200 cars. Every share holder must be a bona fide grower of vegetables for commercial purposes.

Australian fruit growers, alarmed by falling off in exports of canned fruits and jams, have joined with the government in a thorough inspection service. All canning, grading, labeling, and packing is now carried on under expert supervision, and exportation of canned fruits is prohibited unless they are prepared and graded to the satisfaction of the customs department.

# Deciduous Pruning Results During the 1922 Season

By Vincent F. Blanchard, Assistant Farm Adviser, Los Angeles County

EVERY fruit grower in Southern California who has had an opportunity to observe his own neighbors' orchards knows the fruit crop situation for the past season. It has been one of the most disastrous fruit seasons in the history of the industry in California. On account of its poor quality canners have had to turn down fruit which had been contracted. Hundreds of tons of poor quality fruit were canned which should never have been canned. Many more tons of fruit were dried which were not even fit for drying. The fresh fruit markets were swamped with miserable undersized fruit which was hardly fit to eat. It has been a year of poor prices for the tonnage was great and the quality poor.

With these disastrous conditions staring him in the face the deciduous fruit grower has been on the hunt for the cause. Generally he has picked on pruning as being the cause and in some instances has determined to change his pruning practices back to the old standard California heading back system. Has the grower been justified in coming to this conclusion or has he overlooked some very important and pertinent factors which have an important bearing on the whole problem?

First Pruning of Apricot

Next year this tree will be full of fruit spurs as the result of letting light and sun into the center.

Up to four years ago the standard pruning method used in California was the open vase heading back system. All growers are familiar with this system and its effects on the trees, with the production of great length growth during a long period of the growing season; the great density of foliage produced which shaded out fruit wood and prevented fruit bud formation within the tree; and its propensity for producing irregular crops. As a result of investigations by the college of agriculture over a period of several years a different system was presented to the fruit growers of California. This system is essentially a thinning system, but is popularly known as the "long" pruning system. All investigations and trials of this thinning method pointed to its superior value in comparison with other methods. Trees pruned by this system bore fruit earlier, had a better distribution of fruit, greater production was obtained, and the fruit was of excellent quality when properly cared for. Orchards which had the two systems in use side by side showed consistently better results with the "long" system.

The agricultural extension service directed much of its efforts towards teaching the thinning system to fruit growers. Within four years 60 to 70 per cent of the fruit acreage of California was changed over to this system. It was expected with the adoption of this system of pruning by growers who had never pruned by it before that many mistakes would be made. Many mistakes were made, and it is indeed too true that a large percentage of those attempting to prune by the thinning system have made a poor job of it. Many have accepted the system as requiring but little if no pruning, others have tried modifications, and but few have really accomplished

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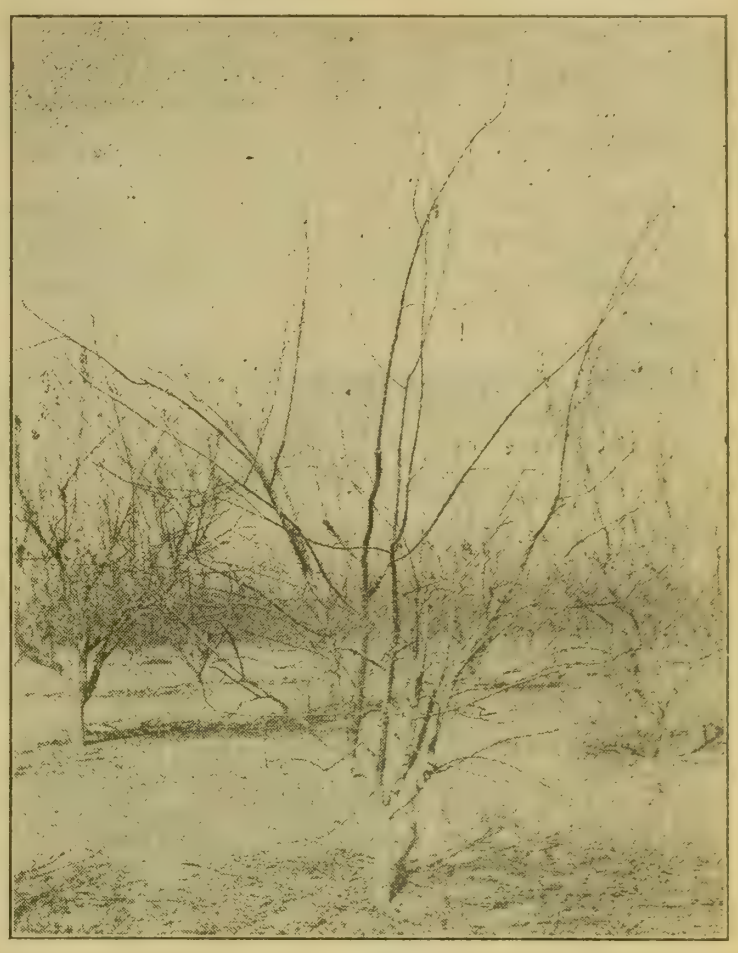

Satsuma Plum

Pruned by Dr. J. C. Whilten and considered an ideal tree.

# Long Pruning

By Leonard Coates

THIS would be better named "reformed pruning," the term "long" being somewhat misleading. It behooves all fruit growers to take heed, with an unbiased mind, to the principles laid down by the Davis farm exponents of this modification of the old method of heading back, which often amounted to a shearing of the tree top, if the work were done by not over intelligent hired help.

If it is admitted that the principle is right, then the practice must be equally correct whatever the age of the tree.

Dr. W. L. Howard has been able to show by the aid of charts prepared from the actual results of three years pruning by the two methods, that much that we had been taught to believe was mere theory and not borne out by facts. For instance: that to the extent the top of a young tree is headed back the roots will respond by making greater growth; the reverse being true. We always thought that a limb heavily cut back would make much more growth in diameter as well as length than a limb lightly cut, or not cut at all; the reverse again being true.

The figures shown were the results of experiments made with a large number of fruit trees for a period extending over three years, the averages being given in every case. At the end of three years the trees were taken up, and the wood growth, diameter and length measured, the fruit spurs counted, and both tops and roots weighed. In every case, except the downward growth of roots, the results showed nearly double in the long, or modified, pruning than where the trees were pruned after the manner in common use in California orchards. It is not easy to grasp the full meaning by reading the plain statement.

By the two methods of pruning, in the "reformed" system at three years the spread of roots was nearly double in length and in weight; who can estimate the importance, as it is in a more or less horizontal growth that roots obtain the food needed rather than in a vertical direction?

We aim to get a "stocky" tree and to that end adopt a very vigorous system of heading back. Dr. Howard's results show that in a given time the trees very lightly headed, and leading shoots not cut at all, showed almost double the diameter.

The reformed pruning promotes a much larger number of fruit spurs low down and on main limbs. In the case of the pear, more than double. If, as in the case of pears, fruit should set too heavily towards the end of limbs, some thinning of fruit may be advisable, and a light cutting of limb, always to a lateral, and of upward tendency.

In some instances, and as trees get older, the pruning will consist mainly in the thinning out of fruit spurs.

In all cases this system requires a much greater thinning out of wood growth than has been the practice in commercial orchards. On the other hand, and as economic compensation, there are fewer shoots to be thinned out than where the heavy cutting causes a multitude of sprouts to grow.

These are some of the main points from notes made on a recent lecture by Dr. Howard in Lake County.

There is no doubt that there is direct economy of labor in there being very many less cuts to be made. The more indirect saving of labor will be in ultimately securing a stockier tree with the accumulating advantages seen when harvesting a crop, spraying and pruning.

There is also less danger from sunburn on main limbs, as this method tends to make the spread of the tree gradual, so that the bark becomes ripened slowly thereby resisting injury from sun. The old method, by which the center of tree becomes more and more densely shaded, requires at times the use of the saw in cutting out large limbs. This results in admitting the sun's rays acutely where the bark has not been hardened to it, sun-burn and borers ensuing.

These are the facts, and I believe the fruit growers of California will be unanimous in their appreciation of the pruning demonstrations conducted by the pomological department of the college of agriculture.

# Golden Returns for Golden Fruit

A FEW paragraphs from the annual report of Manager E. G. Dezell of the California Fruit Growers Exchange were given in the last Cultivator. Crowded columns forced out much of the valuable part of the report. That part having to do with varieties of citrus and return for each was not given. It is given below:

By E. G. Dezell

### The Navel Orange Crop

The Navel orange season opened auspiciously. The movement from the early districts in central and northern California dovetailed into the finish of the Valencia season, thus making the supplies of California oranges continuous. The fruit met with a strong demand; and although the crop ran to rather small sizes, less desirable at holiday time, the results obtained were satisfactory.

Cold weather during November in the central and northern districts impaired the quality of a portion of the fruit, materially reducing the supply of Sunkist fruit from that source. The shipments of Navels from the central and northern California districts were substantially the same as those of the previous year.

On account of the small sizes and late maturity, the early shipments of Southern California Navels through the exchange were much lighter than usual, amounting to only 73 cars prior to December 10, as compared with from 500 to 1000 cars ordinarily shipped for the holiday market. The great bulk of the Southern California crop was on the trees at the time of the freeze; the shipments amounted to only 40 per cent of the estimated crop. There was a heavy dropping of Navel oranges during the season; much of this was fruit that had been badly frozen but there was also a considerable drop of good fruit.

The exchange shipments of Navel oranges from all districts for the year equaled 10,101 cars, as compared with 18,732 cars in 1920-21 and 12,406 cars in 1919-20. Expressed in boxes, the shipments were 4,040,424 boxes this year, 7,492,606¾ boxes in 1920-21 and 4,962,588½ boxes in 1919-20. The market strengthened immediately following the freeze and high values prevailed throughout the movement of the crop. Shipments were completed about five weeks earlier than is usual with that variety.

### Other Oranges

The Seedlings, Mediterranean Sweets, St. Michaels and other miscellaneous varieties were moved early because of their tendency to drop following the cold weather. The comparative demand for these varieties was lessened on account of their running to extremely small sizes, but the prices received were considered as generally satisfactory. The exchange shipments amounted to 613 cars, as compared with 1,410 cars for the previous season.

The prevailing high prices on both California and Florida oranges attracted to the United States increased importations from Italy, Spain, Brazil, Australia, South Africa, Costa Rica and Honduras.

### Grapefruit

Grapefruit shipments through the exchange totaled 423 cars, which is a reduction of approximately 100 cars as compared with that of the previous season. The crop was of better than usual quality as to shape, texture and thinness of rind, and shipments were made to eastern markets immediately following the clearing up of the Florida crop,—the good prices received being in part a reflection of the more continuous supply thus created. In western coast markets competition from Arizona and the Imperial Valley is increasing; on the other hand, in the larger eastern cities, there is every indication that the wholesale fruit trade is becoming more interested in good quality California grapefruit for sale during the summer months.

### Valencia Orange Crop

Included in the season's records are 401 carloads of the 1921 Valencia crop, which were shipped after November 1. They sold at high prices because of the lateness of the California Navel and the unsatisfactory keeping quality and immaturity of the early Florida shipments.

The first shipments of the 1922 Valencias followed the clean-up of the Navels. A few shipments went forward in March and the movement was quite heavy by April. The crop was estimated before the cold weather to be 12½ per cent greater than that of the previous season of maximum production, but due to the loss by the freeze and the extremely small sizes prevailing, the exchange shipments totaled only 9,273 cars as compared with 18,054 cars the preceding year, and represented but 46 per cent of the estimated crop.

### Next Year's Prospects

The cold weather of last January damaged the tender fruit wood on orange trees quite seriously in some sections, and this will be reflected in the crop for next season. The preliminary estimates of exchange shippers for the season 1922-23 indicate a production of about 75 per cent of a normal crop. It is expected that the trees will have fully recovered by the following year.

### The Lemon Crop

The estimate of January 1 indicated a crop for the season of nearly 15,000 cars,—an increase of 3,000 cars over the previous year and 6,000 cars over 1920. The estimated California crop was in excess of the combined supply of California and imported lemons in any previous year. The total supply of lemons in the United States in 1920-21 was 13,903 cars and the year before 13,251 cars. Two years ago, the California crop as a whole sold at a loss, and it was only the unusually hot summer in 1921 that allowed the average price for that season to be above the cost of production.

Because the principal lemon acreage is in the districts where the temperatures were not so severe and a larger proportion of it was protected by orchard heating devices, the lemon crop suffered less than the orange crop by the freeze in January. The fruit picked after the freeze amounted to 64 per cent of the quantity originally estimated to be picked from that date.

The prices on lemons, when compared with other years, were not materially affected by the freeze because, due to the increased crop, the shipments from California were greater after that time than in any other year, excepting 1919 and 1921, and the importations of Italian lemons were increased. However, it is questionable whether the entire crop, with the addition of normal imports, could have been marketed to advantage considering the high cost of its production.

The importers of Italian lemons apparently overestimated the damage to the California crop, although the trade was advised by the exchange of actual conditions and its estimate of fruit to ship. Large quantities of lemons were imported—the total for the 12 months beginning November 1, 1921, equaling 3,372 carloads. This was 62 per cent in excess of last year's receipts of foreign lemons and 23 per cent above the average of the past four years. The importations during May, June and July amounted to 1,505 carloads, or 100 per cent increase over those of the same months in 1921. Foreign lemons were also imported into Canada in much larger quantities than usual, the fruit being shipped even into the far western provinces.

California shipped 9,926 cars of lemons, as reported by the railroads, during the year ended October 31, compared with 11,805 cars the preceding year and an average of 9,021 cars per year for the last five years.

The total supply of lemons this year, including importations, amounted to approximately 13,000 carloads, which

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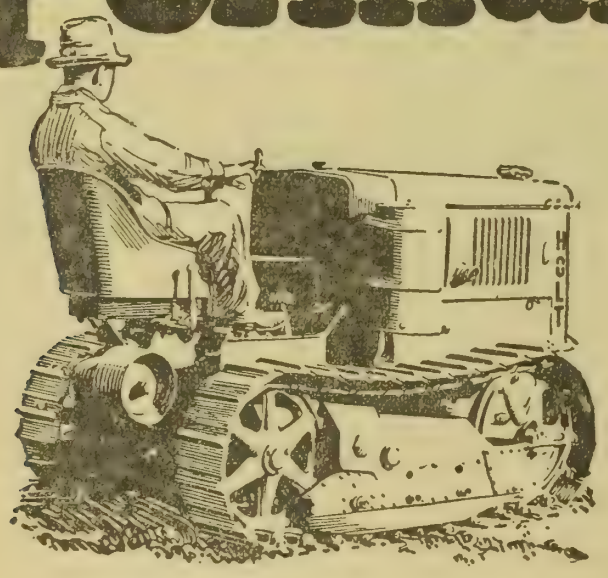

In little more than a year model T35 *"Caterpillar"* Tractor has established a permanent place for itself in the field of power equipment.

The many years of experience in tractor development and the long period of designing, refinement and testing that preceded the first announcement of the model T35 Tractor, a little more than a year ago, assured its success from the start.

But, though much was expected of this tractor, its actual performance in field service has surpassed the highest hopes. And the recognition, by power users, of its superior merit, has established for the T35 a permanent place in the field of power equipment and developed, in comparatively short time, a tremendous market. Increased demand has necessitated increased production, effecting economies that permitted a $375 reduction in price at the start of the second years' production.

If you have not yet heard the complete story of this "Supreme Small Tractor", let us tell you where you can see it at work, or send you literature descriptive of it, or of the larger sizes of the "Caterpillar" Tractor—the 5-ton, Western 10-ton, or 75-horsepower.

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is only slightly below that of the past two years.

It is true, however, that except for the frost damage California would have produced this year considerably more lemons than the United States and Canada have ever consumed, and the most intensive work to further develop the markets and increase the per capita consumption is necessary to successfully market prospective future crops. Lemon trees are more susceptible to damage than orange trees due to their more vigorous growth in the winter months, and next season's production will be more seriously affected by the freeze of last January than in the case of oranges. Nevertheless, the prospects are for a greater quantity than was shipped this year, and the rapid recovery of the groves inidicates a production in 1924 of as large a crop as California has ever shipped and an increasing one thereafter.

**Exports—Water Transportation**

On account of the scarcity of fruit of suitable quality and sizes and the high prices prevailing in the United States, exchange shippers have not attempted to further develop the orange market this year in the United Kingdom and continental Europe. Transportation rates to Europe have been favorable and financial conditions in Great Britain have shown considerable improvement, but European prices on oranges from other countries have been so much below values in the United States that it was necessary to defer further efforts to establish our fruits in those markets. However, a fair volume of fruit has been exported to the Orient during the past season.

The movement to form an independent steamship company to transport California products through the canal to eastern seaboard markets, which was under consideration by the citrus industry, was postponed following the freeze.

During the season there were shipped to the Atlantic coast points, via the Panama Canal, 53,448 boxes of lemons. Because of the heavy importations of foreign lemons and the uncertainty of prices in Atlantic coast markets, there were no shipments by water after the month of March.

## SHORT COURSE IN FRUIT GROWING

The division of pomology of the University of California offers a week of instruction, December 4 to 9, in the growing of deciduous fruits. This is part of the farmers' short course given at the university farm, Davis. The work includes the essential practices for growing almonds, apples, apricots, cherries, peaches, pears, plums and prunes.

The lectures and practice periods will be under the direction of specialists who know the work and know how to teach it to others. Particular attention will be given to spraying, pollination and pruning. The week program is:

Monday, December 4.—8:00-10:30, registration. 10:30-12:00, lecture and demonstration: Fruiting Habits of Trees and How They Grow. 1:00-2:30, lecture: Principles of Pruning Young Trees. 2:30-4:00, demonstration: Pruning Young Trees in Experimental Orchards.

Tuesday.—8:00-12:00, lecture and demonstration: Pruning Young Trees in Experimental Orchards. 1:00-2:30, lecture: Principles of Pruning Bearing Trees. 2:30-4:00, demonstration: Pruning Bearing Trees in Experimental Orchards.

Wednesday.—8:00-10:00, lecture and conference period: Diseases and Insect Pest Control. 10:00-12:00, demonstration: Making and Mixing of Sprays, and Spray Machinery. 1:00-4:00, demonstration: Pruning Bearing Trees in Experimental Orchards.

Thursday.—8:00-10:00, General round table conference period. 10:00-12:00, field demonstration: Irrigation Practices. 1:00-4:00, pruning demonstrations: Almonds, Apricots, Peaches, near Winters.

Friday.—8:00-12:00, demonstrations: Pruning cherries, plums and other trees. 1:00-4:00, near Vacaville.

Saturday.—8:00-12:00, demonstrations: Pruning pear trees in the Sacramento. 1:00-4:00, River orchards.

One important feature is the general round table conference period when growers' special problems will be considered and discussed. A fee of $1.00 will be charged for the course at registration. To help provide transportation to the orchards in the Winters, Vacaville and Sacramento River districts growers are urged to bring their cars.

## MORE MONEY FOR ALMOND GROWERS

More money clinked into purses of members of the California Almond Growers Exchange last week with the completion of the exchange's second advance of three cents per pound upon Paper Shell varieties of 1922 crop almonds. This is the earliest second advance made by the exchange since 1919.

To date almond growers, who are members of the Exchange, have received a total of 15 cents per pound advance on Nonpariel, 14 on I. X. L. and 13 on Neplus. Recent reorganization of the almond growers cooperative on the basis of five year crop pooling agreements has enabled the exchange to make these unusually large advances because of the increased banking credit and financial stability afforded by the five year agreement.

Considering market conditions this year and the car shortage, the ability of the exchange to make the advances it has is considered by business men, farm cooperative executives and growers who are in touch with conditions an achievement of no mean proportions. The growers generally throughout the state are well pleased with the operation of the new pooling agreement which has made possible these advances.

## USES OF GYPSUM

A growing interest in the use of gypsum is manifest among the farmers of the San Fernando Valley, Los Angeles County. For the past two years fields of potatoes have been treated with gypsum, and so satisfactory have been the results that the county farm adviser states the amounts used last year will be doubled this year. Not only has its use stimulated the crop, but it has decidedly checked potato scab and given a cleaner smoother skin. The county of Los Angeles has been experimenting at its farm with the use of gypsum to neutralize or render harmless black alkali, with excellent results. In the same county several other plots have been treated with the same purpose in view and it now looks as if we shall have an increased use of gypsum. This is one use where lime cannot replace it. Gypsum may replace lime to flocculate clay and adobe soils and has a beneficial effect on the soil organisms in the nodules of leguminous plants. In this respect Prof. J. W. Nelson of the state college of agriculture says:

"Gypsum may be used with advantage on alfalfa fields to stimulate growth. This is especially to be remembered in connection with alfalfa fields of several years standing in which bare patches are found. An application of gypsum in such cases, not to exceed 300 or 400 pounds to the acre, along with fall disking, will usually stimulate the plants and rejuvenate the field. The reason for this is believed to be that gypsum is a stimulant to the alfalfa plant itself and to the nitrogen gathering bacteria that grow in the nodules on its roots."

## UNRIPE AVOCADOS SOLD

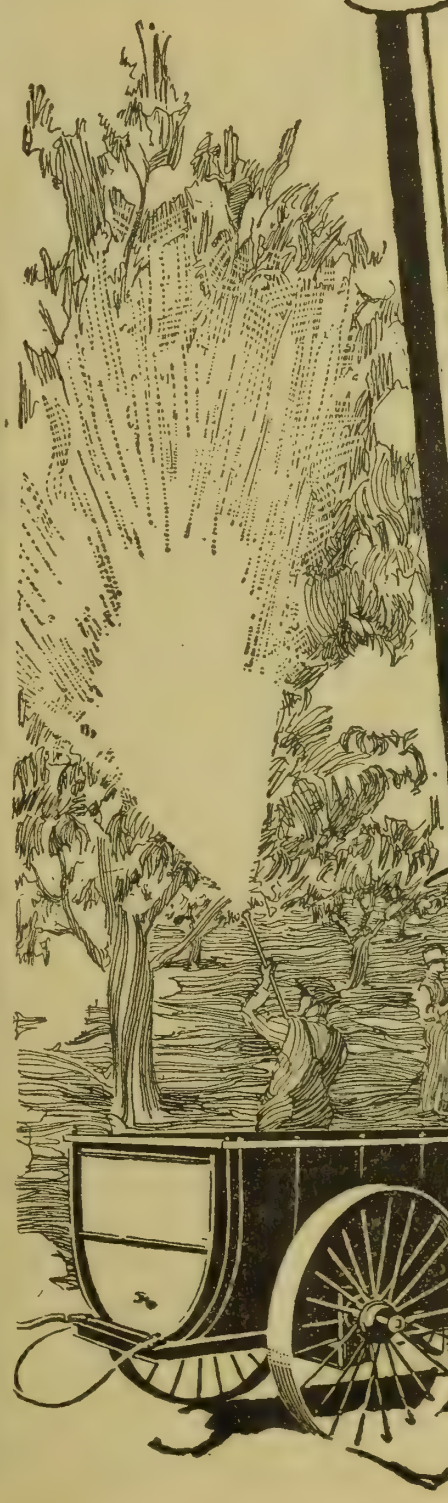
Members of the California Avocado Association are much wrought up over the appearance in the Los Angeles market of large quantities of absolutely green avocados—windfalls. Every autumn the strong winds bring down great numbers of avocados in all stages of growth. Some of those lately on the market weighed about four ounces, which at maturity should weigh eight or ten times as much.

## FOREIGN SEED INVASION

The New York agricultural experiment station is sending out warning to farmers against the use of foreign clover and alfalfa seed now being imported in large quantities. They state that invariably the use of this seed results in poor stands due to winter killing and disease.

They further advise the use of Western grown seed and say that growers should only purchase American seed that is guaranteed to be of Western origin.

This should be welcome news to the seed producers of the Western states as it gives some encouragement to an industry that has not fared any too well in the past.

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## DECIDUOUS PRUNING RESULTS DURING THE 1922 SEASON

(Continued from Page 557)

the method as advocated. With these poor attempts at pruning just as poor results have been obtained with fruit quality. As a consequence the thinning system is being blamed for the poor quality fruit.

### Reasons for Poor Results

If it is true that the fruit growers have made a poor job of pruning what then are the various factors concerned in getting those poor results, and what means should be used to avoid them? In discussing that question it will be my purpose to consider each of the criticisms presented by growers with whom I have come in contact on the subject.

### Overbearing

The main cause for overbearing is not pruning enough. Many comparative tests have been made with deciduous fruit trees to determine the effects of severe cutting as compared with light pruning and no pruning. Practically every such test has shown by far a greater proportion of fruit buds when no pruning is practiced, a less amount with moderate pruning, and the least number with heavy pruning. With the extremely moderate pruning given by growers trying the thinning system, an enormous quantity of fruit buds was formed, especially in the tops of the trees and on hanging branches. With the great crop produced the trees were not able to mature and support the fruit. Overbearing is not a mysterious or difficult problem, but it can be easily handled by giving adequate pruning. There is more damage resulting from insufficient opening up rather than pruning too much.

### Small Fruit

By far the greater percentage of orchards this past season produced small fruit both on short and "long" pruned trees. That one factor cost the deciduous growers of California thousands of dollars just this season.

It is characteristic of most kinds of trees to produce more fruit buds than will set. The only solution in handling a full crop is to reduce the number of fruits. It requires more energy from the tree to produce two fruits than it does to produce one of their combined weight.

An illustration of the value of thinning apricots is given by an apricot orchard at Chatsworth owned by Wm. Parmentier in which the extension service has conducted a pruning demonstration plot for two years. Realizing that but few apricot growers were really practicing thinning of fruit where there was a full crop, trees in the pruning plot were thinned heavily and checked against trees not thinned. Splendid results were obtained where thinning was practiced as shown in the following chart. It is interesting to note that the "long" pruned trees produced larger fruit than the headed back trees. Any peach grower who has gone through this past season knows that thinning is a necessity. The essential thing to bear in mind is to thin enough.

### Apricot Thinning Results

Parmentier orchard 1922:

| System | Thinning | Fruits Per Lb. | Yield |
|---|---|---|---|
| Long | Terminal only | 12 | 290 |
| Headed | Clusters (⅛) | 14-15 | 240 |
| Long | ½ | 9-10 | 300 |
| None | None | 17-18 | 200 |

One benefit derived from thinning which is not often considered is its influence on regular bearing. When trees are allowed to produce a full crop so much energy is used that they are weakened and the following year a small crop is grown. With a small crop following a large one the trees have a chance to recuperate and a large crop is produced the next year. So an alternate bearing habit is acquired. Heavy thinning reduces the number of pits and permits more energy to be directed towards preparing for the next year's crop. It enable trees to bear regularly. No grower, whether of peaches or apricots, can afford not to thin his fruit.

Another important reason for failure of fruit to size sufficiently is that in many instances the trees become weakened by insufficient soil moisture. When soil moisture gets low the water is pumped out of the fruit into the leaves and their growth is checked. The detrimental effects from irrigation before a crop is harvested are largely from letting the moisture get low and then irrigating. Providing adequate moisture at all times will not result in poor quality fruit but will be just the opposite in its effects. Never let the soil moisture get low!

### Scabbed Fruit

There were two classes of scabbed or otherwise marred fruit during this past season,—apricot fog scab and mars from insects and fungus diseases. The statement has been made that the trees pruned by the "long" pruning system have been more subject to the apricot fog scab than those pruned by the heading back method. Careful observations have shown that there were many "long" pruned trees which were marred by fob scab, but in every instance it was either where the grower did not knock fruit from terminals of branches as recommended with this system or where the trees were going through the first year pruned "long" and had not yet clothed themselves with inside fruit wood. A long pole with a hose attached does a good job in knocking off such fruit. Such fruit is invariably of poor quality even though climatic conditions do not favor fog scab. It stays there at the expense of fruit below and it must be gotten rid of. Fog scab in most instances was the result of poor work rather than the fault of any system of pruning.

Fruit marring, caused by insects and diseases, can be controlled by standard sprays during the regular spraying seasons. It is merely a question of proper application, using the right materials at the right time.

### Breakage of Lmbs

One of the most serious complaints with the "long" system was that limbs broke down under weight of fruit. In most every such case breakage could have been avoided if proper attention were given to knocking fruit from the terminals and thinning and propping. Distribution of fruit has a great bear-


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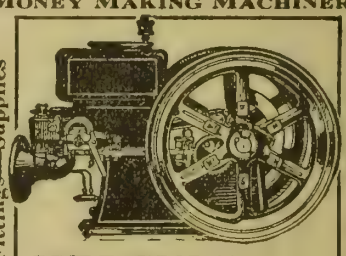

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ing on the ability of the tree to hold up a crop. If the major portion of the crop is well within the tree and low down, rather than in the top, there is not much danger from breakage. Another reason for breakage is that many trees pruned "long" in recent years were headed back previously, causing weak places. When the branches beyond the weak places became loaded the weight was too great and the limbs broke. Growers should bear in mind that no limb is stronger than its weakest place, therefore prune and thin accordingly.

Still another reason for breakage is where growers leave too many limbs in the tops, with the result that they never grow sufficiently in diameter to hold up a large crop. The "long" pruning system calls for five to six main leaders only. A few large limbs are better than many small ones.

### Fruit Inside and Within Reach

Some growers during this past season and in previous years have complained that they cannot get fruit spurs and fruit buds to form within the trees and low down. Such a result is due to insufficient opening up in the tops of the trees. It is only by means of sunlight coming in contact with dormant buds that bare limbs and branches can be made to produce fruit spurs and fruit buds. With the "long" system, when properly used most of the fruit can be picked from the ground after the second year.

### Heading Back Pruning Results

The discussion so far has been concerned mostly with poor results obtained from the "long" system. It might be well to consider what results were obtained from the old California heading back system. More fruit was set with the heading back system this year than in several years past. The conditions which favored fruit setting generally were also helping trees pruned by the heading back system to retain a large set. With apricots this heavy set resulted in large clusters of fruit being formed. Where proper thinning was not practiced this bunched fruit was small in size. With peaches heavy thinning was also required, and when not well thinned the fruit was just as poor as with treees pruned "long" and not thinned adequately. In examining both peach and apricot trees it was very evident that the fruit bearing area was restricted and but little fruit was produced within reach on older trees. In comparison with "long" pruned trees the tonnage was from one-third to one-half less with the heading back system as compared with those pruned "long." The average production for apricots in the San Fernando Valley with heading back system was under four tons per acre. No grower can continue on such a production basis with high land values.

Comparing the heading back system with the "long" system, where both were done at their best, no better quality of fruit was produced with the heading back system, and certainly the tonnage was less with it.

### Favorable Results with "Long" Pruning

For four years the agricultural extension service for Los Angeles County has been conducting pruning plots in the various deciduous fruit districts. In these plots both the heading back and the "long" pruning systems were used. Careful observations are made on the conduct of trees in these plots. In every instance where the cooperating grower had done his part in handling the other horticultural operations the "long" pruning system has given greater crops of good fruit than those headed back. Trees which carried crops of 250 to 350 pounds have produced first quality fruit in spite of the great crop. This has been true with both apricots and peaches.

There are many individual growers whose orchards have been observed over a period of years, who are making a success in producing large crops of good fruit with the "long" system of prunning, when other good horticultural operations are practiced.

The following chart shows per acre production results with four orchards. Excellent quality was obtained in spite of the high yields.

Long pruning results 1922:

| Orchard | Age | Yield Per Acre |
|---|---|---|
| C. B. Sexsmith, Owensmouth (apricots) | 9 | 10 tons |
| Mark Grimes, Van Nuys (apricots) | 6 | 8½ tons |
| Wm. Parmentier, Chatsworth (apricots) | 8 | 11 tons |
| M. R. Proctor, Van Nuys (peaches) | 5 | 7 tons |

Claude Gibbs, a commercial pruner and grower of Lankershim, tried "long" pruning on a small scale in his peach orchard two years ago. During this past fruit season Mr. Gibbs kept production records on the two systems, obtaining the following results.

Pruning results Gibbs orchard 1922:

| System | No. Trees | Boxes | % Increase |
|---|---|---|---|
| Headed back | 8 | 45 | ..... |
| Long one year | 8 | 52½ | 16.66 |
| Long two years | 8 | 61 | 35.5 |

Mr. Gibbs stated in his report to the extension service, "With me the "long" pruning has been highly satisfactory. We have better fruit than ever before, while most people complain of having poor fruit this year. We will get more than one-half again for our fruit than as if I had pruned the short system. Besides, I find easier sale for it as it is much bettter quality and a higher color. We find the picking also is much easier as well as faster, and when picking always


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Naturally, the development of an orchard plow to work behind the Fordson tractor had much to do with making these important advantages available to fruit growers. The result of such development is the special Oliver Orchard Plow. Not only will it run close to trees and vines, but it is so made that it does not injure even the low hanging branches. With its three bottoms, a lot of ground can be covered in one day. And with the special design, thorough work is assured. The hitch allows for the plow to run to the left or to the right of the tractor, or directly behind it. Thus the soil may be thrown toward or away from the rows.

Possibility of tearing branches or barking tree trunks is removed by eliminating levers and setting the wheels within the cut of the bottoms. Crank screws take the place of levers and the power lift trip is below the level of the frame.

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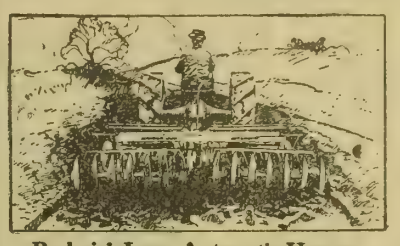

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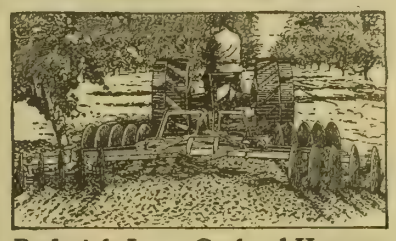

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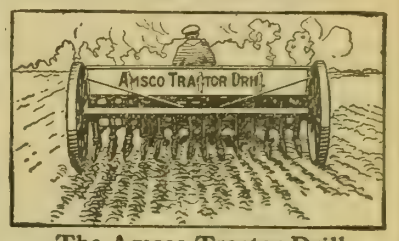


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dread getting to the "short" system. I had some branches break but in every case they were poorly thinned. Only about one-half of my "short" system fruit came up to cannery specifications this year. Most people who complain pruned nearer by the "let alone" system than any other, thinking they were doing the "long" system.

Pruning of deciduous fruit trees is not a mysterious horticultural operation—it is not even difficult. But it does call for a knowledge of the fundamental principles of tree growth and fruit production. More damage can be occasioned by a poor job of pruning than can be made up for by good soil handling, irrigation and spraying. It should be given special attention rather than indifference by the grower.

The pruning of deciduous fruit trees is now under way. The pruning job was poorly done last season. It must be done better this season if the industry is to prosper. It will take merely the application of the best known practices to accomplish a good job.

# Questions and Answers

**Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Acacia Pycnantha

Please tell me about Acacia pycnantha, size and life of tree, bloom, etc.—Subscriber, Whittier.

Acacia pycnantha was introduced to California for the tannic acid content of its bark, but is now sparingly grown as an ornamental. It bears the largest, most beautiful blossoms of all acacias, but the tree will not grow or remain shapely even with severe pruning. It sometimes grows up to 50 feet high but is straggly and of poor shape, the lower limbs early dropping away. We do not recommend it for planting; there are several better acacias.

### Grapes Fail to Ripen

Some of my Thompson Seedless grapes do not make sugar. They are all first crop and good sized berries. I did not begin to pick until the 8th of September. Vines had good growth, no mildew and large crop of fruit.—Subscriber, Madera.

The complaint of raisin grapes failing to ripen uniformly has been quite a general one throughout the entire raisin district this season. Many reasons have been advanced but so far as we know there is no single cause for the trouble except the fact that the season was late. The trouble may be due to soil conditions or methods of applying water. It is possible that someone who has made a study of raisin production, such as your local farm adviser or horticultural commissioner or some one from the growers service department of the Sun-Maid Raisin Growers should visit your ranch and advise you regarding the probable cause.—F. K. H.

### Concords Not Resistant

Are Concord grapes on resistant root as prolific as on nonresistant root, and would you advise planting Concord on resistant root? They have proved heavy bearers in this locality on nonresistant root.—Subscriber Paradise.

While the Concord grape appears to be resistant in the East, we are informed by the U. S. department of agriculture that it does not appear to be in California, therefore, in planting this variety in districts known to be infested with phylloxera they should be grafted on resistant roots. Experiments by the U. S. department of agriculture indicate that they make a good union with the resistant root and that they are just as prolific as when planted on their their own roots. The writer does not know of the existence of phylloxera in the Paradise district and if on investigation you find that this insect is not prevalent in that district, there would appear to be no reason for planting grafted vines, as they are more expensive in every way. This same advice applies to the Delaware and Niagara varieties.—F. K. H.

### California Plums

Please tell me if the California Blue and the President Blue plums are good for Southern California. Also is the Duarte plum a good one to grow for market in the south?—Subscriber, Saticoy.

The two first mentioned plums we do not know nor are they listed in any California catalog we have. Nurserymen who were asked about them state they never heard the names before. The Duarte is a blood plum closely resembling the Satsuma and fruits about two weeks earlier. While a new plum it is steadily growing in popularity and last year sold readily as Satsuma before the real Satsuma was ripe.

### Strawberries and Peas

What is the best commercial strawberry to plant here and when? Also best peas, caulflower and cabbage to plant this month?—Subscriber, Fillmore.

There is no better strawberry for your section, so far as we know, than the Carolina. It may be planted earlier, but February is as good as any month. For years Yorkshire Hero has been the leading pea but of late the Stratagem and the Dwart Telephone are becoming more popular with gardeners who grow the best. As for cabbage and cauliflower we merely answer plant the kind or class you want. Every large dealer recommends varieties handled by himself alone, therefore all must be good. To name any might be interpreted as favoritism.

### Grapes and Guavas

I have a guava bush that does not bear at all. It is in healthy condition but bloom never sets. Tell me what to do with it. I also have a lot of grape vines on my arbor and they keep dying out. Tell me what can be the trouble with them.—Subscriber, San Fernando.

Possibly the guavas were too near a row of eucalyptus trees. We have a row of guavas near eucalyptus which serve an ornamental purpose, but for ten years have borne nothing. Guavas require water and rich soil. If we have not guessed right come again with more particulars. As to the grapes it may be the reverse—that is, too much water. Or it may be the mysterious "Anaheim Disease."

### Tariff on Eggs

We saw from the California Cultivator of October 7 that the new tariff on eggs is eight cents a dozen. Will you please tell us through the Cultivator what the tariff was before the new tariff went into effect?—Subscriber, Lanare.

Under former act there was no tariff on eggs.

### Spraying Apples

Please advise as to spraying Bellflower apples. The apples are wormy and knotty.—Subscriber.

Spraying for codling moth (the

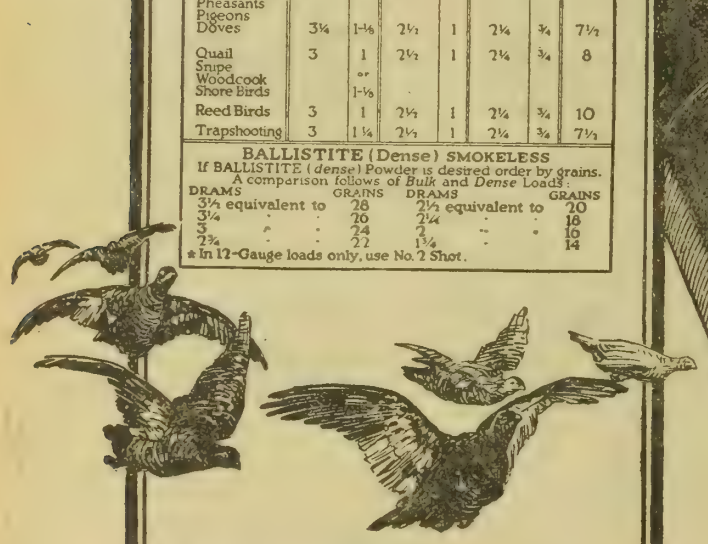

STANDARD LOADS of DU PONT SHOTGUN POWDERS

| Kind of Game | DUPONT (Bulk) SMOKELESS 12 GAUGE DRAMS | 12 GAUGE OZ SHOT | 16 GAUGE DRAMS | 16 GAUGE OZ SHOT | 20 GAUGE DRAMS | 20 GAUGE OZ SHOT | SHOT SIZES ALL GAUGES |
|---|---|---|---|---|---|---|---|
| Turkey Geese | 3½ | 1-⅛ | 2¾ | 1 | 2½ | ⅞ | *2 & 4 |
| Brant Large Ducks | 3¼ | 1-⅛ | 2¾ | 1 | 2½ | ⅞ | 4 in flight 6 over decoys |
| Medium Ducks Grouse Prairie Chicken | 3¼ | 1-⅛ | 2½ | 1 | 2¼ | ¾ | 6 |
| Squirrels Rabbits | 3 | 1 | 2½ | 1 | 2¼ | ¾ | 6 |
| Small Ducks Pheasants Pigeons Doves | 3¼ | 1-⅛ | 2½ | 1 | 2¼ | ¾ | 7½ |
| Quail Snipe Woodcock Shore Birds | 3 | 1 or 1-⅛ | 2½ | 1 | 2¼ | ¾ | 8 |
| Reed Birds | 3 | 1 | 2½ | 1 | 2¼ | ¾ | 10 |
| Trapshooting | 3 | 1 ⅛ | 2½ | 1 | 2¼ | ¾ | 7½ |

BALLISTITE (Dense) SMOKELESS
If BALLISTITE (dense) Powder is desired order by grains. A comparison follows of Bulk and Dense Loads:

| DRAMS | GRAINS | DRAMS | GRAINS |
|---|---|---|---|
| 3½ equivalent to | 28 | 2½ equivalent to | 20 |
| 3¼ " " | 26 | 2¼ " " | 18 |
| 3 " " | 24 | 2 " " | 16 |
| 2¾ " " | 22 | 1¾ " " | 14 |

* In 12-Gauge loads only, use No. 2 Shot.



*When you do get the time for a few days' shooting, you want to make every shot count. If you select standard loads from the table above, you don't need to worry about your ammunition. A century of experience will be behind your trigger finger.*

Du Pont makes powder — not shells. Du Pont Powders are loaded in every brand of shell. The name "DU PONT" or "BALLISTITE", printed on the carton and the top shot wad, tells you what powder you are shooting. Specify the powder when you buy the shell.

E. I. DU PONT DE NEMOURS & CO., Inc.
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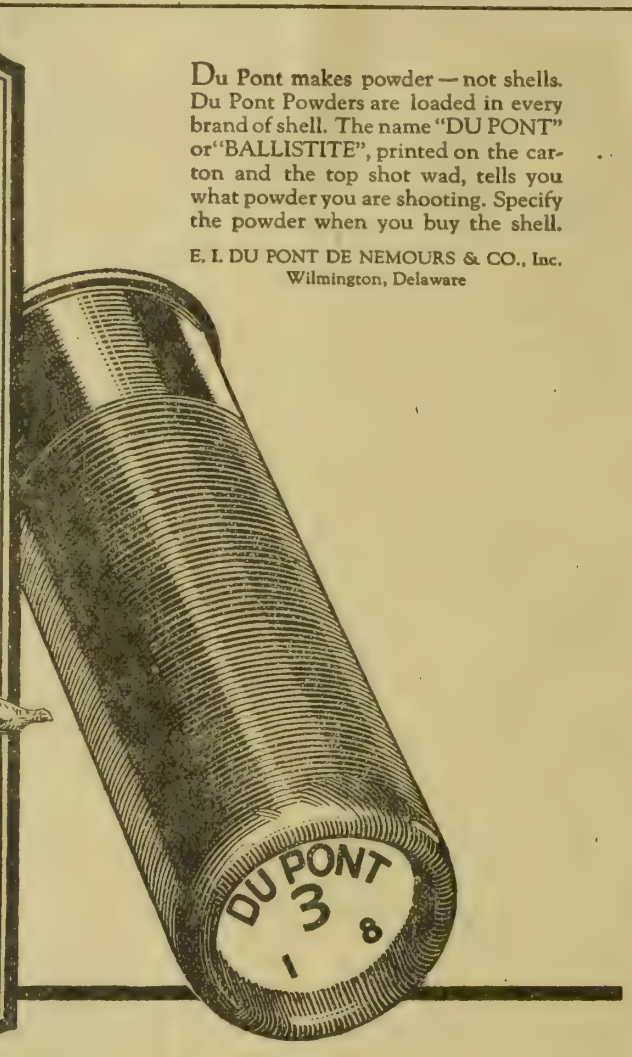


What every man wants in a shotgun powder is given him in "Du Pont" and "Ballistite" . . . . . that means confidence — and that means a full game bag. Is that not reason enough to look for the name on the carton and top shot wad?

SHOOT DU PONT POWDERS

DU PONT

cause of your apples being wormy) should be done in the spring. The first application should be made when the calyx cups are still open (when the petals are mostly off or within a few days thereafter). The spraying should be done with arsenate of lead, using four pounds of arsenate of lead paste or two pounds of arsenate of lead powder to 100 gallons of water. For effective work the spray should be applied by a power sprayer under 150 to 200 pounds pressure so that the solution will reach every part of the tree and fill every calyx cup. A second spraying should be given in about three weeks after the first, with a third application following in about four weeks. In the case of a single tree it would probably be more convenient to use the arsenate of lead in dust form, which can be applied under favorable weather conditions and is equally effective excepting where strong winds are too constant. Hand operated dusting machines with bellows of large caliper are especially suitable for this class of work. For more detailed information see articles in our issues of September 24, 1921, Page 317 and April 29, 1922, Page 458.

### Root Crops for Milk Production

What kind of root is most suitable as milk producer for dairy cows? When should it be planted, and about what tonnage would it yield on river bottom land?—Subscriber, Oroville.

Golden Tankard mangels and White Belgian carrots are the most satisfactory, but feeding them in quantity, while it increases the milk supply, decreases the butterfat per cent. Beets can be planted as soon as the ground gets warm enough to germinate the seed in four to six days, an average temperature of 48 to 54 degrees supplying this. The yield is from 15 to 20 tons per acre in good years.

### Waterproofing Concrete

What is the best way of waterproofing concrete reservoir, trough, etc?—Subscriber.

This is answered by A. L. Rosing of the Portland Cement Association:

"The best way to waterproof existing concrete structures is to give the interior surface a coat of waterproofing cement paint. This paint, which is applied like any other paint, would retain the original color of the concrete. Another good way is to give the inside surfaces an application of asphalt or tar, heated to 250 degrees. To be sure of a permanent job, especially if the structure leaks badly, strips of burlap should be applied to the surfaces immediately over the first application of tar, and this followed by another application of tar or asphalt. The objection to this method is, of course, that it makes the structure black on the inside. For smaller structures an economical way would be to give the surfaces an application of waterglass. While not as permanent as other forms of waterproofing, this method is very satisfactory for smaller structures. In all of these methods of treatment, it is necessary for the surface to be dry before the treatment is applied. The cracks and open construction joints should be chipped out near the surface and pointed up with good Portland cement mortar. In new structures waterproofness is obtained by using a 1:2:3 mixture with well graded aggregates and no more water than necessary to produce a workable mix. The concrete should be well spaded in the forms so as to remove air pockets and concreting should be continuous from top to bottom without construction joints. Reinforcement with wire mesh or steel rods is recommended for the tension side of the structure and should be around all the corners."

### Tomatoes and Pumpkins

How much earlier will tomatoes bear if transplanted and kept in paper pots? What value have pumpkins, cooked, as hog feed?—Subscriber, Mendocino.

We presume subscriber wishes to keep potted plants ready to set out when frosts are past. Experience teaches us that but little is gained in this way, and the practice is not followed by commercial growers. The value of pumpkins is not high and they are used more as an appetizer. The Vermont station found that two and a half tons of pumpkins were equal to one ton of corn silage. The composition of pumpkins is similar to that of turnips. Some authorities say pigs like the seeds best and no harm comes from feeding them.

### Nematodes and Wireworms

Would like to know if marine shell lime is as good as air slacked lime for soil, also how much sulphur to use to kill wire worms or nematodes. I have only a city lot. Nematodes killed zinnias, cosmos and other flowers.—Subscriber, Los Angeles.

Marine shell lime is fully as valuable for soil application as air slacked lime. We do not believe it of any use to treat soil with sulphur for nematodes or wireworms. How to get rid of nematodes is one of the chief problems of agriculture. With wireworms the case is less difficult but still a serious problem. Some use a poisoned bran as for grasshoppers. Others press boards on soil and as wireworms gather underneath the boards are removed and worms killed. Liming of soil will somewhat discourage them and frequent cultivation helps.

### Dwarf Shrubs

I wish to plant some evergreen shrubs to be trimmed to about two feet high. Soil is very sandy and our summer days range as high as 106 to 114 degrees. Very little frost but plenty of wind. Are any of the shrubs mentioned by Mr. Gould in issue of November 4 good for my wants?—Subscriber, Oilfields.

Two mentioned by Mr. Gould will thrive with you, Spanish broom and

(Continued on Page 575)


Lime Sulphur Solution
Dry Barium Sulphur
Bordeaux Mixture
Arsenate of Lead
Atomic Sulphur
Universal Oil Sprays

ORCHARD BRAND SPRAY MATERIALS

## Seasonal Advice on Spraying

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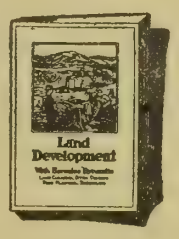


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Army reclaimed brass bugles ..... $ 1.49
Genuine cowhide leather puttees, one-piece, a good buy, at, pair ..... $ 3.98
Two coats in one, leather, reversible coats, three-quarter length, big bargain, best grade ..... $17.85
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Woolnap, 66x80 double plaid blankets, pair ..... $ 5.95
Army canvas folding water buckets, holds three gallons ..... 69c
Lambsdown union suits, new, extra value ..... $ 1.98
Army reclaimed raincoats, double back ..... **$2.95**
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Government standard cotton khaki shirts, with two pockets, triple stitch, new ..... $ 1.19
Marine shoes, genuine cordovan leather, good for work or dress, new guaranteed, all leather, worth 8.00. Buy 2 or 3 pairs at this price. Govt. issue. Our price, pair ..... **$3.45**
Army, heavy, all wool socks, 24-inch length, regular worth 50c and 75c, now 27c pair. Per dozen ..... **$3.00**
Full length 40 or 44-inch all leather calfskin coats, reversible, with overcoat on other side; two coats in one, easily worth $50 to $75. Our price ..... **$27.95**
Army khaki quilts, or satin centers, extra large size, new; fine for outdoors, hotel or bunk houses ..... $ 4.45
Army pillows, reclaimed, like new, each ..... 75c
10-oz. 5-ft. wide white canvas, new, yard ..... 67c
12-oz., 30-in. wide army khaki canvas, yard 49c
Army roast beef, corn beef and corn beef hash, by the case cheap.

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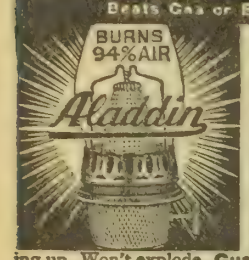


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# Household Department

### "PRAISE THE LORD!"

"Praise ye the Lord!" The psalm today
Still rises on our ears.
Borne from the hills of Boston bay
Through five times fifty years,
When Winthrop's fleet from Yarmouth crept
Out to the open main,
And through the widening waters swept,
In April sun and rain.
"Pray to the Lord with fervent lips,"
The leader shouted, "Pray;"
And prayer arose from all the ships
As faded Yarmouth bay.

They passed the Scilly Isles that day,
And May days came, and June,
And thrice upon the ocean lay
The full orb of the moon.
And as that day, on Yarmouth bay,
Ere England sunk from view,
While yet the ripping Solent lay
In April skies of blue.
"Pray to the Lord with fervent lips,"
Each morn was shouted, "pray;"
And prayer arose from all the ships,
As first in Yarmouth bay;

Blew warm the breeze o'er western seas,
Through Maytime morns, and June,
Till hailed these souls the Isles of Shoals,
Low 'neath the summer moon;
And as Cape Ann arose to view,
And Norman's Woe they passed,
The wood doves came the white mists through,
And circled round each mast.
"Pray to the Lord with fervent lips,"
Then called the leader, "Pray;"
And prayer arose from all the ships,
As first in Yarmouth bay.

Above the sea the hill tops fair—
God's towers—begin to rise,
And odors rare breathe through the air,
Like balms of Paradise.
Through burning skies the ospreys flew,
And near the pine cooled shores
Danced airy boat and thin canoe
To flash of sunlit oars.
"Pray to the Lord with fervent lips."
The leader shouted, "Pray;"
Then prayer arose, and all the ships
Sailed into Boston bay.

The white wings folded, anchors down,
The sea worn fleet in line,
Fair rose the hills where Boston town
Should rise from clouds of pine;
Fair was the harbor, summit walled,
And placid lay the sea.
"Praise ye the Lord," the leader called;
"Praise ye the Lord," spake he.
"Give thanks to God with fervent lips,
Give thanks to God today,"
The anthem rose from all the ships,
Safe moored in Boston bay.

"Praise ye the Lord!" Primeval woods
First heard the ancient song,
And summer hills and solitudes
The echoes rolled along.
The Red Cross flag of England blew
Above the fleet that day,
While Shawmut's triple peaks in view
In amber hazes lay.
"Praise ye the Lord with fervent lips,"
Praise ye the Lord today,"
The anthem rose from all the ships
Safe moored in Boston bay.

The Arabella leads the song—
The Mayfower sings below,
That erst the Pilgrims bore along
The Plymouth reefs of snow,
Oh! never be that psalm forgot
That rose o'er Boston bay,
When Winthrop sang, and Endicott,
And Saltonstall, that day;
"Praise ye the Lord with fervent lips,
Praise ye the Lord today;"
And praise arose from all the ships,
Like prayers in Yarmouth bay.

That psalm our fathers sang we sing,
That psalm of peace and wars.
While o'er our heads unfolds its wing
The flag of forty stars.
And while the nation finds a tongue
For nobler gifts to pray,
'Twill ever sing the song they sung
The first Thanksgiving day:
"Praise ye the Lord with fervent lips,
Praise ye the Lord today;"
So rose the song from all the ships,
Safe moored in Boston bay.

Our fathers' prayers have changed to psalms,
As David's treasures old
Turned, on the Temple's giant arms,
To lily work of gold.
Ho! vanished ships from Yarmouth's tide,
Ho! ships of Boston bay,
Your prayers have crossed the centuries wide
To this Thanksgiving day!
We pray to God with fervent lips,
We praise the Lord today,
As prayers arose from Yarmouth ships,
But psalms from Boston bay.
—Hezekiah Butterworth.

### WE THANK THEE, O FATHER!

We thank Thee, O Father, for all that is bright:
The gleam of the day and the stars of the night:
The flowers of our youth and the fruits of our prime
And the blessings that march down the pathway of time.

We thank Thee, O Father of all, for the power
Of aiding each other in life's darkest hour;
The generous heart and the bountiful hand,
And all the soul help that sad souls understand:

We thank Thee, O Father, for days yet to be,
For hopes that our future will call us to Thee;
Let all our eternity form through Thy love
One Thanksgiving Day in the mansions above.
—Will Carleton.

### STEENA'S AMERICAN THANKSGIVING

STEENA looked out of the window as she heard the sound of carriage wheels and her heart gave a sudden jump when she saw that it was Mrs. Kerry driving the black mare. Her quick blue eyes traveled over her blue house frock and white apron. Her hand traveled to her blonde hair, and felt for stray locks. There were none, so she hurried, almost ran, out to the horse block.

"Mornin', Mis' Kerry! I hope you ban well?" She smiled, speaking slowly, for, if she hurried her speech it was sure to be laughably ungrammatical and plentifully mixed with idioms of her native Sweden.

"Yes, I'm well," Mrs. Kerry's manner, always positive and abrupt, was this morning more so than ever.

"I should tie him the horse and you get out?" suggested the girl.

"No, I've got something to say to you and I can say it right here. It's about my boy, George."

Steena's face lighted at the mention of George's name. Her smile was illuminating and revealing. She waited for Mrs. Kerry to speak.

"Do you love him?" Mrs. Kerry asked quickly. "That is, is there anything between you two? I'm his mother, you know, and I have to protect him."

The girl was puzzled but the smile did not fade.

"I—sure—well, I'm what you call crazy over him!" She tried to be gay. "He don't talk marriage with me yet but I know—I know," and she laughed.

"But you can't marry him," Mrs. Kerry fairly exploded. "He must have a wife whom he'd never be ashamed of. It isn't now that counts in life. At your age, one tumbles into love and out again, with no harm done. Later, when you get——"

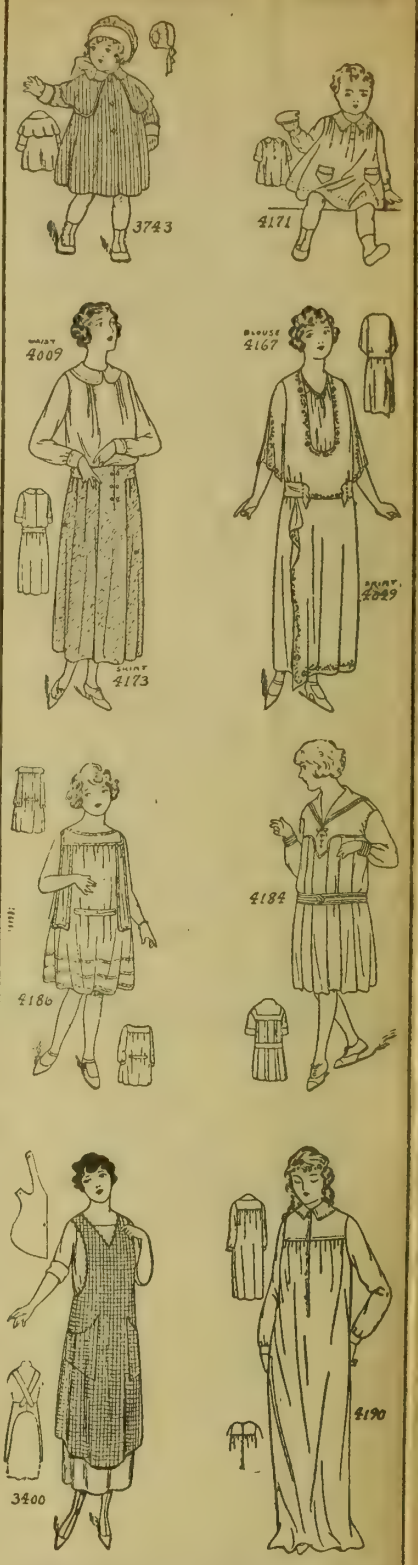
"You mean—I'm not good for George?" the girl broke in, a slight catch in her voice.

For the fraction of a second Mrs. Kerry hesitated. Then she spoke slowly.

"I guess that's what I mean. You see, George will be a rich man some day. He's well educated and he's going to be great, I hope. And he couldn't have a wife who can't even speak the English language, who doesn't know anything about America or American ways. You're very pretty, Steena Briby, but—you'd better marry some fine Swedish boy." Then, after a minute of painful silence, "Surely, you understand that you're not the type of woman that George should marry?"

The color slowly had left Steena's cheeks and she was standing very erect, motionless, almost like the figure of a martyr awaiting sentence. What thought might be evolving in her brain found no outward revelation in her face, Mrs. Kerry saw the lack

## The Cultivator Patterns




**3743. Child's Coat and Cap**—Cut in 4 Sizes: 6 months, 1 year 2 and 4 years. A 2 year size will require 2½ yards of 27 inch material for the coat and ¾ yard for the cap. Price 10 cents.

**4009-4173. Ladies' Costume.**—Waist 4009 cut in 7 Sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38 inch size requires 3¼ yards of 32 inch material. Skirt 4173 cut in 6 Sizes: 25, 27, 29, 31, 33 and 35 inches waist measure. Its width at the foot is 2¾ yards. Two separate patterns 10 cents for each pattern.

**4186. Girls' Dress.**—Cut in 4 Sizes: 6, 8, 10 and 12 years. A 10 year size with sleeves, requires 4 yards of 32 inch material. Without sleeves ⅝ yard less is required. Price 10 cents.

**3400. An "Easy to Make" Apron.**—Cut in 4 Sizes: Small, Medium, Large and Extra Large. A Medium Size will require 2¾ yards of 27 inch material. Price 10 cents.

**4171. Child's Dress.**—Cut in 4 Sizes: 1, 2, 4 and 5 years. A 2 year size requires 2¼ yards of 32 inch material. Price 10 cents.

**4167-4049. Ladies Costume**—Blouse 4167 cut in 7 Sizes: 36, 38, 40, 42, 44, 46 and 48 inches bust measure. Skirt 4049 cut in 7 sizes: 25, 27, 29, 31, 33, 35, and 37 inches waist measure. The width at the foot is 2½ yards. To make the dress for a medium size will require 6½ yards of one material 40 inches wide. Two separate patterns 10 cents for each pattern.

**4184. Girls' Dress.**—Cut in 4 Sizes: 8, 10, 12 and 14 years. A 12 year size requires 3½ yards of 44 inch material. Price 10 cents.

**4190. Ladies Night Dress.**—Cut in 7 Sizes: 36, 38, 40, 42, 44, 46 and 48 inches bust measure. A 38 inch size requires 4¾ yards of 36 inch material. Price 10 cents.

**CATALOGUE NOTICE**

Send 12c in silver or stamps for our Up To Date Fall and Winter 1922 Catalogue. This is even better than the Spring and Summer number. It will have 8 colored plates, the same as the last catalogue, but a great many of the other pages will be arranged in plate form, so that the Fall and Winter Catalogue will be more like a fashion book than a pattern catalogue. It will also include points for the needle and hints for the home dressmaker.

**PRICE OF ANY OF THE ABOVE PATTERNS 10 CENTS EACH**

**HOW TO ORDER PATTERNS**

Write your name and address plainly in full, give correct number and size of each pattern you want, and send 10 cents in coin or (1 or 2 cent) stamps for each number. In order to furnish our readers with the very best NEW YORK styles, all patterns ordered are filled in NEW YORK. Do not expect patterns under Two Weeks from date of order.

PATTERN DEPARTMENT
California Cultivator Los Angeles

of emotion and was secretly relieved, for she thought that it meant that Steena did not love George to such an extent that she would not be willing to give him up.

"I—I guess I think over what you say—now I got bread in the oven," Steena said finally and without comment, walked quickly towards the house. Mrs. Kerry watched her until she disappeared through the kitchen door and then turned her horse toward home.

Alone in the big white kitchen the girl did not weep. She was far too deeply wounded for that. Instead, she went to the oven, glanced at the baking bread, and seeing it would be several minutes before the big fragrant loaves could be taken from their pans, she dropped to a chair by the window.

One of her first thoughts was that she was glad to be alone. Cousin Anna, a distant relative of her father's, who was really the housekeeper, had gone to town for supplies. Her father and brother were in the fields helping the farm hands gather the largest wheat crop in the history of their ownership of the farm. Yes, she was glad to be alone, for that meant that her slow thinking but by no means stupid brain could thoroughly consider the situation that faced her.

For minutes she sat there, thinking, thinking. Then, mechanically she removed the bread from the oven and as mechanically she went back to the window and reviewed Mrs. Kerry's words. And the tragedy, which grew in magnitude as she pondered, was that Mrs. Kerry was right. She was not good enough for George!

Ten years before, when Steena was barely twelve, she had stood on the deck of an ocean liner and watched the bewildering sky line of the land that was to be hers by adoption. Her mother had been dead for several months and her father, a tall raw-boned man, unhappy from the loss of woman who had been the love of his life, had decided that in America lay solace. Steena's brother Ole, then a sturdy lad of 16, and Anna, the distant cousin who had taken her place as housekeeper to the motherless brood, had accompanied them.

Steena liked the new land. So had they all. And they had prospered. Back in Sweden, Steena's father had been a mechanic by trade but he had owned a little patch of land outside the city and had tilled the earth as a physical relaxation from his work. So he was land wise.

The family made at once for the great wide West. While Steena's father was learning something of the country of his adoption, they lived in Minneapolis but with the coming of spring there were frequent excursions into the country and finally they moved onto a farm in the heart of the wheat country. At first, Olaf Briby served as a "hand" but before long was promoted to a position akin to that of superintendent. A year later he paid the first installment on the farm of his own.

Steena loved the place from her first glimpse of the long low farm house and the big barns beyond. On the way down the road from the small town where they had left the train, she had seen a dozen large farmsteads which showed care and comfort even approaching luxury. The girl had dreamed that their home would not be so vastly different and, to her delight, thanks to industry and native refinement, her dream had almost become a reality.

Even now, in her moment of anguish, she felt a thrill of pride that while she herself might not be all that was desirable, her home was not a place of which anyone might be ashamed. It was small compared with the big Kerry farm house half a mile up the road, but it was well kept, there was a generous lawn and trim hedges of flowers and shrubbery. She rose from her painful brooding and walked to the door and out, across the grass, turning to look back at the house and the outbuildings beyond. The picture was complete. Inside and out, Olaf Briby had made his home comfortable, modern, handsome. It was a splendid example of an American farm homestead!

American farm homestead! The phrase came to Steena's mind, because she had heard the woman from the home bureau mention it. A thought flashed to her; the Briby household had not kept pace with the Briby home! They had built up a fine type of American farm homestead but what poor examples of Americans they were! She pondered over this for many minutes, and when she started back to the kitchen, her face wore a smile as when the sun peers through the clouds.

That night, when George Kerry drove his car up to the horse block in the Briby garden, Steena went quickly out to meet him.

"Hello peaches and cream!" He had nicknamed Steena after her complexion. "Let's go to town and get some ice cream."

"No—I no go tonight," she said gravely. "Goodnight!" and she walked away.

It was the same the next night and for many nights. She would not go with him, would not talk to him, would not explain, so presently he stopped calling, a fact which his mother noted with satisfaction. But down in his heart of hearts he did not stop caring. After all, youth does not always tumble into love and out again with no harm done.

Autumn came and winter. At Christmas time, Mrs. Kerry suggested to her son that they take a trip South. She had heard and read much of Florida and wished to see it. The trip held little of keen enjoyment. George watched the gayeties but refused to take any part and in a month they were home again. The first day, Mrs. Maguire, the Kerry's hired helper, told her mistress that Steena Briby and her brother were away,—in Minneapolis, she thought, or possibly, Chicago. Mrs. Kerry acknowledged the news with a nod but made no comment. She was not entirely satisfied with her action in separating the lovers but, after all, she argued, the girl most certainly was not the right type of wife for George.

Spring came again and with it the heavy routine of out of door work. Ole Briby came back but it was summer before his sister appeared again about the grounds of the low white farm house. Mrs. Kerry saw her one afternoon as she drove by and bowed and smiled. Steena's greeting was quietly cordial and Mrs. Kerry thought what a fine figure of a girl she was and how becoming was the simple dress she wore.

Mrs. Kerry watched her son very carefully the first few weeks but there was no sign that the old friendship was renewed. So the months wore on. Gracefully, the spirit of summer lifted her flowery skirts and departed, allowing vividly dressed autumn to stalk across the fields.

In October, Mrs. Kerry told her son that they had been invited to spend Thanksgiving with cousins in Chicago. It was more or less a family reunion. George agreed mechanically and a week before the holiday they departed. Steena saw them go and the little set smile, that she had worn when Mrs. Kerry told her she was not "good enough," still lingered on her lips.

On the morning that the Kerrys reached Chicago a telegram was waiting for them and George read it before his mother had removed her hat. It was from Mrs. Maguire:

Fire in hen and tool house, barns scorched—not much damage.

He handed the telegram to his mother. She had managed the farm since the death of his father twelve years before, and was quite capable of rising to the present climax. She read it carefully twice, and, without comment, removed her hat and turned to greet waiting friends.

After luncheon, however, her composure seemed less secure. She began to wonder just how badly the barns were "scorched" and if there had been any real damage to the stored crops. George had been secretly wondering the same thing for hours but had matched his mother's silence. When she spoke, however, he said flatly that he would be a lot happier if he were at home.

The night train bore them back and and on Thanksgiving Day, a dully heavy morning with a lowering sky that threatened snow, they were motoring farmward to hear Mrs. Maguire's story.

(Continued Next Week)


# How much sleep do you need?

IT ISN'T so much a question of the number of hours you spend in bed, as it is of the *quality* of the sleep you get. Is your sleep sound and restful, or is it fitful and unrefreshing?

One common cause of wakefulness at night is over-stimulation from coffee drinking. For coffee contains caffeine which irritates the nerves and frequently leads to insomnia.

If you have any idea that coffee keeps you awake at night, or makes you nervous, make a change from coffee to delicious Postum.

This pure cereal beverage contains nothing that can harm health, and its flavor is much like coffee. In fact, many people prefer Postum for its flavor alone.

Your grocer sells Postum in two forms: Instant Postum (in tins) prepared instantly in the cup by the addition of boiling water. Postum Cereal (in packages) for those who prefer to make the drink while the meal is being prepared; made by boiling fully 20 minutes. The two forms are equally delicious; and the cost is only about ½c per cup.

Postum *for Health*

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## HOUSEHOLD QUERIES

### Repainting Old Walls

We are going to try to paint kitchen and bathroom ourselves and want both done in washable paint. The bath room had enamel on it but the kitchen was only plastered and kalsomined. How can we clean walls before painting and what kind of paint? Please tell us as much as you can about it for it is our first attempt and we are relying on the Cultivator to help us out.—Subscriber, Santa Maria.

For the kitchen first: All dirt and dust must be carefully brushed off. If walls are sooty and greasy, wash the soiled surface with a solution of borax and water. Old kalsomine should be scraped and washed off with warm water. Be careful to remove every particle of the cracked or crumbling coating. Wall paper should be removed and surface of wall carefully washed with warm water and sandpapered smooth and dusted off. Putty smooth all cracks and indentations with putty made by mixing plaster of Paris with washable wall finish which you may obtain from your paint dealer. When dry, sandpaper to a smooth even surface. Apply a sizing coat composed of equal parts of stopping liquid and washable wall finish. Sizing coat should be flowed on, well brushed and laid off smooth. Allow 24 hours to thoroughly harden, then apply a good flowing coat of the selected shade of wall finish. Brush out evenly. Some wall surfaces may require two coats.

For the enamelled walls in bathroom: Wash off all grease and soot with a solution of borax and water. Rinse clean with clear water. When surface is dry, cut down and remove the old gloss finish with No. 0 sandpaper and dust clean. Putty all wall imperfections with plaster of Paris putty. Apply a sizing coat composed of one pint raw linseed oil and one gallon washable wall finish. Sizing coat should be flowed on, well brushed out and laid off smooth. Apply two coats washable wall finish. Allow at least 24 hours between coats.

For handling the old woodwork, wash off all grease, dirt, etc., with borax and water. Rinse surface clean with clear water. Wood should be sandpapered to a very smooth, even surface. Fill all indentations with pure linseed oil putty. When surface is dry, apply a priming coat of flatted lead. Allow 24 hours to harden. Then finish with one or more coats of wall finish. Follow specified directions.

One gallon will cover about 300 square feet, two coats.

And when you have the walls and woodwork all spick and span, you will look at the old floors and say: "We've got to tackle those next." If you can, buy good inlaid linoleum and have it cemented on. If a cheaper finish of oil or paint is necessary, let us know if we can help out on suggestions.

### Cleaning Silk Sweaters

Please tell me how to clean silk—or rather fiber silk—sweater. I had a very pretty one and washed it in good soap suds, thinking it would be all right, but it is pulled out of shape so that I couldn't press it back to look like anything. Have I spoiled it or is there a chance of making it look right again? Would it do any good to put it in gasoline now?—Subscriber, Pomona.

The most satisfactory way we have found for washing fiber silk—or wool either—is to put a small amount of warm water in bowl, just as much as will thoroughly wet the sweater. Add an equal amount of benzine or refined gasoline—benzine is best. Sop up and down, rub gently. If there are any bad spots pour a little of the clear benzine directly on them, let stand a second, then rub gently. Press water gently out of sweater—don't wring—spread on folded sheet or Turkish towel in the air—in the sun if it is not so bright that it will fade your sweater. By the way have the sweater turned wrongside out to minimize danger of fading. If it is a wool sweater it has probably stretched lengthwise; if fiber, crosswise. Place shoulder seams evenly at top and pull into shape carefully, keeping bottom edges evenly together and straight and flat. Pull sleeves down to proper length, holding at armseye with one hand and pulling and stretching along the length of the sleeve with the other. Turn the garment frequently, repeating the stretching and shaping process. Pay special attention to the pockets—the tops are sure to sag and stretch if you don't pat and persuade them to dry flat and smooth.

All this takes some time and care but it pays well, for it gives you a garment like new, retaining the silky luster of the new sweater. It will not be necessary or advisable to press at all with hot iron, except perhaps carefully along wrongside of bottom hem, on shoulder seams, neck and pocket. This depends on the fabric and weave. A rough weave of heavy thread should need no "ironing," but a slip-over of fine knitted fabric probably will.

Never, under and circumstances, hang up sweater to dry even on padded hanger. If it is one of the rare ones that doesn't stretch it may be kept on padded hanger when dry, but it is better to fold carefully and lay flat in box when not in use. A box is much better than a drawer for if other garments are laid on top it will muss and wrinkle.

A sweater which has hung and stretched so that you are sure it must have the seams taken in an inch or so to make it wearable will often pull itself back into shape by being laid away flat in box for a time. If not, dipping in benzine and water or plain warm water as recommended above and pulling into shape while damp will generally obviate necessity of taking up seams.

Our inquirer can restore her sweater to good looks easily by following suggestions above.

Another hint: If sweater has been worn and washed many times so that pockets pull and sag quite hopelessly, take them off, that is, if the other part of the garment has not faded. Many of the slipovers this winter have no pockets so you will be quite in style.

## HINTS FROM HOUSEKEEPERS

### "Easy Way" Jam

Mrs. E. M. Lane calls our attention to typographical error in recipe which she furnished for Cultivator of November 11, Page 515:

"In 'Easy Way' jam recipe it says: 'Select firm fruit, mash, let drain, etc.' It should be, 'select fruit, wash, let all water drain off them, mash and measure, etc. as directed before.' Will you kindly correct it as the jam would be no good unless the juice of berries was used to thicken the sugar. Many would notice the mistake and do it right, but others would not know and it's for those I wish you would kindly make an item in the household department correcting the word."

What Experience Taught Me in the Growing of ALFALFA, How I Turned Failure Into SUCCESS!

J.M. BOMBERGER
Pres. BOMBERGER SEED COMPANY

DURING MY FIRST FIVE OR SIX YEARS of dairying I was only fairly successful. I had a hard time making ends meet financially.

I HAPPENED TO TRY OUT fourteen different kinds of alfalfa planted in rows and I watched their growth.

AFTER THAT I planted the kinds that produced the most and best hay under California climatic and soil conditions.

THE RESULT WAS that I averaged, year after year, about twice as much hay per acre as I grew the first five years.

DURING THE FOLLOWING TEN YEARS I kept about twice as many cows on the same land and never bought a pound of hay.

GROWING LOTS OF GOOD DAIRY ALFALFA Cheaply helped me so much that I considered it (next to well bred cattle) the very foundation of profitable dairying.

MY FOURTEEN TRIAL ROWS SHOWED that imported alfalfa seed is not adapted to California conditions and produces poorly.

That some of the Southern Alfalfas yield heavily but have a tendency toward coarseness and are not so long-lived as the Northern alfalfas.

That the Utah and other Northern alfalfas are long-lived, but yield too little hay under California conditions.

EVERYTHING CONSIDERED the best alfalfa that I have grown is the MODOCK common alfalfa.

It is neither a Southern nor a Northern alfalfa, but seems to combine the best qualities of each under California conditions.

It endures the hardships that are incidental to irrigation better than any other alfalfa.

TEN TONS OF HAY PER ACRE per season is not unusual with MODOCK alfalfa.

I REASONED LIKE THIS: When I plant alfalfa seed, I expect at least fifty crops of hay from the one seeding and those fifty crops will depend largely upon the kind of seed I plant.

CAREFUL SELECTION OF ALFALFA SEED more than any other one thing turned my dairying from hard work and worry to an interesting, pleasant and profitable dairy.

SOME OF MY NEIGHBORS asked me to purchase alfalfa seed for them and by 1916 I found myself in the alfalfa seed business.

WE HAVE NOW MADE IT POSSIBLE for every retail dealer in California to sell MODOCK seed.

SINCE WE HAVE BEEN telling about MODOCK alfalfa, a few dealers have been trying to sell alfalfa seed for MODOCK that was not MODOCK seed at all.

FOR THAT REASON we started last year to sell the MODOCK alfalfa seed in a trade-marked bag like this.

TO AVOID DISAPPOINTMENT make very sure that the MODOCK alfalfa seed which you buy is in the trade-marked MODOCK bag.

WELL BRED ALFALFA SEED is the foundation of a heavy producing alfalfa field just as WELL BRED DAIRY CATTLE are the foundation of a heavy producing dairy herd.

Write for our circular which states fully how each kind of alfalfa behaves under California conditions.

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MODESTO CALIFORNIA

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Do you want to increase your yield?

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will do this for you. Gypsum is a natural rock fertilizer containing two essential plant foods, lime and sulphur, giving direct and immediate fertilization at a minimum of expense to you.

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WRITE FOR LIBERAL DEALER PROPOSITION

## PEARS, PRUNES, APRICOTS CONVENE

(Continued from Page 555)

the control. However, "Spray two weeks before buds open. The critical time is always before the trees bloom." Dry dusting is effective, in fact, little difference has been found between dry and wet sprays. Dusting was declared to be rather more expensive, but possibly more of use at times when the orchard would not permit entrance of big loads of liquid sprays. Commissioner Cody called attention to the fact, that best results from dust sprays called for temperatures of 60 degrees or higher.

The real kick of the convention was felt when Professor Veihmeyer gave data from experiments which have been carried on at the decidious fruit experiment station at Mountain View. Professor Veihmeyer riddled old time ideas of cultivation as a means of saving moisture in the soil. He insists that there is no capillary movement of soil moisture, that water will not move upward in soil as does oil in the wick of a lamp. "The dust mulch is of no value in preventing evaporation." "Cultivation is of no value whatever in retaining moisture." Professor Veihmeyer did suggest that cultivation after iirrigation is necessary in order to introduce in the soil sufficient air or oxygen that beneficial bacteria are permitted to work.

"The greater part of the water goes where the irrigator puts it and stays there until removed by plants." The fruit growers were perhaps nearly equally divided between those who concluded: "We have long been believing some things not true." "We do not believe some things told us today are true." Dr. Leroy Anderson, formerly dean of the farm school at Davis, and one who has been in close contact with the experiments performed at Mountain View discussed the address of Professor Veihmeyer. This discussion will be given in a later issue.

Controller R. G. Sproul of the University of California occupied the platform at the Tuesday evening session and extended most cordial greeting to the fruit growers. "No other state of the Union, no other section of the world can show a gathering of such representative men engaged in a productive industry as can California. No other state shows the great value in annual production. No other section shows such wonderful increase in total value. No other branch of agriculture gives to California so much of prosperity as does the fruit industry —unless possibly it is the livestock industry. You are a type of people who stand for progress and the university has striven to aid you in advancing your industry by learning as to improved methods and practices and also as to best methods of disposal of products once they are produced. You must still produce more and better, marketing methods must be improved, and consumption still more increased."

Director Hecke of the state department of agriculture referred to the work of his department, to the wonderful increase in responsibility and to the fact that when he took charge of the work the horticultural commission had a total appropriation of only $60,000. That was but slightly increased until the 1919 consolidation of various bureaus under the one department head. Another consolidation or enlargement of the activities of the department came in 1921 with the bringing in of other bureaus under the one general head.

Opportunity for securing a fund of information as to the activities of the state department of agriculture will be given at the state convention which will be held in Sacramento, December 12-14.

The apricot folks spent nearly a day in discussing sour sap. The discussion was led off by Prof. Ralph E. Smith who referred to the opinion often held by many as to this particular disease. He spoke feelingly of one orchardist who came to him with information that his trees were dying and, after referring to the gumming and souring of the sap as indicated by the ooze from the bark, asked: "Is anything wrong with the trees or are they simply dying because of sour sap." There seems to be no short cut to cure of sour sap. It is one of the problems which involves so many angles that study of conditions of each orchard, even of each tree, is necessary to determine causes and remedy. The trouble may be caused by drouth, by oversupply of moisture, by too hot or too cold weather, or various other exterior conditions. Partial immunity may be secured by always having soil conditions such that the tree is able to resist diseases through its thrift and vigor.

From the discussion, which was more or less extended, my impression is that allowing the soil about the roots to become too dry in late summer or early fall is the most common cause of this perplexing trouble. The tree is deprived of its opportunity to manufacture starch because the leaves are prematurely shed while they still contain much of the material which should be elaborated into starch and deposited in the tissues of the plant. Then it is possible the warm and moist January causes this prematurely dormant tree to start growth which must necessarily be insufficient to give the tree vigor. Succeeding cold nights cause partial dormancy which creates conditions such as but few trees can withstand.

The appearance of the "disease" may be delayed till spring time while the cultural conditions which caused it may have occurred in September and October. Give every tree in the orchard sufficient water to keep up proper growing conditions after the fruit is off or during August, September and October.

Then there was long pruning. The canners to a man are "a'gin it." The growers, most of them, seem to be for it. Many of them maintain that by the short pruning larger, finer fruit is possible, that is, unless the long pruner does vigorous thinning. But many a grower insisted that the canner and dryer did not pay a big enough premium to justify the growing of the larger fruit. It is generally admitted that the long pruning resulted in smaller fruit but a far greater tonnage.

Then there was discussion of brown rot and various other apricot problems.

The next day the bottlers convened and discussed food value of carbonated beverages, likewise syrups, and such questions as will doubtless result in a far greater use of California fruits of a grade which may be in lesser demand in the market in the form of beverages and confections.

Perhaps the most interesting event of the week was the fruit show placed by agricultural college students. It filled half a dozen large rooms and while it was made up largely of California fruits there were exhibits from the experiment stations of a score of other states. There were nearly 500 plates of apples, in fact, almost one entire room was given up to their display. Pears also were in force, as were both almonds and walnuts. The display of grapes was not so extensive, but many of the newer varieties were exhibited. The judging was done by student judging teams. The only awards, however, were of blue ribbons and diplomas.

In order to encourage further investigation and to secure fullest information as to successful plants now operating it was suggested that a committee be appointed to report at the next conference of fruit growers. The committee named consisted of H. C. Dunlap, San Jose, chairman; A. W. Christie, Davis, secretary; W. F. Yerxa, H. Wheatley, R. M. Kingman.

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# November 28

## Opening of Livestock Sales Yards at Hynes

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THOMPSON & MAIN OF LOS ALAMITOS

Will sell 40 head of Tuberculin Tested Dairy Cows (one of the best herds ever sold in this county) all strictly fresh or heavy springers.

No expense has been spared in making this the most up-to-date sales yards and pavilion in the West. Come and see the arrangement we have made for caring for clean and untested cattle separately. Barns, corrals, loading apparatus, spur tracks, pavilion—all arranged for the convenience of the buyer and seller.

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# November 28

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## Just One More Son on Hand From King Segis De Kol Mead

But you can bring your good cow for service at a reasonable fee, and raise your own herd leader from this wonderful sire, who has an 1139 4 year old daughter (record made under herd conditions.)

An 1150 lb. 3 year old granddaughter with over 27,000 lbs. of milk.
A 1000-lb. 4 year old sister with an 1100-lb. 3 year old daughter.
A brother with 2 daughters averaging 1275 lbs. butter per year.
A paternal sister with 1000 lbs. butter in 365 days, Semi-official.
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## Livestock News Notes

At the recent national dairy show a new class was instituted called the get of sire production class in which a bull and 5 A. R. daughters are shown. First prize in the Guernsey breed went to D. D. Tenny of Crystal Bay, Minnesota, on Ladysmith's Cherub. The five daughters shown with this bull average 673.4 pounds butter fat, and it is claimed that this group has the highest average butter fat production of any five daughters of any bull of any breed ever led into a show ring. One of the cows in the group was the grand champion of the show and first prize cow in the A. R. class for a cow with record begun under five years of age. Her record is 638.96 pounds fat in the CC class.

Evelyn of Herodale, the beautiful Guernsey cow recently purchased by W. H. Dupee of Riverside, has dropped a bull calf sired by a son of Governor of the Chene and has been started on a year's test. Her first test shows that she is making a little over 2½ pounds fat a day.

Fred Hartsook's great show herd set a record that will probably stand for some time by winning 112 blue ribbons and 37 championships in eight shows, as well as numerous smaller prizes. Also this is probably the first time that a big herd has been taken over the complete circuit, winning more than enough money to pay all expenses.

Announcement has been made that San Francisco will at once build a show pavilion to house the California National Livestock show and other expositions and conventions. Such a move will solve many of the difficulties heretofore prevailing and should assure a big show for next year.

The recent arrival of 72 Holsteins brought out from the Middle West by Roy Bratzler for the Glenwood Stock Farm at Riverside brings the total of that herd up to over 200 animals. They are milking over 80 cows and heifers with one of the newest type of machines and having exceptional success with it. Instead of damaging the udders it has benefited a number of them.

An increase in the great volume of business done by Rhoades and Rhoades compelled their removel to a new location where more room is available and after December 1, or possibly sooner, they will be located at 2119 South Main Street, Los Angeles. Ten sales this week makes it one of the heaviest weeks in the history of the firm.

The state herd prize of $500 offered at the Pacific International by the Holstein-Friesian Association of America was won by the breeders from Washington. Oregon won the $300 second prize and Idaho took the $250 offered for third.

At the recent meeting of the Southwestern Berkshire Congress arrangements were made for and committees appointed to conduct a series of Berkshire pork demonstrations at the local and northern fairs next year. The congress will donate a gold watch to the school boy or girl writing the best essay entitled "What a housewife should know about pork." The rules for this contest will be announced later. It was also decided to hold a consignment sale of bred sows and gilts in February.

The famous Pacific coast champion, Hollywood Lilith Palmyra Abbekerk, owned by the Los Angeles county farm has qualified in the 305 day class by calving again on October 21, 1922, or just 13½ months from her last freshening. This ratifies her senior four year old record of 22,245.1 pounds milk containing 982.97 pounds butter in ten months, this record being made following the birth of twin calves. These figures for milk and butter have only been exceeded by one other cow under the new rules which require second calving within 14 months. This cow is now on official test and has already completed seven days with a butter production of over 35 pounds. She is now milking at the rate of 120 pounds per day and is expected to increase her butter record. Her young son by King Korndyke Pontiac Mead will be retained for junior herd sire at the county farm. His seven nearest dams average over 1000 pounds butter in yearly test, including four records made in heifer form, and his dam's record in 305 days only. In seven day test the seven nearest dams average 31.71 pounds butter. He combines the blood lines of the greatest producers in Holstein history being particularly strong in his heritage from King Segis, Pontiac Korndyke, Hengerveld De Kol and the famous California foundation cow, De Kol of Valley Mead.

### A COOPERATIVE MILK PLANT

Those interested in the establishment of cooperative milk marketing plants as well as those already engaged in marketing milk cooperatively will find many of their problems handled exhaustively in Department Bulletin 1095, Producers' Cooperative Milk Distributing Plants, just published by the United States department of agriculture. The bulletin, consisting of more than 40 pages, is based upon studies of the experience of a large number of plants of this type in various parts of the country, mostly in small cities where a satisfactory system of distribution was not previously developed. Details are given on contracts, financing, organization, by-laws, location and equipment of plants, investment, management, sales methods, distribution costs, and accounting systems.

Lists are given of equipment needed for small plants with less than 250 gallons capacity, for plants to handle from 250 to 1,000 gallons, and for large plants handling more than 1,000 gallons a day. Figures obtained from 27 cooperative plants show that the average investment in the plant itself per gallon capacity is $25.97 when the capacity is 500 gallons or less; $22.77 when the capacity is from 500 to 1,000 gallons; $11.69 when the capacity is 1,000 to 2,000 gallons; and $19.14 when the capacity is from 2,000 to 8,000 gallons. In the same order, the investtments per gallon capacity in equipment were $28.73, $31.79, $11.89, and $12.34. Estimates are given of the total amounts of money needed to establish and operate plants of these various capacities.

The three principal problems that confront the milk plant manager are, according to the bulletin, the securing of an adequate and proper milk supply, efficient and economical plant operation, and sales policies and methods of market distribution.

### PIG SURVEY TO COVER WHOLE COUNTRY

The second semi-annual pig survey, cards for which are now being distributed to rural mail carriers, will cover the entire country, the United States department of agriculture has announced. The survey last spring covered only 17 states, but as an indication of present and probable pig production it was a great success and readily demonstrated the feasibility of extending the scope of the inquiry.

Ten cards or questionnaires will be distributed by each rural mail carrier on agricultural routes. Approximately 50,000 cards will be sent out. They have been prepared in simple form and can be filled out in a few minutes. Where possible, the mail carriers will fill in the answers as made by the hog raisers. The cards will show the number of sows farrowed during the last six months of 1921, the number farrowed during the first six months of 1922, the number of sows farrowed. or due to farrow during the last six months of 1922, and the number bred or intended to be bred to farrow during the first six months of 1923. Numbers of hogs which died from hog cholera or other diseases during 1921 and 1922 will be shown, as well as the number of pigs saved per litter.

The importance of this survey to the farmers in enabling them to adjust their production to the probable needs of the market is stressed by the department. People who deal in crops and livestock, such as packers and

commission men have very extensive organizations for informing themselves of the production of crops and livestock, the department points out. "Farmers have no such organization of their own, and obviously information of this character is just as important to the farmers as to the people who deal in farm products. One of the functions of government is to gather and publish these necessary statistics in order that the producers may have some knowledge of what is going on in the way of production."


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produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

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GUERNSEY CATTLE
Herd Headed by the King of Hollow Hill
BERKSHIRE HOGS
Stock of Both Breeds For Sale
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Bulls For Sale From
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I am also booking orders for fall pigs to be shipped when 3 months old. Sired by Orland Pan by Peter Pan and out of big, prolific sows.
Every animal guaranteed as represented.
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Describes cause, effects and treatment; tells how farmers in all parts of U. S. are stopping the ravages of this costly malady.

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### AMERICAN ABERDEEN-ANGUS ASSOCIATION

The 39th annual meeting of the American Aberdeen-Angus Breeders' Association will be held at Chicago, Wednesday, December 6, 1922. The enrollment of new members this year as compared with 1921 shows an increase of 66 per cent which is probably the most encouraging feature of this year's business. A total of 6,158 memberships have been issued and it seems reasonable to predict it will only be a few years until it will reach 10,000.—Chas. Gray, secretary.

### DAIRY SURVEY OF IMPERIAL

Seventy-three silos have been constructed in Imperial Valley, although only two-thirds of them are in use. The herds have 377 registered bulls, and American dairymen outnumber those of foreign nationality two to one, with 47 per cent of the whole, owners of their own farms. These are some of the statistics secured by Assistant Farm Adviser De Tar in survey recently completed.

### LIME AND PHOSPHORUS ARE VITAL TO DAIRY ANIMAL

Lime and phosphorus, although they are found in relatively small quantities in feeds, have a great deal to do with milk production and building up the body of the unborn calf. If the cow does not have enough of these elements in her ration she will draw on the supply in her body for a time, and heavy producers commonly do this. Therefore, says the United States department of agriculture, it is a good practice to feed cows well when they are running low in milk yield and when they are dry, so that they store up these elements as well as others in their bodies for use when the large demand is made.

The common view is that dry cows need only enough feed for maintenance, but experiments carried on by the department show that this is not true. The cow is a milk manufacturing plant, and, like many factories, she must have a reserve supply of materials to draw on when heavy demands are made. A cow that has been well fed when dry and has stored up this reserce is able to produce more on full feed than a cow that was given only a maintenance ration during that resting period. In this way a cow can utilize her capacity the year round although she may not be giving milk all the time.

In keeping up the necessary lime and phosphorus supply it is well to keep in mind the fact that certain feeds are richer than others in these elements. The feeds which contain the most lime are the legume hays, which include cowpea, alfalfa, soy bean, the clovers, and some others. Of these mentioned cowpea hay contains the most lime, and the others are named here in the order of their richness in lime. The lime content of hay depends to a great extent on its quality. Leafy alfalfa hay contains more lime than coarse, stemmy hay, and the same is probably true of other hays.

The common dairy feeds that contain the most phosphorus are wheat bran, cottonseed meal, standard wheat middlings, and linseed meal, in the order given. Less common feeds that are high in phosphorus are, in order, sesame oil cake, rice polish, buckwheat middlings, rice bran, sunflower seed cake, rapeseed cake, buckwheat bran, and malt sprouts.

No grain or other concentrate contains anywhere near so much lime as the legume hays; and no kind of roughage contains phosphorus in quantities comparable to those found in the concentrates mentioned above. Grass hays, corn silage, and corn products are low in both lime and phosphorus.

From GRASS to DRY FEED

Now, the pasture field and range must give way
—to the stall and manger, the feed lot and self-feeder, the barnyard and fodder rack.

*Include*

DR. HESS STOCK TONIC
*in the ration*

You have often noticed stocking of the legs, roughness in the hair, highly colored urine—all on account of the change from grass to dry feed.

Not so where Dr. Hess Stock Tonic is fed. The Tonics, the Laxatives, the Diuretics, take care of all that. No worms; the Vermifuges settle them.

Then you are all set for heavy feeding, a good yield of flesh and milk throughout the winter.

Tell your dealer what stock you have. He has a package to suit. GUARANTEED.

*I spent 30 years in perfecting this Tonic.*
GILBERT HESS M.D., D.V.S.

25-lb. Pail, $3.50 100-lb. Drum, $12.00

Honest goods—honest price—why pay more?

DR. HESS & CLARK Ashland, O.

Dr. Hess Dip and Disinfectant Kills Hog Lice



One of the Choicest
Holstein Offerings
of the Season

50 Registered Holstein Females
F. L. Hogue, Modesto, Cal., Tuesday, Dec. 5, at 10 A. M.

Mr. Hogue will sell to the highest bidder in this sale the very tops of his herd, including every female of milking age that is in actually desirable sale condition.

EVERY ANIMAL IN THIS OFFERING HAS PASSED THREE CONSECUTIVE TUBERCULIN TESTS, IS SOLD SUBJECT TO RETEST BY THE BUYER, AND IS POSITIVELY GUARANTEED TO BE A BREEDER.

The sale list contains a large number of splendid individuals, exceptionally well bred, and many with large 7, 305, or 365 day records, including EVA COLANTHA HUBBAVALE, the new state record junior 3 year old butter producer in the 305 day division.

PRACTICALLY ALL OF THE BRED FEMALES ARE IN CALF TO A BULL WHOSE DAM MADE OVER 1,150 LBS. BUTTER FROM OVER 29,000 LBS. MILK, AND WHOSE SIRE'S THREE NEAREST DAMS ARE ALL 1,000 LB. COWS.

TERMS OF SALE: California Breeders Sales and Pedigree Co. will extend terms of one-third cash, balance in 3, 6 and 9 months to responsible parties who make arrangements before sale. If you want credit, and deserve it, don't be afraid to ask for it.

PLACE OF SALE: The F. L. Hogue farm, seven miles north of Modesto on Escalon Road. Headquarters of sale will be Hotel Hughson, Modesto.

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Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.

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**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

**Mr. and Mrs. Poultry Farmer:** 200,000 baby chicks for 1923 delivery from Hoganized flocks of fully matured breeders. No pullet eggs used. White and Brown Leghorns, Anconas, Minorcas, R. I. Reds, Barred Plymouth Rocks. Send your orders now. Will deliver when you want. Ansel W. Robison, 1196 Market St., San Francisco. Oakland Branch, 1737-39 Broadway, Oakland.

### BABY CHICKS

White Leghorns, Anconas, R. I. Reds.
Order now for Fall and Spring delivery

THREE MONTH OLD PULLETS
All selected—no culls

"QUALITY SUPREME"

ORANGE COUNTY HATCHERY
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**The Parent Stock from Which** we get our day old chicks, is selected for vitality and laying capacity. We specialize in White Leghorns, but will furnish other desired breeds. Our capacity being limited by the necessity of carefully selecting only the best stock, orders should be sent in promptly. THE STEVENSON HATCHERY, Watsonville, Calif.

**Poultrymen Attention.** We are now booking orders for hatching eggs, baby chicks and 8 weeks old pullets, from our well selected and culled heavy laying utility stock. S. C. White Leghorns exclusively. Only a few more dates open for hatching eggs. All our cockerels are from trapnested stock. Pine Tree Poultry Farm, Los Gatos, Calif.

**For Sale**—Pedigreed White Leghorn Cockerels—Mother laid 252 eggs at Santa Cruz egg laying contest. Father's mother laid 306 eggs, grandmother, 312 eggs. The egg habit can not be fed into a hen, it must be bred in. California Poultry Farm, R 1, box 160, Modesto, California.

**Baby Chicks**—From selected breeders. Order now for 1923 delivery. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. The J. H. Stubbe Poultry Ranch and Hatchery, Box 67-E, Palo Alto, Calif.

**Baby Chicks of high grade** are easy to raise if hatched in our Petaluma Electric or Hot Water Incubators. Prices reduced. Ask for advance circular. Petaluma Electric Incubator Co., Petaluma, Calif.

**Baby Chicks of Seven Varieties.** Order now for early Spring delivery from Fresno headquarters. Rohrs & Anson, 2028 Belmont Avenue, Fresno, California.

**Watch Us Grow** Quality Chicks. Booking orders now for the season of 1923. Brown and White Leghorns, Barred Rocks, Rhode Island Reds and Anconas. Order early. Ohlen's Hatchery, Campbell, California.

**S. C. White Leghorn Day Old Chicks and eggs** for hatching from stock bred by the late Walter Hogan, author of the Call of the Hen. Inquiries cheerfully answered. WALTER HOGAN COMPANY, Petaluma, California.

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**Booking Orders Now for Fall and spring** delivery. Trap nested, single comb White Leghorn chicks, few pullets and pedigreed cockerels. Pramme Poultry Ranch, Los Molinos, California.

**Anconas**—Cocks, Cockerels. Satisfied customers for five years. We pay return express charges if you are not satisfied. $3.50, $5.00, $7.50 each. A. S. Wilkinson, Winton, California.

**For Sale**—100 Owen Strain, R. I. Red Pullets, 15 extra fine McFarland cockerels. A. J. Bourke, Arcadia, 2nd Ave. and Genoa St.

**Slightly Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

**For Sale**—Twelve prize winning Dark Cornish Games. G. V. Bushnell, Monrovia.

**Silver Campine Males** from prize winning stock $5.00. Roy Ward, Lindsay, Calif.

## POULTRY

**Hi-Grade Chicks For Less**—We want every one who reads this advertisement to write to us today for our new price list, just off the press. You will make a costly mistake if you are interested in BARRED PLYMOUTH ROCK, R. I. RED, W. LEGHORN, or ANCONA BABY CHICKS; if you do not get our prices. By FAIR, SQUARE, and HONEST dealing HARGETT & SON for the past seven years has made thousands of good boosters,. We offer chicks from what we believe are the best flocks in Southern California, at a price that will surprise you. Output for 1923; 8000 chicks a week. Hargett & Son, Route 2, Box C, Compton, California.

**Profitable Poultry News**—Capacity 200,000 chicks off every week of year. One customer's history: In 1919 bought 1000 Leghorns; 1920, 1200; 1921, 1200; 1922, 1200 Leghorns, 5000 Reds; for 1923, 10,000 Reds alone. Why? Many practical specialists producing the best in 21 varieties for every kind of market. 200-280 egg strain Leghorns, Reds, Rocks, Minorcas, Anconas, Wyandottes, Brahmas, Andalusians, Orpingtons, Ducks, Turkeys. For quarter century imported, trapnested, selected for vigor, growth, beauty, eggs. Booking ahead reduced for every winter, Spring month. Mail address: Profitable Poultry, 13 North Fair Oaks, Pasadena.

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FIRST HATCH NEW YEARS DAY

We specialize on Hyde and Ramer White Leghorns; "Hill Crest" Reds, and Buhrman's White Wyandottes. We also hatch choice Brown Leghorns, Anconas, Black Minorcas, Barred and White Rocks, Reds, Cornish Game, Silver Laced Wyandottes and Buff Orpingtons. Descriptive folder gladly sent from THE ARCHIBALD HATCHERY, B. W. Archibald, Proprietor, Soquel, Santa Cruz County California.

**Certified White Leghorn Baby Chicks,** hatched in the world's largest Electric Hatchery, for Spring 1923 delivery. January prices $4.00 per 25; $8.00 per 50; $15.00 per 100. Special prices 500 and 1000 lots. Order early chicks now and realize big broiler profits. Choice free range, high egg producing breeding flocks. Inspected by Sonoma County Farm Bureau. Safe arrival guaranteed. Must Hatch Incubator Company, 438 Seventh St., Petaluma, California.

CHICKS CHICKS
**Elec-Chic Hatched** Baby Chicks are the finest and best and pay Highest Profits. Buy them through us from Elec-Chic Hatcheries or hatch them yourself. Send for prices and delivery dates on all popular breeds. Ask for free literature about Elec-Chic Incubators, Brooders and Co-operative Hatchery Plan. Poultry Equipment Co., Burbank, Cal., Dept. P.

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**For Sale**—White Leghorn Cockerels from trap nested stock. Record of females 251 to 290 Tancred males mothers 280 to 312. Also cockerels full blooded famous Wyckoff stock. H. M. Lyman, San Jacinto, Calif.

**Booking Orders Now for Fall and Spring** delivery. Order now, prompt delivery. Rhode Island Reds and White Leghorns. All orders given prompt attention. Oroville Hatchery, Irene Uren, Prop., Oroville, California.

**Pacific Poultryman,** West's oldest and best poultry magazine. Special rate two years $1.00. Trial subscription four months 25c. Seattle, Wash.

**Thoroughbred Black Leghorn Cockerels** and Pullets for sale. Max O. Burkhardt, Boonville, California.

**Los Gatos Hatchery** is now booking orders for White Leghorn Chicks. Shannon Station, Los Gatos, California.

## WANTED

**Wanted**—Men with cars in each California County to represent established farm paper selling and collecting. Turn your spare time into money working part or all time. To responsible persons liberal guarantee, good territory and promotion. Write California Cultivator, 317 Central Avenue, Los Angeles.

**Want to Hear from Owner** having farm for sale; give particulars and lowest price. John J. Black, 116th Street, Chippewa Falls, Wisconsin.

**Wanted—Position on Chicken Ranch** by middle aged, single, experienced chicken man. J. R. Collins, 532 So. Beaudry Street, Los Angeles.

**Married Man Wants** job on dairy ranch or rent on shares. Box VV, Cultivator, Los Angeles.

**Wanted**—Walnut Meats and cull walnuts. Fred L. Mitchell & Son, 214 French St., Santa Ana, California.

## FOR EXCHANGE

**Want Dairy Ranch in San Joaquin Valley,** west side preferred. Will trade my one-half acre ranch with 1800 head Tancred layers, producing splendid income. Excellent poultry equipment. Modern six-room house, city water, electricity. Will give or take difference. W. F. Vernor, 121 LaFonda Ave., Santa Cruz.

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THE CHARLES WEEKS SYSTEM OF INTENSIVE POULTRY AND BERRY FARMS

ONE ACRE AND INDEPENDENCE

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The fine art of earning a comfortable living on one acre in California.

For those who desire to dwell in sunny California without living up hard earned capital.

For 18 years proprietor of the most intensive Egg Farm in the world and Founder of the Famous Charles Weeks Poultry Colony at Palo Alto, California.

The Charles Weeks Poultry Colony No. 2 is now being established at Owensmouth, California, 26 miles from Los Angeels.
Write for literature.

Charles Weeks, Owensmouth, Calif.

**For Sale**—A rare chance to buy one of the old reliable apiaries, combined with 15 acres fine young orchard and vineyard, in frostless belt, no irrigation needed, good domestic water, good house, full equipment tools, etc. 107 acres mostly fenced. 140 colonies good Italian bees with good equipment and extra material. No better honey location anywhere. Fine place for turkeys, chickens and goats. Price $12,000.00 for everything. This is a bargain. Let me tell you more about it. Write Geo. J. Brown, Box 33, Tustin, Calif.

**For Sale—A Money Maker. Fifteen (15) Acres** nine year old Lemon Orchard in perfect condition. Splendid crop on trees at present. This grove is 23 miles from the Court House in Los Angeles with two boulevards running to it. The very best of soil. Los Angeles Aqueduct Water. In the strictly frostless foothills of San Fernando Valley. Frost is unknown in this section. Ideal spot for country home and a good income. See OWNER, 1203 Loew State Building, Phone 15118, Los Angeles, California.

BUY DIRECT FROM THE OWNER
Irrigated river bottom lands in Sutter County. Rich, deep soil with a complete irrigation and drainage system. Southern Pacific Railroad and Sacramento River Transportation. Liberal terms, six per cent interest.
Sutter Basin Company,
California Fruit Building,
Sacramento, California.

**Two Acre Bulb, Berry** and Chicken Ranch, producing good income. One-quarter acre in freesias, 700 Leghorns, family orchard 26 trees. Houses for 1600 hens, brooder house, garage, barn. Four-room modern bungalow, electricity, city water and well. $8000, terms. C. Ogterop, 226 Parkway, Santa Cruz.

**Level Irrig. Land,** plenty water; 5 to 7 cuttings alfalfa per season; Shasta County takes first prize at State Fair on prunes. Produces top quality all fruits and berries. Prices $50 to $200 per acre, easy terms. Stock, dairy and mountain ranches, all prices. No snow. G. E. Oaks, Redding, California.

**Ranch Lands**—One acre chicken ranch in best part Santa Cruz. Strictly modern four-room bungalow. Garage, concrete floored chicken house with 600 layers. Plenty green feed. Soil wonderful for bulbs. Will sell reasonable and give time on part. Address owner, J. S. Conrado, 95 LaFonda Ave., Santa Cruz.

**For Sale**—80 acres Unimproved Land in Tulare County, ½ mile from Town on S. P. R. R. and State Highway. Fine soil for raisin grapes, alfalfa and all kinds of truck farming. Will sell all or part of it. I. D. Trostle, 623 S. Damask Ave., Inglewood, California, P. O. Box 142.

**The Best Soil in the Valley** for cots, figs, peaches, grapes, etc., near Merced. Abundance of good water—Land is not reclaimed; close to highway. Have 2400 acres and will sell in lots of 20 acres or more at $100.00 per acre. Call or address 3 Locust Street, Santa Cruz, J. R. Master.

**For Sale**—180 Acres in famous San Joaquin Valley. Fenced, cross-fenced, good buildings, plenty of water for alfalfa and rice. Two crops grain, wheat or barley followed by corn. Fine grape land. Will divide to suit. Write owner, C. L. Bartlett, Wasco, California.

**A Post Card** will bring you a list of little farms and chicken ranches in the famous San Gabriel Valley near Los Angeles. Fred W. Kelsey, 209 So. Rosemead Avenue, El Monte, California.

**For Sale**—50 acre bearing orchard on highway near Chico; prunes and pears; easy subdivision. A good home. Levi H. Maxwell, RD. 1, Chico.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**Cash Buyers**—Want Western farms and ranches. Describe, state lowest price. R. A. McNown, 370 Wilkinson Bldg., Omaha, Neb.

**To Close Estate**—$15,000 buys 25 acres bearing almond orchard near Chico on highway, good buildings. Address Owner, Box 939, Chico, Calif.

**For Sale**—10 acre River Bottom land, all in valuable fruit. Write Owner, Oakdale, California, Box 584.

**Write C. E. Canfield,** Santa Cruz, for information on bulb, artichoke, poultry and pear lands.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## GOATS

**Milk Goats Cheap**—One or carload. Robert Osborne, Campo, California.

## CATTLE

**Holsteins**—For Sale—Jane Garden Nero Abbekirk, a son of Sir Aaggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys**—Grape Wild Farms—Berkshires—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Aberdeen-Angus Cattle**—Registered bulls; heifers always on hand. Everything priced to please buyer. Brook Hollow Farm, Hollister, California.

**Ayrshire Cows and Heifers** priced right. Send for photos, prices. Redwoods Ayrshire Farm, La Honda, Calif.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Herefords**—"Veramont Stock Farm," H. M. Barngrover, Prop., Stockton, California.

**Registered Herefords**—Anxiety 4th strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

**High Class Jersey Bull Calves** for sale, from R of M Dams. Grant A. Brown, El Monte, California.

## TURKEYS

### GIANT BRONZE TURKEYS

Large turkeys can be raised at practically same cost as small ones. It is in the strain. One of our toms will give you five more pounds of meat to market in all his get the first year; besides vitality and beauty.

GOLD NUGGET STRAIN
J. Will Blackman, Originator

Again prove their superiority by winning at California State Fair, September, 1922. Gold Special Sweepstakes for best turkeys in the show. All breeds competing. In open class they won 1st old tom, 1st and 2d yearling tom, 1st and 3rd yearling hen. This, along with practically every Gold Special Sweepstake at the West's greatest shows since 1915, prove that they have

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Toms and hens for sale. Book orders now for December delivery as each year we are sold out early.

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**For Sale**—Mammoth Bronze Turkeys, Gold Bank strain. Winners for 16 years at Madison Square Gardens, N. Y. Our toms won 1st and 2nd at Hanford Poultry Show, December, 1921, and two firsts at Antelope Valley Poultry Show, January, 1922. Selected toms, $20.00; hens, $10.00. R .H. Corum, Muroc, Calif.

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**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

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**Hachiya Persimmon Trees** on lotus roots. Select buds, free from disease. Alcorns Nursery, Fullerton, California.

**Pear Trees**—Dwarf and standard scarce—order now. Cash Nursery, Sebastopol, Calif.

## MISCELLANEOUS

**For Sale—This Year's English Walnuts,** not bleached, delivered Parcel Post anywhere in California, 25 cents per pound. B. W. Hazen, RR 1, Box 117A, Los Gatos, Calif.

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**Natural Leaf Tobacco.** Chewing 5 pounds $1.75, 10 pounds 3.00; Smoking, 5 pounds $1.25, 10 pounds 2.00, 20 pounds $3.50. Pay when received. TOBACCO GROWERS UNION, Paducah, Ky.

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**4 Lbs. Salmon Bellies** and 3 lbs. absolutely boneless Codfish delivered by mail, prepaid, $2.00. Sixth zone and beyond, $2.25. Coffin Fish Co., Seattle, Wash.

**Shorthorns**—Straloch Farm 2½ miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

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Another Cut
On Aermotors, 8-ft. $29.50, 10-ft. $39.50, 12-ft. $58.00. Other makes reasonable.
Few Prices
For Competitors
To Worry About.
New Galv. Tanks, 665 Gals., $26.25; 1000, $35.25; 2000, $48.25; Wagon Tanks for half. Used Redwoods, 3000, $38; 4000, $42.50; 5000, $48; 8000. $63; 12,000, $88; 25,000 $135; 50,000, $250. New Used Cylinders For Less. Call, Write Demmitt Co., 120 North Main, Los Angeles.

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**For Sale—Mammoth Geese** $5.00 each—will not last long at the price. An early order gets the bird. Chas. McNeely, Alpaugh, California.

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**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

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## SHEEP

**Hampshire Sheep**—Straloch Farm 2½ miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

# Dairy Products Show

During the year ending June 30, 1922, California produced 105,446,108 pounds butterfat; 48,850,212 gallons pasteurized market milk; 24,701,699 gallons raw milk; 8,963,820 gallons cream; 7,139,267 gallons ice cream; 74,010,176 pounds butter; 8,574,736 pounds cheese; 98,050,065 pounds evaporated milk.

The wholesale value of California's manufactured dairy products was nearly a hundred million dollars or, to be exact $97,125,398.

The past few years have shown wonderful development and great increase of production. They have shown even more wonderful advancement in quality of manufactures.

Partly to celebrate this great advancement and partly for trade reasons there was held all of last week in the city of Fresno the Second Annual Pacific Slope Dairy Products show. Each one of the six days given up to this show found opportunity for gathering in convention of milk products manufacturers, associations of milk distributors and others whose whole interest has to do with the dairy industry. The first of these associations to meet during the week was the California and Southwestern States Ice Cream Manufacturers. Others were State Milk Distributors Association, conference of state dairy inspectors, California Dairy Council, California Creamery Operators Association.

So far as the Dairy Products Show was concerned it was certainly an eye-opener to dairy people and others of the San Joaquin Valley. As a matter of contrast one room in the great auditorium was given up to equipment of other days. In this room there were the old time milk racks filled with shallow pans, tanks for the tall milk setting cans which were to be surrounded with ice water, old time churns, though unfortunately none of the good old dash churns and butter working equipment, all of which helped to make outstanding the nickel plated and highly polished dairy and creamery equipment of today. In this modern equipment there were ice cream freezers built somewhat like a 16 inch gun. There were milking machines, separators, ice machines, milk bottles and capping machines, and of course there was dispensed at all times the latest in milk drinks.

The appreciation of its management by those interested in the success of the show is best evidenced by an event of Dairy Council Day. Manager C. L. Roadhouse was called to the platform and the magnificent work he had done in staging the show and opening it practically ready for business at the announced time was referred to and appreciation of his work expressed by handing to him a beautifully jeweled gold watch in token of the esteem of his fellow workers.

The work of the Dairy Council was praised on every hand. Sam H. Greene is the livewire of that organization as well as secretary and manager. Mr. Greene gave tribute to his helpers in the educational work which is being conducted. The most recent to become connected with the work of the council is Robert Jones, formerly with

(Continued on Page 575)


# Auction

## 50-Head of Highclass Dairy Cows-50 Tuberculin Tested

### at the Rhoades & Rhoades Sale Pavilion at Hynes, Cal.

## Wednesday, Dec. 6

An offering of high class young grade dairy cows that has never been equaled in the south. Nearly all Holsteins, a few choice Guernseys, all either just fresh or heavy springers, all tuberculin tested and sold subject to a

60 DAY RETEST

This splendid herd was shipped to us from the State of Washington, noted for its clean cattle and we are advised that the particular section where this herd came from there were 4300 cows tested this spring with only 3 reactors and the reactors were killed. If you want clean cattle from a clean territory this is your opportunity.

These cows can be seen any time at the Rhoades & Rhoades Sales Yards. Inspection invited.

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## BREEDING DATE BOOK—FREE

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## Barren Cows Can Be Made Profitable

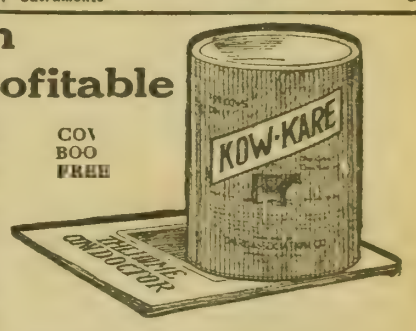
Don't send them to the butcher. They can be made to raise calves and produce milk in paying quantity. Barrenness simply means that the cow's genital organs are too weak to function properly.

Kow-Kare, the great cow medicine, acts directly on these organs and the digestion, correcting the serious disorder. D. B. Thomas, Knightville, Utah, writes us:

"I had a valuable Jersey cow eight years old that had had seven calves. Something went wrong with her after her last calf came, so that for two years she failed to become with calf. Fed her some of your Kow-Kare last Jan. and she was all right the first serving, and long before I had given her the whole package of your Kow-Kare that I purchased."

Mrs. Harvey Ray, Homer, Ill., writes: "The registered Shorthorn cow I wrote you about last year, and which I treated for Barrenness, under your directions, dropped a fine Bull calf Jan. 2nd. Less than one can of Kow-Kare did the work."

Hundreds of others tell us every year of making valuable producers from cows that seemed hopelessly barren.




Kow-Kare is equally valuable in treating Abortion, Retained Afterbirth, Scouring, Bunches. Milk Fever and Lost Appetite. Thousands of dairymen use Kow-Kare one week each month to keep up the milk yield during the winter months.

Let us mail you, free, our valuable 82-page book. "The Home Cow Doctor." Kow-Kare is sold by feed dealers, general stores and druggists. We will send either the $1.25 or 65c size prepaid if your dealer is not supplied.

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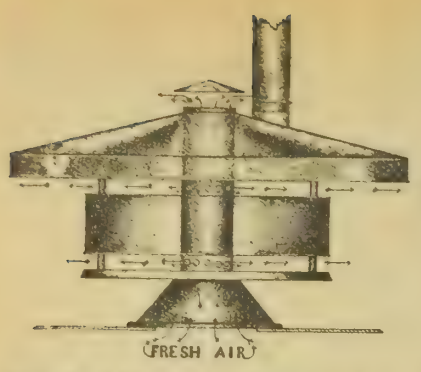


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**Petaluma** **California**

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**WHITE LEGHORN CHICKS ONLY**

Order spring chicks now; delivered by our Special Tan colored Auto delivery around your brooder. We have Wyckoff, Hillview, Tancred, England, Beal and other high record male lines. If you want the best in laying strains, tried out and proven for years, buy from us.

Our special egg turning trays now available in quantities at reduced prices. We are San Fernando Valley agents for the Lyon Improved Electric Brooder and Powers gas regulator for brooder stoves and hot water systems.

I supply you with accurate information on construction and ventilation of Pride of Petaluma Brooder Houses; also carry a full line of stoves and parts.

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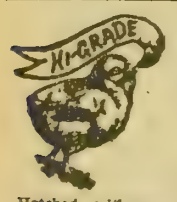


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Hatched with our new mammoth, forced draft incubators, from pure bred, farm raised, Hoganized stock. This insures you a large fluffy chick, full of pep and grows from the very start.

We are now booking orders for 1923 delivery. Write today for our price list and reserve your delivery date. We guarantee 100% delivery anywhere within 72 hours from Long Beach. We hatch nothing but S. C. White Leghorns and S. C. R. I. Reds.

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Eighteen years in the wholesale and retail poultry business.

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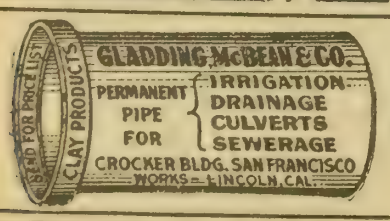


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# Poultry Queries

**(Conducted by Jean A. Koethen)**

### Lime for Turkeys

I have been feeding my turkeys unslacked lime, making it into a moist paste, then drying and feeding. Is there any danger of feeding it too strong, and how should it be slaked, and is there danger of feeding too much?—Subscriber, Oroville.

I have never heard of feeding lime to turkeys and cannot imagine any reason for it. If you keep your birds supplied with grit and shell, feed plenty of greens and a good, substantial ration of bran and barley if the birds are young, or laying mash and mixed grain if they are breeders, they have all they need. As you do not say how old they are I cannot indicate the precise ration.

### Sex of Geese

Please tell me how to distinguish sex of geese.—Subscriber, Anaheim.

Only a minute examination by an expert can distinguish sex in geese before they mature. In general the gander is heavier, has a coarser, harsher voice, and uses it more. He is the belligerent sex. It is said that if a flock of young geese is confined in a pen with a dog the females will try to run away, but the ganders will stretch their necks and hiss.

### Lice and Mites

Please tell me how to rid my hens of lice and mites, which are very troublesome in this climate. I have been advised against dipping because it spoils the hens for the table, and dusting is not satisfactory.—Subscriber, Yuma, Arizona.

Dipping would not permanently ruin your hens for the table, but it should be done only in warm weather and is not generally recommended. Have you tried dusting thoroughly with sodium fluoride? It is recommended by the department of agriculture and seems to give good results. You will have to dust thoroughly twice in order to get the lice which hatch after the first dusting. Another treatment recommended by experiment stations is with blue ointment. Buy a small jar of blue ointment from your druggist and mix with equal quantity petroleum jelly or white vaseline. A bit of this mixture the size of a pea is enough for each hen. Take it on the end of your finger and rub around the vent where the lice congregate. It should be handled with care because it is poisonous. There is another treatment which is absolutely sure to rid a hen of lice, and that is a good greasing with lard, but it will make her look dirty and draggled for a long time. So much for lice. Mites must be hunted in the house and not on the hens. They live in cracks in the wall, under the ends of roosts and in the bottoms of nests under the litter, and come out at night or when the hens are sitting quietly on the nests, to suck their blood. There are a number of prepared insecticides that will keep mites out, if they are used regularly. Carbolineum and the cresol preparations are among these. If you prefer to mix your own insecticide, use crude oil or kerosene and crude carbolic acid, making the mixture one part carbolic acid to five or six of oil or kerosene. In many cases a far weaker solution is sufficient, but if your houses are already infested with these pests you will need a strong mixture and will have to use it once a week. You can spray any of these preparations upon walls and roosts, or you can paint them on with a brush, which in my opinion is the more efficient method. Remember, you must get your insecticide into the cracks and wherever the pests can hide.

### Depluming Scabies

For some time I have noticed a sort of sloughing off on the droppings boards from my young stock, of which I send a sample. It seems to be composed of bits of feather and scales, and I am told it may be the depluming mites's work. I am a novice and would appreciate your opinion.—Subscriber, Escondido.

The sample is undoubtedly bits of eaten-off feathers and epidermal scales, indicating that the feather mite or depluming scabies has been at work. These mites yield easily to treatment. You can use any one of the following, rubbing on the body wherever you see stumps of feathers or the epidermal scales which have been left: Oil of caraway ointment (1 part caraway to 5 of vaseline.) Or balsam of Peru. Or creolin, (1 part creolin to 10 of water.) Or the following mixture recommended by Dr. Salmon: Flowers of sulphur, 1 dram, carbonate of potash, 20 grains, lard or vaseline, ½ ounce. Or 1 dram creolin, 2 ounces glycerine, ½ ounce alcohol, ½ ounce water.

Any one of these treatments should be repeated every four or five days till the disease is cured.

### Lettuce for Chickens

In this section a great deal of lettuce is grown and other green feed is scarce at present. I have been using it, along with stock beets and lawn clippings, and have seen no bad results, but have been told it may be detrimental. Is this true?—Subscriber, Gardena.

Lettuce is the least desirable of all greens for chickens because it is about 95 per cent water and only .90 per cent ash, but it is better than no greens at all. Using it with other greens you are not likely to see bad results. I have been told that lettuce sometimes makes little chicks "dopy," but do not know whether this is true or not. Certainly it should not be used when alfalfa, kale, chard or barley is available. A great many poultrymen depend for their winter supply of green feed on barley.

### Weak Legs

My young turkeys, hatched in May and June, are now getting weak legs and twisted knee joints. Feet finally turn out and legs spread apart until they can hardly balance themselves. The birds eat well and weigh heavy. They were raised in a big field of alfalfa, have grit and bone meal before them constantly, about all the corn they want and I feed a mash and quite often a bucket of clabbered milk, also wheat and sprouted barley during the hot weather. They sleep in the open and have the run of 12 acres of alfalfa.—Subscriber, San Joaquin.

Your birds are too heavy for their legs. If you will run over their bill of fare you will see that practically all the grain they have had is feed that makes fat, rather than muscle or frame. Corn is the worst of all feeds for growing stock, and bran is the best. If you will keep a box of bran constantly before them and feed wheat and rolled barley instead of corn, I think you will soon see a difference, though you may have to limit their ration for awhile. You can mix a little bone meal in the bran.

### Sick Hen

A valuable Rhode Island Red pullet has had bowel trouble since I purchased her two months ago. I feed her a well balanced ration of mash, scratch and greens and at different times remedies. Now she seems to have a scab that forms over the vent and droppings collect and have a very bad odor. What do you advise?—Subscriber, Wilmar.

I feel very sure from the description of the disease that this hen has vent gleet, the one venereal disease of poultry. Isolate her from the rest of the flock and be very careful to wash your hands thoroughly after handling her. Here is the treatment outlined by Wright for this disease: "Any hen found with it should be isolated and


## Turn Stump Land Into Money

Clear your stump land cheaply—no digging, no expense for teams and powder. One man with a K can rip out any stump that can be pulled with the best inch steel cable.

Works by leverage—same principle as a jack. 100 pound pull on the lever gives a 48-ton pull on the stump. Made of the finest steel—guaranteed against breakage. Endorsed by U. S. Government experts.

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## Incubators and Brooders Are the Best

Buckeye Incubators in All Sizes
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Mr. Lee is author of a score of books on poultry, having a distribution of more than TWENTY MILLION copies. He considers as best of all, his latest book **"POULTRY TROUBLES"**

There are climatic troubles; seasonal troubles; neighborhood troubles, epidemic, accident, vermin, housing and feeding troubles—their PREVENTION and TREATMENT all told in the plain, easily understood, common-sense way for which Mr. Lee's writings are famous. It's worth reading. A copy may be had FREE from any dealer handling Lee's Lice Killer and Germozone, or from

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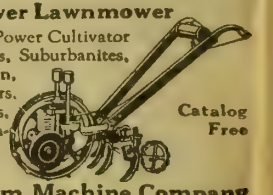

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# HEAVY LAYING S. C. WHITE LEGHORNS

Our birds won First and tied for Third at the Southern California Farm Bureau Egg Laying Contest at Pomona. Our Pullet No. 392 is leading the new contest which started October 1st, laying 27 eggs for the month of October and winning against four hundred and seventy pullets of California's most noted laying strains.

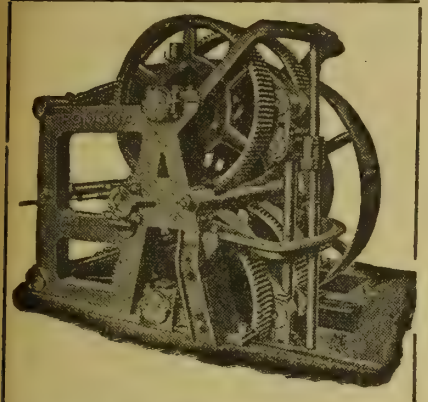
We bred and raised all the pullets we entered in this contest and have been breeding Leghorns for a number of years. Our birds have made splendid records in our own trapnests but we believe only records made in public competition should be mentioned.

In order to increase egg production, you must breed from males out of high producing parent stock. We can sell you cocks or cockerels that will improve your flock. Hatching eggs and baby chicks for sale in season. Address:

## Blackman & Mumford

**607 East Third St., Los Angeles, California**

the male bird examined and if necessary also isolated. Give 30 grains Epsom salts and twice a day inject first a 4 per cent solution of cocaine and immediately afterward a solution of nitrate of silver, 4 grains to the ounce. The fifth day commence a small copaiba capsule daily, and inject acetate of lead, 1 dram to the pint. Feed rather low meanwhile and dust sore places with iodofoam or aristol.

# THE POMONA

## Duplex Plunger Deep Well Pumps

are solving the pumping problems for many users during the period of low water levels. They will lift the water to the surface, and, if desired, deliver it to high elevations above ground and at lower power cost than any other system of pumping water.

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The following selected varieties:
BLACK MONUKKA
MARAVILLE DE MALAGA (Red Malaga)
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OLIVETTE BLANCHE (Lady Finger)
OHANEZ ALMERIA
HUNISA
PANARITA (Zante)
GROS COLMAN (Fresno Beauty)
BLACK CORNICHON
EMPEROR
MALAGA
MUSCAT
THOMPSON SEEDLESS

This nursery stock is absolutely clean and I invite your personal inspection. Book orders now. Act promptly. Visit or write.

**C. A. MELCHER**
2½ Miles West of McFarland, Kern County, California. Box 27.



## D. Lotus Seed

Dated China, Oct. 20, 1922.

"Dear Mr. Kelsey:

"This is not an answer to your letter of Sept. 15 but just a note to say that the outlook is most encouraging to get your seeds (D. Lotus) from a very reliable source. It is a difficult matter collecting wild fruits in China but we have made connection with a missionary who has collected for U. S. Dept. and will take a personal interest in it. Sincerely yours, etc."

**The Best Costs No More. Write for Prices**

**FRED W. KELSEY**
**209 So Rosemead El Monte, Cal.**


If not well after two or three weeks we would kill the bird, as the disease is not quite free from danger; for if the operator should touch his eyes accidentally before he has cleansed his hands, the result might be a most violent inflamation." If the hen had this trouble when you bought her, she should be returned to her former owner. She will never be fit for a breeder and is a menace to the health of the rest of the pen.

### Roupy Hen

One of our hens had a swelling on the front of her throat. We found it was loose and squeezed out a cheesy substance as large as a small walnut. Her throat is still sore and has some of this cheesy stuff clinging to it. How shall we treat it?—Subscriber, Redlands.

You can swab her throat with peroxide of hydrogen, half strength, or with silver nitrate. When you have cleaned out as much of the cheesy substance as possible, spray twice a day with this solution: Extract of witch hazel, 4 tablespoons; liquid carbolic acid, 3 drops; water, 2 tablespoons.

### POULTRY SHOW AT DELANO

The Northern Kern and Southern Tulare Commercial Poultry Show will hold its second annual at Delano, December 15 and 16. The slogan of the show is "Birds Judged for Utility." There will be a special department for children where they can exhibit birds, pigeons rabbits and other pets. Premiums will be offered in this department also.

### SOUTHERN CALIFORNIA RABBIT SHOW

The rabbit breeders of Southern California are jubilant over the success of the largest rabbit show held in that part of the state, in connection with the Los Angeles County Fair held at Pomona, October 17-21.

There were nearly 500 rabbits and at least 15 varieties. Competition was especially strong in the Red, New Zealand, Fancy and utility classes. Flemish Giants, weighing almost 20 pounds were an especial attraction.

Most of the entries were from the state, several were from as far as San Francisco, although one entry was from Kansas City, Missouri. J. F. Hooten, over 70 years of age, near the Nevada line in the Sierra, carried five American Blue rabbits on pack horse for 50 miles to the nearest express station in order to enter them in the show and had the pleasure of receiving a blue ribbon in the baby doe class and a few other ribbons for his effort. His rabbits were not only high grade animals but were in excellent condition. The Ontario-Upland Rabbit Association, which was largely responsible for the success of the show just passed, has 135 members and represents a working force of at least 3000 does, producing between 4000 and 6000 meat rabbits each month, and is the largest organization of its kind in the country. Excellent care was given the rabbits by Mr. Goodro, a veteran in the rabbit game.

That the Los Angeles County Fair to be held in Pomona each year, will be the place for the annual rabbit show of Southern California has been virtually decided by those in charge of the show, and it is expected that next year there will be entries from many breeders in different sections of the United States.—Wm. A. Bixler.

### NO CHANCE LEFT

"I think he must be a hopeless failure."

"Hopeless? Has he tried many things."

"Everything. Even to the writing of moving picture scenarios."

"And failed at that?"

"Absolutely."

"It does seem that there is nothing left for him."

### DEADLY OVERDOSE

"What experience did you have with the roach poison I sold you last week?"

"Not so good, not so good. All the roaches did well on it, and I think are looking better, except one. He liked it so well he made a durned pig of himself and foundered. I'm afraid I'm going to lose him."—Philadelphia Retail Ledger.


# STRIKES!

**The Farmer *Always* Gets Stung**

The recent railroad and miners' strike is estimated to have cost the farmers in California, alone, $25,000,000.

How much has it cost you? Will yet cost you?

No matter who wins in a capital and labor fight, the farmer has to pay—and pay big.

How can these conflicts be stopped? How can the farmer be protected from having to foot the bill every time? Governor Allen, of Kansas, has developed a remedy. A number of other prominent men have been studying all phases of the way this industrial situation is grinding down the farmer.

What they think they tell you in vigorous fashion *in the next thirteen issues* of THE COUNTRY GENTLEMAN.

Every strike you can help prevent puts money in your pocket. Get behind this movement to abolish strikes.

## Why Can't You Make More Money, Too!

Harry R. O'Brien traveled 3200 miles, asking "dirt" farmers what makes them the most money.

What crop is most profitable in your locality? What enterprise? Are your methods right?

Is it good business to take on an additional enterprise?

O'Brien knows what will coin the most money. He got his information from successful farmers who have dug through these problems and whose proof is their bank balance.

Read what he says—*in the next 13 issues of* THE COUNTRY GENTLEMAN.

One item, one bit of fact, may mean the difference next year between an ordinary profit and a *big* profit for you.

## How Much Do You Pay for Liquor?

Whether or not you buy any, you're paying for it. Investigation shows that 90 per cent of the farmers are dry.

The farmers voted for Prohibition because rum interferes with the successful operation of their farms.

The present slipshod handling of the rum question is costing the farmer money.

How can rum-running and bootlegging be stopped, once and for all?

THE COUNTRY GENTLEMAN is publishing a remarkable series of articles showing what is happening and what can be done. Included is a stirring article by JAMES R. HOWARD, President of the American Farm Federation, on the farmers' attitude toward Prohibition.

These articles *in the next 13 issues* furnish the best answer to the fake "straw votes" with which we are being flooded.

## 13 Issues for Only 25 Cents

We will send you the next 13 issues of THE COUNTRY GENTLEMAN, containing these and many other important features, for only 25 cents.

THE COUNTRY GENTLEMAN is a practical "dirt" farmer's magazine.

It emphasizes the *business* end of farming, shows you constantly in hundreds of different ways how you can make more money out of farming in your section of the country. 40 pages, each week, packed with meaty, sound *help*.

Mail this coupon with 25 cents—coin, check, money order or stamps—we take the risk.

Your first issue, mailed promptly, will be worth to you more than the whole amount.

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Here's my 25 cents. Send me *THE COUNTRY GENTLEMAN* for thirteen issues beginning at once.

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Town_____

State_____

# The COUNTRY GENTLEMAN

**338 Independence Square, Philadelphia, Pennsylvania**

# Los Angeles Markets

Los Angeles, November 22, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 50 cents.

| Nov. | 15 | 16 | 17 | 18 | 20 | 21 |
|---|---|---|---|---|---|---|
| | 47 | 49 | 50 | 50 | 50 | 50 |

### CHEESE

Brokers' prices:
California flats, 24.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 62½; case count, 55; pullets, 47; pewee pullets, 30.

| Nov. | 15 | 16 | 17 | 18 | 20 | 21 |
|---|---|---|---|---|---|---|
| | 61 | 62 | 62½ | 62½ | 62½ | 62½ |

### POULTRY

Price to producers L. A. produce exchange: Hens, 22; colored, 30; broilers, 36; roasters, 26; old roosters, 14; fryers, 26; ducks, old, 20; ducklings, Pekin, 3½ up, 26; others, 22; geese, 25; turkeys, live, young toms, 35; dr., 40; old, live, 31; dr., 36; hens, live, 34; dr., 39; small hen and tom, 15; squabs, 25@50; capons, 30@35.
Belgian hares, 12@17; old 8.

### LIVESTOCK

Weekly livestock market summary, Tuesday, November 21, 1922, furnished by Federal-State Livestock Market News Service, 1028 Pacific Finance Building, Los Angeles.

Cattle: Receipts of strictly fat cattle have been light at the Los Angeles Union Stockyards, bulk of the supply consisting of common and medium stock. There was ready outlet for virtually all grades. Beef cows sold relatively high with steers.

Good steers found sufficient favor from buyers to exact a premium, as was evidenced when 8.25 was paid for two cars of strictly good Idahos, with a car of 11 5 pound Montana bullocks at 8.00. Several loads of medium to good beeves cleared from 7.25 to 7.80, these coming largely from Colorado, Idaho, Utah, Wyoming and California. Plain steers from Texas and Arizona often went around 6.00 to 6.75, with trashy stock on the Mexican order as low as 4.35 to 5.25.

Good beef cows and heifers were in active demand and often appeared relatively high. Good 705 pound heifers from Imperial Valley scored 6.50 with others at 6.10. Bulk of fat cows sold from 5.25 to 5.85, with common kinds, largely from Arizona and Texas, at 4.00 to 4.50, and canners and cutters as low as 2.00 to 3.50. Bologna bulls were active at 3.25 to 4.00.

There was good inquiry for feeders. A string of exceptional Wyoming feeders cleared to a California buyer at 6.75 and good 978 pound feeders brought 6.25. Some Arizona feeders went out at 5.25 to 5.50.

Calves: Sorted light veal calves sold as high as 8.25 to 9.00, but bulk of Arizona and Texas 225 to 275 pound averages sold from 7.00 to 7.50, some common 317 pounders as low as 6.00.

Hogs: Prices on hogs have declined but are still relatively high in comparison with Eastern prices. On early trading days this week, mixed loads, carrying both light and heavy porkers, went at 10.00, with uniform 180 to 200 pound averages quotable up to 10.50. Good heavy sows went at 8.50 to 9.00, with 14 pound sows and stags at 6.00.

Sheep and Lambs: No choice lambs have arrived since the opening of the yards. A Los Angeles house bought a string of good to choice Idaho lambs, f. o. b. shipping point, at 11.50. Good and choice light lambs are conservatively quoted at 13.25 to 13.75 at the yards.—Nelson R. Crow, local representative.

### POTATOES AND ONIONS

These are the actual prices obtained between 7 and 8 o'clock, November 21, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement moderate, market steady. Northerns: Rivers, 1.85@2.00; poor, low as 1.60 cwt. Idahos: Russets, 1.70@1.85. Sweet Potatoes: Locals: Nancy Halls, 2; Jerseys, 2@2½lb. Northerns: Nancy Halls, 3 lb.

Onions: Demand and movement moderate, market firm. Stocktons: Yellows and Browns, 2.25@2.50; Whites, best, 3@3.25;; poorer, 2.50@2.75 cwt. Locals: Whites and Yellows, 75; Spanish, 1.00 per lug; 3.00 per cwt.

Garlic: Mex. and Northern, best, 8; poorer, 7.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, November 21, by wholesalers in their sales to retailers, pedders, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Artichokes: Doz., 1.25@1.50; small, 75@1.00.

Beans: San Pedro: Kentucky Wonders, 10@12; Limas, 6.

Bunched Vegetables: Per dozen bunches: Turnips, carrots, beets, 30@35; parsley, onions and radishes, 15; spinach, 25; parsnips, 40.

Cabbage: Market steady, quality generally good. Field cr., best mostly, 3.25@3.50.

Cauliflower. Per doz., 1.50@1.75; few 2.00.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals: best, 2.25@2.50. Northern, 3.50@4.00 crate according to quality.

Cucumbers: Southern, 2.00 per flat.

Eggplant: Local, 5 lb.

Lettuce: Market steady. Locals: Ordinary, 1.00; best, 1.25@1.50 field cr.

Okra: Lb., best, small, 12@14.

Peas: Northern, lb., few best, 12@15; poorer, 8@9.

Peppers: Locals: Bells, mostly, 6@8; Chilis, 4½@5; pimentos, 4@5; Cherry Chili, 12@13.

Sacked Vegetables: Per sack. Beets and Carrots, 90@1.00; Turnips, 1.25@1.50.

Squash: Market steady. Locals: Summer, lugs, 1.00; Italian, lugs, 1.25@1.50; Hubbard, 2½; Cream, 3.

Tomatoes: Demand moderate, movement slow, market dull. Local: lugs, ripe best, 1.25@1.35; poorer, 80@1.00.

### FRESH FRUIT

These are actual prices obtained November 21, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Bellefleurs fancy, 3½ tier, 1.35@1.40; 4 tier, 1.35@1.45. Utahs: Jonathans, loose, 3½@4½; Delicious, 6 lb. Idahos: loose, orchard run, 3 lb. Washingtons: Jonathans, packed, extra fancy, 2@2.25; fancy, 1.75@2 per box; Delicious, extra fancy, 2.50@2.65 per box. Oregons: Spitzenburgs, extra fancy, 2.25 per box.

Casabas: Northern, 1.75 cwt.; local, 1.50 cwt.

Cranberries: Cape Cod, Early Blacks, 17 per barrel; 8.50 per half barrel. Late Howes, 19.20 per barrel; 5.50@10 per half barrel crate. New Jerseys: Late Howes, 18.50@19 per barrel; crates, 9@9.50.

Grapes: Demand slow, market weak. Locals and Northerns: Muscats, 4@4½; poorer, 2@3½. Malagas, best, 4½@5; poorer, 2@4; Tokays, 3½@4½; poorer, 2@3; Cornichons, 3½@5; Red Emperors, 4@5½ lb.

Pears: Demand good, market firm. Northerns and Locals: Bartletts, best, 7@8½; poorer, 5@6.

Persimmons: Lb., 8@10.

Pomegranates: Lb., 5@6.

### CITRUS FRUIT

Grapefruit: Arizonas, 64-96 sizes, 5.00@6.00; Imperial Valley, 6.50@7.00; Northern, 5.00@5.25 box.

Lemons: Demand and movement light, market steady. Special brands, fancy, 9@10; choice, 6.50@8.50.

Oranges: Demand moderate, market steady. Valencias, special brands, 8@10 according to size. New crops Northern Navels, 7.50 box.

### HONEY

Southern California: Colonies in good condition. Market stronger and prices advancing since passage of tariff. Some small beekeepers selling rapidly but larger factors holding for higher prices. Carlots range per pound, for outside shipments: White Orange, 10½@11; White Sage, 9@9½; Light Amber Sage, 7@7½; Light Amber Alfalfa, 6¾@7. Some sales to nearby dealers of White Orange low as 9¾ cents per pound and of white Sage at 8@8½. In Central California alfalfa crop said to have been only a fraction of normal, due in part to army worms.

### WALNUTS

(Walnuts same as last week.)

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oat | 24.00@26.00 |
| Barley Hay | 18.00@20.00 |
| Rabbit Alfalfa | 26.00@28.00 |
| No. 1 Dairy | 24.00@26.00 |
| Standard Alfalfa | 18.00@20.00 |
| Wheat Straw | 10.00@12.00 |
| Barley Straw | 9.00@11.00 |

### GRAIN

Prices L. A. Grain Exchange, November 21.

Barley 100 ton lots, December del., 1.65. Milo, 100 ton lots, December del., 2.20.

Cal. Farm Bureau Marketing Exchange reports:

Prices cwt. f. o. b. L. A. package deductible:

| | |
|---|---|
| Wheat, hard white | 2.40 |
| Wheat, soft white | 2.35 |
| Wheat, good feed | 2.30 |
| Barley | 1.65@170 |

Milo beginning to move from Imperial Valley at 2.22½@2.25 f. o. b. L. A. for No. 2 or better, federal grading.

# San Francisco Markets

San Francisco, November 21, 1922.

### BUTTER

Sales on Dairy Exchange:
Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | | | | | | |
|---|---|---|---|---|---|---|
| Extras (Nov. 22) | | | | | | 48½ |
| Prime Firsts (Nov. 22) | | | | | | 47½ |
| Nov. | 15 | 16 | 17 | 18 | 20 | 21 |
| | 47½ | 48½ | 49 | .... | 49 | 48½ |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats | 23 |
| Oregon Trips | 26½ |
| Oregon Young America | 28 |
| Cal. Y. A. fy | 27 |

### EGGS

Dairy Exchange Quotations:

| | | | | | | |
|---|---|---|---|---|---|---|
| California Extras (Nov. 22) | | | | | | 64 |
| Extra Pullets | | | | | | 48 |
| Undersized Pullets No. 1 (Nov. 22) | | | | | | 41 |
| Nov. | 15 | 16 | 17 | 18 | 20 | 21 |
| | 65½ | 65½ | 61 | .... | 62 | 64 |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of November 20 by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers: 1 to 1¼ lbs. 36@40 per lb. 1½ to 1¾ lbs., 32@35 per lb. Colored, 28@30 per lb.

Fryers: Leghorn, 2 lbs., 28@30 per lb. Colored 2 to 3¼ lbs., 28@30 per lb.

Young Roosters: Colored, 3½ lbs. and up, 28@30 per lb. Staggy, showing spurs, 21@23 per lb.

Colored Old Roosters: 17@18 per lb. Leghorn old roosters: 14@15 per lb. Leghorn hens, 2½ to 3 lbs., 18@20 per lb. 3 lbs. and over, 24@27 per lb. Large colored hens, 28@30 per lb. Off stock 26@27 per lb.

Ducks: Young, 18@20 per lb. Off stock, 10@15 per lb.

Geese: Young, 20@22 per lb. according to quality.

Live Turkeys: Old, 32@35 per lb. Spring, 38@40 per lb. Dressed turkeys, spring, 43@47; old hen, 40@45; gobblers, 35@40.

Belgian Hare: Live, 15@18 per lb. Dressed, 18@23 lb.

Jack Rabbits: 2@2.50 per doz.

Squabs: Live, fancy, 55@60 per lb. Common, 3.00@3.50 per doz. Old pigeons, 2.50@3.50 per doz.

Guinea Fowls: Young, 8.00@10.00 per doz.

### LIVESTOCK

Quotations furnished by the Federal-State Livestock Market News Service.

Cattle prices, per cwt. (delivered off cars from San Francisco)—Beef steers, good grade, 7.75@8; medium grade, 7@7.50; common grade, 6@6.75; beef cows, good grade, 5.75@8; medium grade, 5.25@5.50; common grade 4@5; canners and cutters, 2@3.50; bologna bulls, 2.50@4.

Calves—150 to 200 pounds, good and choice, 7.75@8; 200 to 250 pounds, 7.50@7.75; 250 to 300 pounds, good and choice, 7@7.50; over 300 pounds, 5.50@6.50.

Hogs—Good and choice, grain-fed, Californias, 150 to 200 pounds, 10.75@11.25; 200 to 250 pounds, 10.25@10.75; 250 to 300 pounds, 9@9.50; 300 pounds up, 8.50@9; smooth sows, 250-300 pounds, 7@7.50; rough sows, 250-300 pounds, 6@6.50; rough sows, over 300 pounds, 5@6.

Sheep and Lambs—Lambs, good and choice grades, 13.50@14; medium grades, 13@13.50; ewes, medium and good, 5.50@6.50; wethers, medium and good, 8.50@10.

### FAT HOG AUCTIONS

Hog auctions will be held this week at: Modesto, November 28; Chowchilla, 29; Fresno, 1; Wasco, 2.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Rivers, 1.10@1.25 at wharf; Salinas, 1.75@2 cwt.; Idaho Russets, 1.50@1.65 cwt. Washington Gems, 1.40@1.50 cwt. Jobbing Rivers, 1.25@1.40. Sweet Potatoes: Merced, 1¾@2 lb. Nancy Halls, 2@2¼.

Onions: Green onions, 1.25@1.75 box. Stockton Browns and Yellows, 1.50@1.75 cwt. at wharf, jobbing price, 25@35 higher. Garlic: 3½@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, November 20, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per lug, 18.00@20.00.

Beans: Kentucky Wonder and Wax, 12@15 per lb.; French, 16@20; Limas, 8@9 per lb.

Brussels Sprouts: 7@8 lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 45@55 per dozen; beets, 45@55 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: 1@1¾ per lb.

Cauliflower: Doz., 1.00@1.50.

Celery: Local, 2.00@3.50 cr.; 15@25 per half doz. bunches.

Corn: Green, 1.50@3.00 sack.

Cucumbers: Lug. Southern, 2.75@3 L. A. lug. English, 1.75@2 doz.

Eggplant: Southern, lb. 8@9.

Endine: Lb., 25@35.

Lettuce: Local, best, 1.25@1.50 cr.; Sacramento fy., 2.50@3.00.

Mushrooms: Lb., 25@50.

Peas: Lb., 10@15.

Peppers: Cal. Bells, 1.25@1.75 lug; Southern, 9@10; Chili, 5@6.

Rhubarb: So., 1.25@1.50 box.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 1.00@1.50; beets, 1.00@1.25; pumpkin and squash, 1.25@1.75 sk.

Spinach: 7@8 lb.

Squash: Summer, 1.75@2.25 L. A. lug; Italian, 1.50@1.65 box; Cream lug, 1.75@2.00.

Tomatoes: Bay and Peninsula, 1.25@2 lug. San Diego best, 1.25@1.50 cr.; 1.50@1.75 L. A. lug. Los Angeles, 1.75@2 per lug.

### FRESH FRUIT

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, November 20, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Apples: Gravensteins, fancy, 3½@4 tier; 1.50@2; smaller, 1@1.50 box. Bellflowers, best, 1.10@1.50 box. Winter Pearmains, 1.25@1.50 box. Newtowns, 3½@4 tier; 1.40@1.75 box. Spitzenburg, fancy, 1.25@1.50 box. Wealthy fancy, 1.25@1.50 box. N. W. Jonathans, 3½@4 tier, 1.50@1.75; Spitzenberg, 1.75@2.25 box. Choice, 1.50@1.75. Winter Banana, 2@2.75 box. Lady apples, 3.50@4.00 box.

Avocados: Cal. small, 75@1.25 doz. Florida, 3.00@4.50 doz.

Bananas: Best Eastern, 8@8½ lb.; Hawaiian, 7@7½.

Blackberries: 75@1.25 double layer.

Casabas, 50@85 crate, or 75@1.50 doz.

Cranberries: Eastern, Late Howe, 19.00@20.00 bbl.; Oregon, 5.50@5.75 box.

Figs: Black, 1.00@1.50 double layer box.

Grapes: Thompson Seedless, 2.50@3 large lug. Tokays, Malagas and Muscats, 1.25@1.50 crate. Tokays 1.50@2.25 large lug. Muscats, 1.50@2.50 lug. Cornichons, 1@1.25 crate; 1.25@2.25 lug. Malagas, 1@1.75 per lug.

Huckleberries: Lb., 20.

Peaches: 85@1.25 crate.

Pears: Bartlett, 2.25@2.75 box. No. 2, 1.50@2.00; Winter Nelis, fy., 2.00@2.25.

Pomegranates: 1.00@2.00 half orange box.

Persian Melons: 75@1.25 crate.

Persimmons: 75@1.50 flat cr.

Quinces: 75@1.50 box.

Raspberries: poor, 50@1.00 dr.

Strawberries: 1.00@2.25 cr.

### CITRUS FRUIT

Grapefruit: Southern California and Arizona, 4.00@5.50 box.

Lemons: Special pack, 8.50@9.50 box. Choice, 6.50@8.50. Lemonettes, 2@4.00 box.

Oranges: Valencias, fancy, all sizes, 5.00@7.50; choice, 3.00@6.50 box.

### DRIED FRUITS

**Apricots, 1922, Packers' prices f. o. b. Cal.:**

| | —In 26s— |
|---|---|
| Standard | 19@20 |
| Slabs | 19@20 |
| Choice | 23@24 |
| Extra choice | 24½@25½ |
| Fancy | 29@30 |

Star thistle nectar secretion over for season, with plants in good condition for next year. Car lots and less of No. 1 grade in 5 gallon cans reported sold at 8 cents per pound, No. 2 at 6 cents.

California Prune and Apricot Growers Association's prices, in 25-lb boxes:

| | Growers | Sunsweet |
|---|---|---|
| Standard | 20@20½ | @ |
| Choice | @24 | 25 @26½ |
| Extra choice | @25½ | 26½@28½ |

**Apples, 1922, Packers' Quotations f. o. b. Cal.:**

| | In 50s |
|---|---|
| Choice | 9½@ 9¾ |
| Extra choice | 9¾@10 |
| Fancy | @11 |

**Figs, 1922, Packers' prices f. o. b. Cal.:**

| | | |
|---|---|---|
| White Adriatic: | | |
| Standard | (in 25s) | 7½@7¾ |
| Choice | (in 25s) | 9½@10 |
| Fancy | (in 25s) | 13½@14 |
| Extra fancy | (in 25s) | 15 @15½ |
| Standard | (in 25s) | 7½@7¾ |
| Bricks, 12 No. 10s | | 1.20@1.25 |
| Bricks, 24 No. 8s | | 1.90@2.00 |
| Bricks, 50 No. 6s | | 3.00@3.10 |
| Bricks 70 No. 4s | | 3.10@3.20 |
| Layers, 10-lb., 4 row | | 1.70@1.80 |
| Layers, 10-lb., 5 row | | @1.60 |
| Calimyrna | | |
| Choice | (in 25s) | 16 |
| Extra choice | (in 25s) | 19 |
| Fancy | (in 25s) | 22 |

Few black figs left for sale; those commanding high prices.

**Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:**

California Peach and Fig Growers' has withdrawn prices on all figs.

**Prunes, 1922, Packers' prices f. o. b. Cal.:**

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | 11¼@11½ | 15 @15¼ |
| 40-50s | 9 @ 9¼ | 12¼@12½ |
| 50-60s | 8¼@8½ | 11 @11¼ |
| 60-70s | 8 @8¼ | 10¼@10½ |

**Peaches, 1922:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @11¼ | @11½ |
| Choice | @12 | @12¼ |
| Extra choice | 13 | @13½ |
| Fancy | @14¾ | @15¾ |
| Extra fancy | @16¼ | @17¼ |

**Peaches, 1922, California Peach and Fig Growers' Assoc. new price list:**

| | —In 25s— Yellow | Muir |
|---|---|---|
| Choice | @12¼ | @12½ |
| Extra choice | @13½ | @ |
| Fancy | @15¾ | @16¾ |
| Extra fancy | @17¼ | @18¼ |
| Practically Peeled— | | |
| Choice | @13¼ | @13½ |
| Extra choice | @14½ | @ |
| Fancy | @16¾ | @17¾ |
| Extra fancy | @18¼ | @19¼ |
| 11-oz Cartons, 60 per case | | 7.00 case |
| 2-lb Cartons, 24 per case | | 8.25 case |
| 5-lb Cartons, 10 per case | | 8.50 case |

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | @ 9½ |
| Choice | @12 |
| Extra choice | @13 |
| Fancy | @15 |

**Raisins, Sun-Maid Raisin Growers' Prices:**

California Almond Growers Exchange practically sold out. Independent packers prices are:

| | | |
|---|---|---|
| Nonpareil | 23 | @25 |
| IXL | 22½ | @24 |
| Ne Plus Ultra | 20 | @22 |
| Peerless | 14 | @16 |
| Drake | 14 | @15 |
| Languedoc | 13 | @15 |
| Hard Shel | 10 | @11 |
| Seeded | | |
| Sun-Maid, 15 oz | | 11¼ |
| Sun-Maid 11 oz | | 8¾ |
| Bakers (in 30s) | | 9½ |
| 1-crown (in 30s) | | 9½ |
| Loose Muscatels | | |
| 4-crown (in 25s) | | 11 |
| 3-crown (in 25s) | | 10 |
| 2-crown (in 25s) | | 9½ |
| 1-crown, rceleaned (in 25s) | | 9 |
| Seedless | | |
| Thompsons, 15-oz | | 10½ |
| Thompsons 11-oz | | 8 |
| Thompsons bulk (in 25s) | | 10 |
| Bleached Thompsons, Northern: | | |
| Fancy (in 25s) | | 13½ |
| Extra fancy (in 25s) | | 15 |

| | | |
|---|---|---|
| Bleached Thompsons, Southern | | |
| Fancy | (in 25s) | 14 |
| Extra fancy | (in 25s) | 15½ |
| Bleached Thompsons, California Brand | | |
| Fancy | (in 25s) | 13 |
| Extra fancy | (in 25s) | 14½ |
| Bleached Sultanas | | |
| Oil dipped | (in 25s) | 10 |
| Little Sun-Maids, 5c pkgs, six 24s, case, f. o. b. obbing points | | 3.65 |
| Layers | | |
| 3-crown, | 5-lb | .80 |
| 3-crown | 10-lb | 1.50 |
| 3-crown | 20-lb | 2.90 |
| 4-crown, | 20-1s | 3.15 |
| 4-crown | 12-2s | 3.75 |
| 6-crown, | 5-lb | 1.40 |
| 6-crown, | 4-5s | 5.30 |
| Vineyard Run, | 80-lb | 9.00 |

### HONEY

Northern California—Bees being moved into almond and prune orchards for winter. Fruit growers offering high as 1.50 per colony for pollinating bloom. Star Thistle honey generally sold at 8 cents some 9 cents per pound. For dark honey beekeepers asking 6 cents. Brisk demand for 5 and 10 pound pails.

### BEANS

Selling prices per cwt. choice recleaned California beans in carloads f. o. b. California common shipping points:

| | |
|---|---|
| Large White | 6.20 |
| Small White | 6.20 |
| Mexican Red | 5.75 |
| Red Kidney | 7.35 |
| Henderson Bush Lima | 9.60 |
| Cranberry | 7.65 |
| Blackeye | 5.45 |
| Pink | 6.45 |
| Bayo | 7.50 |

### HAY AND FEEDSTUFF

Under date of November 18, A. W. Scott Co. says:

Export and coast shipping have continued steady and in liberal volume and would have been greater, except for difficulty in obtaining freight space. All shipping is limited now by shortage of necessary ship tonnage. Interior trading has been doing better during the week as roads and country conditions have permitted movement after the rain. Alfalfa continues dull and inactive. Dairymen appear to be feeling very severe conditions of low prices for their output and the extravagant cost of production.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges for switching, cartage, commission and handling expenses must be added according to conditions.) Transportation bad, scarcity and high prices for spot.

| | |
|---|---|
| Wheat Hay, No. 1 | 17.00@20.00 |
| Wheat Hay, Fair grade | 15.00@17.00 |
| Tame Oat Hay | 17.00@21.00 |
| Wild Oat and Barley Hay | 14.00@16.00 |
| Alfalfa Hay | 19.00@21.00 |
| Stock Hay | 12.00@15.00 |
| Straw | 11.00@12.00 |
| Barley, Ground | 35.00@37.00 |
| Rolled | 33.00@35.00 |
| Oats, Rolled Feed | 43.00@48.00 |
| Bran | 37.00@39.00 |
| Millrun | 39.00@40.00 |
| Middlings | 47.00@49.00 |
| Linseed Meal | 58.00@60.00 |
| Coco Meal | 34.00@36.00 |
| Alfalfa Meal | 30.00@31.00 |
| Cottonseed Meal | 51.00@53.00 |
| Molasses Beet Pulp | 44.00@46.00 |
| Milo | 34.00@46.00 |
| Corn Meal or Cr. Corn | 46.00@48.00 |
| Whole Corn | 43.00@45.00 |
| Scratch Feed | 49.00@51.00 |

### GRAIN

Prices S. F. Grain Exchange, November 21 f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 2.15@2.25; feed, 2.15@2.20. Barley Feed, 1.47½@1.52½; shipping, 1.52½@1.57½.

Oats: 1.60@1.65.

Corn: Colored Milo, 1.80@1.90; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.85@1.86.

## Citrus Markets

Los Angeles, November 22, 1922.

Northern California Navels are selling in Los Angeles around 7.00 and 8.00 for best grade stock. Eastern Navel sales are not yet reported. Picking in northern and central sections of the state is proceeding and another week will give indication of the favor with which they are received in the Eastern markets. It will be another week before heavy Holiday shipments begin. Central California is holding for 4.00 to 5.00 f. o. b. basis.

Lemons are satisfactory; few going forward.

**Shipments**

Shipments of citrus fruit to date since November 1, 1922:

Southern California, oranges, 492 cars; lemons, 225; total 717. To same date last season, oranges, 388; lemons, 262; total, 650.

Central Californiia, oranges, 9; lemons, 23; total, 32. To same date last season, oranges, 218; lemons, 12; total, 230.

## Snappy Notes on Livestock

**By A. L. Spellmeyer**

The run through the Los Angeles stockyards has been averaging some 3500 cattle weekly. Part of these have been feeders going into the country or adjacent feed pens. The actual Los Angeles kill is running from 800 each day up, or from 4800 to 6000 weekly. My guess is that a third of the cattle at least sold through the yards have been feeders, and it will be seen that about half the kill and no more has been supplied through the stockyards so far.

Four different packers who use a large volume have stated they intend to purchase more heavily in the yards as soon as contracts are filled they have on hand.

So far feeder trade has been spotted, a good price for quality and lower prices for light southern steers, and by a good price I mean 6.00 to 7.00 for a feeder steer, that probably goes 900 to 1000 pounds but has breeding, and by a low price I mean 5.25 for light 700 pound steers that need a year on California grass to make something.

Top beef is around the 8 mark but the ordinary fat steer that we are used to calling beef around this Southwest is around the 7 mark, and the ordinary bossy cow from nearby ranges around the 5 mark.

### DAIRY PRODUCTS SHOW

(Continued from Page 571)

the Sacramento Bee and more recently with the Sutter Basin people. The principal thought as indicated by the discussions of the manufacturers who participated in the meetings was expressed by the words "quality" and "service." The work of the association during the past year has cost approximately $39,000, and those who contributed to the fund expressed most complete satisfaction in the efficient service rendered.

Dean Hunt gave credit to the council as having been an aid to the college of agriculture. In a short address he referred to the fact that the University of California has secured Dr. Mendel of Yale who is to deliver before U. C. a series of lectures on nutrition.

U. of C. Livestock Judging Teams

Top—First prize team in general livestock judging at Portland. Left to right: Prof. E. H. Hughes, coach; Francis R. Wilson, Oakand; Frank O. Blake, Santa Ana; Melvin W. Johnson, Oakland, high man of the entire contest; W. D. Auerbach, Ocean Park; J. E. Warne, Holtville. Bottom—Dairy judging team: Left to right, Louis Van Towt, Salinas; G. H. Du Buisson, South Africa; M. A. Salis, Bakersfield; Ralph Malmsten, Berkeley; Prof. W. E. Thomson, coach.

Dean Hunt referred to the five food sources: meats, fats, breadstuffs, vegetables and sugar. None of these furnishes a sufficient ration. At the same time fats may be considered as most necessary. Fats furnish two and a quarter times as much energy as starch and, discussing the effect of fat shortage in some nations during the recent war, the dean suggested that amongst the vast number of war winners it was safe to classify fat as "the winner of the war." The fat of highest quality is of course that produced by the dairy cow. Other sources are, and to a certain extent these are the competitors of the dairy cow, corn oil, olive oil, cottonseed oil, copra, peanuts, soy beans, sunflower seed and sesame. The richest countries in the world are dairy countries. Dairying prevails to a greater extent in the countries of England, Holland, Belgium and Denmark. In those countries three acres out of every four is in grass. "No grass, no cattle; no cattle no manure; no manure no grass." We are consuming three times as much milk as we were 70 years ago. The horticulturist who would keep up the fertility of his soil must work with the dairyman. Their problems are common problems.

### QUESTIONS AND ANSWERS

(Continued from Page 571)

tamarisk. The broom cannot well be kept to two feet high, but the evergreen may, though it should not be. Other shrubs for hot dry places are leptospermum, bottle brushes, Cassia artemesioides, and teucrium. Either of the last two is easily kept at two feet high.

**Nurse Crop**

Is it advisable to sow either barley or oats in alfalfa during the fall to choke or smother out weeds and noxious grasses?—Subscriber, San Fernando.

This practice is not so common as formerly. It was felt at one time that in sections where frost is reasonably sure to come any morning, an October or November sowed crop of alfalfa is liable to be injured, and that this injury may be materially lessened by the use of a hardy crop growing with the alfalfa. However, some believe that the injury to the permanent crop is so great because of moisture and nourishment taken from the alfalfa by the nurse crop that the injury is greater than the benefit. We believe the more general practice now is to sow thickly of alfalfa and as early as possible so as to get it far past the two-leaf stage and able to care for itself.

### AT PACIFIC INTERNATIONAL

Swine breeders from California who attended the Pacific International Livestock show at Portland are agreed that it was a wonderful dairy and beef cattle show, but as far as hogs went was below what it should have been, and in point of numbers and quality was equalled by almost any county fair in California. A number of Chester White herds present made a diversion from the California shows where the Whites are seldom seen. The Poland Chinas were the most numerous, and about 185 were there. California was represented by the very good herd shown all up and down this state by A. Buckland and Son of Fresno, and Jim Thorp brought his very excellent herd of Durocs. The judge was a man from Nebraska who had evidently been in the hog business when the small or medium type was the vogue and did not know that any other type of hog had been proven better and more desirable. Consequently these representative California herds which have held their own in all the shows in this state, where more money has been spent for the right kind of foundation stock and hogs are raised much more scientifically than in almost any other, did not have much luck. The best Thorp could do was to win senior champion sow, and Buckland, who had more competition from the medium type hogs, did not get a blue. The kind of hogs that California discarded eight or ten years ago were the ones that won. The Berkshires were judged by Professor E. H. Hughes of Davis, and the Italian Vineyard Company was quite successful. In the barrow classes a man from the Portland Stockyards did the placing, and he too liked the small ones so that a Poland barrow which was the exact prototype of the old pen pictures of hogs in vogue a dozen or more years ago, pictures where the hog was almost as broad as it was long and where the underline was perfectly straight, and only a few inches from the ground won over all breeds.

It is to be hoped that the breeders of the Northwest do not take this show as a criterion as to the type they are to breed, for if they do they will find themselves years behind the times. Do not think the California men are sore because they were beaten, because they are all too good sports for that. They do not like to be beaten by the type of hog which won, and 90 per cent or more of the breeders in the Northwest feel the same way about it. The whole affair was due to an unlucky choice of judges in the cases shown.

## Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

**Lump Jaw (Actinomycosis)**

One of my cows has a lump on her lower jaw and I am told that it is lump jaw. Is there any danger of the other cattle getting it from her as they drink in the same trough? Does it affect the milk? What is the remedy?—Subscriber, Solvang.

Lump jaw is caused by a germ that may be in the feed and gets into the gums about the teeth and works down into the jaw. They seem to thrive well in bony tissue, especially about the teeth. There is very little danger of one cow getting it from another. So far it is not known to affect the milk. In the first stages it is said to be curable by giving iodide of potash in quite large doses. Lump jaw is not well known as the cases are scattered and not frequent. It does not seem to affect the meat of animals, and if well cooked is safe to be eaten. The remedy is to give one or one and one-half drams of the iodide of potash in the feed, or dissolved as a drench, once a day for two or three weeks. Then after omitting it for a time repeat the treatment. An ointment of iodine may also be applied to the lump. Mix two ounces of the tincture of iodine, one dram of iodine crystals and enough lard oil to make four ounces. Apply some of this once a day to the lump with a small swab.

**Fever Sore**

I have a cow that has a fever sore between her front teats in the center of her udder. She was fresh September 9. She had some fever so I milked her a week before she was fresh. I have washed it with lysol and put sulphur on it but it does not cure it. Please advise me what to do for it through the columns of the Cultivator. —Subscriber, Somerton, Arizona.

Wash it clean and dry it. Then put on burnt alum. If that fails, get from your druggist some Monsel's powder of iron and put on all that will stick. It will dry it up.

**Bloody Milk**

I have a cow that has been fresh about three months and at times since she was fresh she gives bloody milk from one front teat. It generally starts when you commence stripping the last milk. Sometimes there are clots of blood that come out with difficulty. It seems to be all in the teat and not in the udder. It seems to be getting worse. Is there any treatment that will stop it?—Subscriber, Acampo.

From your description it may be a bloody wart in the teat. It will be hard to get at to cure. Sometimes iron in the feed will heal things inside. Get half a pound of sulphate of iron and put a teaspoon of it in her feed once a day.

The Mexican state of Tabasco is now producing bananas equal to the best of those grown anywhere else, and up to June 30 of this year $239,705 worth from Tabasco came into this country, Consul Rankin informs the department of commerce. This was in spite of a poor year because of an unusual lack of rain. Mexico is the closest banana growing country to the United States and last year's exportation amounted to 1,345,709 to the United States, not including plantains.

**CHICKS CHICKS**

ELEC-CHIC HATCHED Baby Chicks are the finest and best and pay Highest Profits! Buy them through us from Elec-Chic Hatcheries or hatch them yourself. Send for prices and delivery dates on all popular breeds. Ask for free literature about Elec-Chic Incubators, Brooders and Co-operative Hatchery Plan.

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# 16,400 Miles and the Original Air still in the Tires.

When Colonel King Stanley and Bill Spohn left Oakland, May 16th, on their trail-breaking trip from California to Maine and return, they equipped their car with

# COAST TIRES

and after covering 16,400 miles of the hardest kind of traveling over deserts and through country where the going was over lava, crushed quartz, mud, clay, rocks and boulders, they returned to Oakland on November first, with Oakland air in three of the four tires (the fourth having been punctured just once on the journey) and all four tires still good for many more miles of service.

The journey was made under varied weather conditions, from the extreme heat of midsummer to a raging blizzard encountered on the continental divide—many miles being traveled through snow, sleet, hail and rain.

*Colonel Stanley, in the preparation for his forthcoming "Off Trails Book" has motored over 260,000 miles, and states that in all his experience he has never found any tires that, for safety and durability, can be compared to Coast Tires.*

## COAST TIRE & RUBBER CO.

*Main Office and Factory Oakland, Cal.*

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

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# Fifty-Fifth State Convention

**The Cultivator has referred editorially to the advantage of the specialized convention. At the same time it called attention to the necessity of the larger, more inclusive, convention, or clearing house, where producers from all parts of the state may bring together their ideas and evolve plans which shall lead to greater efficiency of all California growers. Such a convention will be that at Sacramento beginning Wednesday morning, December 13. It is a convention not only of farmers and fruit growers but of all those who realize California's needs.**

CULTURAL matters will be taboo at the coming Fruit Growers and Farmers Convention. Director Hecke takes the ground that the matter of orchard or farm practice can best be discussed in county or specialty conventions or institutes, for instance, the convention of Placer County growers a few weeks ago, also other conventions of growers of apricots, pears, prunes, walnuts, citrus fruits and so on, which bring together those interested in the one industry or locality. The discussion then centers and everyone present has vital interest in the subjects discussed.

The state convention will handle the larger problems with equal centering of interest of every grower from every part of the state. The recent specialty convention held at Berkeley brought together at practically every one of the sessions from three to five hundred people. One day was given entirely to pears, another to prunes and a third to apricots.

The state convention, to be held at Sacramento, December 12-14, will spend its first day discussing transportation, the second day, plant quarantine and cooperative marketing. The forenoon of the last day will also be given to cooperative marketing and the afternoon session to a report of the committee on agricultural legislation and general discussion of that subject. It may be noted by the tentative program given below that the state association of county horticultural commissioners will hold sessions during the conventions.

FRUIT GROWERS AND FARMERS; DECEMBER 12-14

**Tuesday, December 12**

Morning Session—Report on 1922 Transportation Situation, G. H. Hecke. Transportation from Shippers' Standpoint and Report of California Transportation Committee, Charles E. Virden, American Fruit and Vegetable Shippers Assocation. Grape Transportation in 1923, George Ashley, Lodi; discussion by J. T. Langford on Lodi car distribution plan. Experiments in Shipping Grapes by Boat, E. M. Sheehan, California Grape Growers' Exchange. Problems of Citrus Fruit Shipper, F. C. Fitzgibbon, Mutual Orange Distributors.

Afternoon Session—Railroad Situation in 1922 and Outlook for Next Year, William Sproule, Southern Pacific Railroad Company; discussion by Wilmer Sieg, California Fruit Distributors, J. L. Nagle, California Fruit Exchange and traffic managers fruit shipping companies. J. R. Hayden, Santa Fe Railroad; discussion, Thomas O'Neill, California Vegetable Union, H. S. Hazeltine, manager, American Fruit Growers, Inc., Los Angeles. The Refrigerator Car Supply for 1923, C. H. Secrist, Pacific Fruit Express Company; Sam Fulton, Santa Fe Railroad; Jack McClymonds, Western Pacific; discussion, Western States' Delegates (Washington, Oregon, Idaho, etc.), and others. Smoker and get-together, under auspices Sacramento Chamber of Commerce, in Chamber of Commerce assembly room.

(Note: The California Transportation Committee will meet 10 a. m., December 13, with C. E. Virden acting as chairman, with the interstate commerce commission, representatives from Western states, transportation officials, California shippers and other invited guests. A full report of the conclusions of this committee is to be rendered later to the convention—probably on Thursday morning.)

**Wednesday, December 13**

Morning Session—Quarantine Program, State Department of Agriculture, G. H. Hecke; discussion by James Mills. Plant Quarantine in East and West, Lee A. Strong, State Department of Agriculture; discussion by Jack McDonald, Milpitas. Plant Quarantine—California's Vital Necessity, C. C. Teague; discussion by C. D. Hamilton, board of supervisors, Riverside. The Canners' Relation to Plant Quarantine, Charles Bentley, California Packing Corporation; discussion led by S. W. Cunningham, Southern California Canners' League.

Afternoon Session—Report of Results and Projects of Cooperative Marketing and other Associations, California Growers and Shippers League, F. B. McKevitt. California Almond Growers Exchange, George W. Pierce. California Peach and Fig Growers Association, G. F. Niswander. California Fruit Growers Exchange, E. G. Dezell. Sun-Maid Raisin Growers Association, Wylie M. Giffen. California Prune and Apricot Growers Association, H. C. Dunlap. Mutual Orange Distributors, C. R. Early. California Fruit Exchange, George Cutter. California Pear Growers Association, Frank T. Swett. California Walnut Growers Association, Carlyle Thorpe. California Walnut Growers Association, R. W. Skinner, president.

(The reports of the California cooperative marketing organizations form a consecutive record of the history of cooperative effort in this state, and they have been a part of the proceedings of the Farmers and Fruit Growers' Conventions for a number of years.)

Evening Session—Banquet.

**Thursday, December 14**

Morning Session—Budget of U. S. Department of Agriculture, R. N. Wilson, Agricultural Legislative Committee; discussion led by Fred K. Howard, Sun-maid Raisin Growers, and H. J. Ramsey, Fruit Growers Exchange. Budget of State Department of Agricure and College of Agriculture, Frank T. Swett, California Pear Growers Association; discussion by LeRoy Anderson, California Prune and Apricot Growers Association, and J. A. Teagarden. Markets and Federal Financing, Ralph P. Merritt, California Rice Growers Association; discussion by George Farrand, California Fruit Growers Exchange. Report of Convention Resolutions Committee.

COUNTY HORTICULTURAL COMMISSIONERS' CONVENTION

**Monday, December 11**

Morning Session—Meeting of Legislative Committee of State Association of Horticultural Commissioners.

Afternoon Session—Meeting of Legislative Committee with R. N. Wilson.

Evening Session—Executive Session of Commissioners. Election of Officers. Discussion and Amendment of By-laws of Commissioners' Association. Report of Legislative Committee. Appointment of Committees.

**Tuesday, December 12**

Opening of Annual Fruit Growers' Convention.

**Wednesday, December 13**

Fruit Growers' Convention.

**Thursday, December 14**

Morning, Fruit Growers' Convention.

Afternoon Session—Educational Exhibits of the County Commissioner at County Fairs, H. J. Ryan. Discussion of proposed legislation, R. N. Wilson. Report and Discussion of Report of Legislative Committee, Harry Ladd. Quarantine Problems, Lee A. Strong and C. E. Cooley. Analysis of recent decision of Supreme Court pertaining to the Fruit and Vegetable Standardization Law, F. W. Read

Evening Session—Pest Control, Harry S. Smith. Insecticides and Fungicides, George P. Gray. Rodents and Weeds, W. C. Jacobsen and Ethelbert Johnson. Nursery Service, Fred C. Brosius. Vacuum Fumigation, D. B. Mackie.

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

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## Saturday, Dec. 2, 1922

OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will be pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertisers.

## EDITORIALETTES

The Cultivator is so crowded with good things this week that the beautiful photograph for the cover page has been put on the waiting list for another week and the cover is given over to the program for the state convention to be held in Sacramento, December 13-15. We have heard it intimated that this convention will command large attendance, perhaps the largest yet given to farmers and fruit growers conventions in California. There are some important questions to be discussed.

* * *

One question which will call for discussion is that of transportation. Furthermore, we believe it will call for a rattling good display of fireworks. Since the days of Russ Stephens the transportation question has been allowed to rest somewhat peacefully, and we believe we are entirely correct in saying that some of the abuses which were terminated were due to the agitation of Mr. Stephens and his supporters on the floor of the state fruit growers convention. Since Mr. Stephens ceased his labors new causes for agitation seem to have arisen. The new chairman of the transportation committee is Charles Virden. Mr. Virden has a way of stating things little less forceful than Mr. Stephens, therefore we predict a real interesting time for the attendance at the convention.

* * *

Speaking of a car shortage we are reminded that at a recent conference of shippers, traffic associations, chambers of commerce and railroads an urgent telegram was sent by the state commission to the interstate commerce commission requesting the issuance of an emergcny order whereby railroads serving California shall receive at least 400 empty box cars daily for a period of 30 days. This telegram was supplemented by wires from C. F. Hoover, representing the bureau of service of the interstate commerce commission, by George H. Hecke of the state department of agriculture, by representatives of the railroads to the car service division of the American Railway Association and by a representative of the San Francisco Chamber of Commerce to Seth Mann, now in Washington. All these telegrams urged immediate action to relieve what was described as a very critical situation confronting California producers and shippers.

* * *

A part of the wire to Washington is as follows:

"Shippers very agitated over order of American Railway Association to move 1000 empty box cars regardless of ownership to Northwest daily. Box car situation in this section very serious. No results noticeable from priority orders issued October 26. Railroads in state short equivalent of about 10,000 box cars of ownership. Southern Pacific requires 200, Santa Fe 100, Northwestern Pacific 50 and Western Pacific 50 daily until 10,000 received and then eastern connections maintain balance daily to insure sufficient cars for needs of state. Investigation proves these railroads in position to handle this number cars daily without congestion. Refrigerator car situation easy but supply must be kept coming West to care for vegetable and citrus shipments. Advise prospects movement box cars West."

* * *

Here's wishing success for Californian livestock men who have conditioned and taken to the Chicago International some of California's finest. Of course Prof. True is there with some of the university's finest stock which has resulted from the feeding of Alex McDonald, and several producers of the Sacramento and San Joaquin Valley are also sending in a fine bunch of stock. We hope we may announce the California winners next week.

* * *

The Horse Association of America meets in regular annual session at Chicago next Wednesday. This is not a breed association, neither is it devoted to the draft animal alone. It is an association looking after the welfare of the horse. One session of the convention is to be given up largely to the discussion of "Equipping 19,000,000 Horses in Up-to-date Togs." It has been announced that this discussion will be filled with good, straight horse sense.

* * *

Imperial County is all puffed up over its production of cantaloupes. On June 27 more than a score of long trains was required to take its one day's output out of the valley. Or to express it more accurately there were shipped on that day 648 carloads. Six hundred and forty-eight cars shipped during 24 hours means practically one carload every two minutes. Not half bad for the Colorado desert! The biggest day of any preceding season had been 340 cars, hence this year's output from its peak load day nearly doubled any former year's accomplishment. The total for the season was 12,065 cars, while the output last season was 10,708, and in 1920 8,903. Brawley still remains the largest producer, but Heber, El Centro and Westmoreland are growing into young giants in the cantaloupe producing game.

## WHERE WE STAND

The farm paper support of the Los Angeles Union Stockyards has been thought by some people in stockyards activities to be lukewarm. On the contrary the anti-stockyards people have believed that influence and subsidy affected policies control. The opposing cattlemen particularly deplore what they term a pro-yards sentiment on the part of local farm papers. The Cultivator has supported stockyards, asked for them years ago, and still wants them with the proviso they are operated in producer protection.

The Cultivator believes such a market operation is protected by full legal enactments, providing they are applied strictly, and that the small man will through such a market receive a price equal to that paid for large lots. So conducted such a stockyards will help this entire Southwest.

The Cultivator stands for the producer's interest and will not acquiesce or be silent if the interests of the producers are threatened. The Cultivator is for stockyards if they will give the small man both a chance to buy and a chance to borrow. The Cultivator is for a stockyards if the raising of pure bred livestock will be stimulated through a quality price.

The Cultivator is not for a stockyards if the bulk of the Southwest prices are lowered locally below other markets irrespective of what top prices are. The Cultivator is not for stockyards if the small men are not fully protected in lot sales and allowed free purchase and financial help without dictation by loan companies with packing or yard interests. The Cultivator is not for stockyards if an extra price is not paid for specially bred quality hogs or cattle.

The Cultivator is for a system of market reports that will not only give the high and low, but will further give in the yards the numbers of livestock and exact prices. The Cultivator wants the country to know what the bulk is bringing, not what a few tops or a few tail ends bring. Give us an open market as the stockyards act guarantees to us and the protection of producers.

## BLOCKADE BROKEN

The "barrage of silence" at Santa Fe, New Mexico, has been broken and a statement has been issued and belief expressed that a treaty between the seven Southwestern states and the federal government has been effected which means much in the advancement of the entire Southwest. The treaty, or agreement, is known as the Colorado River Compact. It has been signed by Herbert Hoover, representing the federal government, and by the representatoves of the seven Southwestern states. Hoover is reported as saying: "This agreement breaks the blockade on the development of the whole Colorado River." The dispatches report Mr. Hoover as saying further:

"It allows us all to go ahead with river development and with flood protection for the Imperial Valley.

"One can get great emotion over conflict and quarrel, but there is no great oratory about the facts that the northern basin is separated from the southern basin by 1000 miles of barren canyon; that the agricultural and economic life of the two basins are wholly different and that the logical thing to do is to divide the water between them so they can make homes instead of defending injunctions. Nor can one make great oratory out of the fact that there is ample water and to spare after the apportionment of enough water to each basin in perpetuity to cover all of the present users plus all of the known feasible projects, plus 30 per cent for good measure, then holding in reserve 30 per cent for 40 years to see where it is most needed.

"There is nothing sensational about a compact that leaves all question of Mexican right to water to the state department which is the only organ of the American people which has any right to deal with this question.

"There is nothing especially romantic about the provisions in the compact for the complete priority of agriculture over power in the use of the water of this river.

"Yet behind all the precise and commonplace language of this compact lie the greatness and the romance of the West, the building of a million more homes out under the blue sky in security and good will.

"The compact has wide interest for, with the exception of two other cases, and these only between two states, this compact makes the first time that a considerable number of states have settled fundamental interstate rights by process of treaty instead of resort to the supreme court."

## EFFICIENCY OF COOPERATION

One of the greatest accomplishments of cooperative marketing has been in the greater efficiency and economy secured. It was shown years ago when the orange growers began to pack and ship their own. Costs were greatly reduced. Other organizations have invariably shown similar efficient management. Cities which have installed and operated water works or lighting plants have been able to do it at material reduction to consumers.

Olive growers are asking as to whether their packing costs are not too high. Some weeks since this discussion was taken up in our columns. Mr. Ludwig, a grower-packer, presented figures as to cost of processing and packing. These made cost of processing and putting olives in quart cans, $205 per ton. Of that amount nearly a half was for overhead. Four of those items were: Samples, insurance, advertising, $14; depreciation on plant and equipment, $16; general factory overhead (including office and managers salaries) $20; interest on investment six per cent, $13. Or $63 on each ton of olives passing through the house.

Unfortunately we have no figures from cooperative olive growers which are comparable. Mr. Drew of the new association estimates total cost, including overhead, of processing and packing at $125. We believe the new association can make good on that estimate.

There are other figures which, while not comparable, are most enlightening as to the efficiency of cooperation.

The Sun-maid Raisin Growers has succeeded—is succeeding rather for it is a continuing process—in great reduction in costs and in increasing labor efficiency. In an address before farm advisers and others at a recent meeting at Fresno Fred K. Howard gave the following as the general overhead in marketing raisins: Advertising, $13.21; sales expense, $7.18; interest paid on working fund, $2.69; office salaries, $1.92; office expenses, 34 cents; taxes, etc., $2.61; crop contract expenses, $1.08; storage, insurance, etc., $1.58 ;freight to packing house, etc., $1.11; reserve for stock dividend, $1.18; total, $32.90. From this may be deducted 45 cents for wastes sold.

That is efficiency, and it is the result of plain every day business farmers getting together, then putting power in the hands of a competent directorate.

# California Cultivator

Vol. LIX, No. 23 December 2, 1922 One Dollar Yearly


# Cooperation by Raisin Growers Has Resulted in Efficiency

UDER the title of "Efficiency in Cooperation" on editorial page of this issue is given a fund of information based on figures obtained from operating cost sheets of the Sun-Maid Raisin Growers. The figures were given out by Fred K. Howard in a recent conference of some of the association officials, farm advisers and farm bureau members at Fresno. Those figures are not absolute, that is, they represent averages rather than exact figures with reference to any one variety of raisins. They are, however, eloquent proof of the correctness of the statement made on editorial page that cooperatives are more efficient in business management than are private concerns.

At the same meeting President Wylie Giffen answered the question: "Why are Sun-Maid raisins advertised around the world?" Mr. Giffen disclaimed any right to be called an expert in advertising, in fact he said that he knew nothing whatever about its details but he did know that when an educational campaign was taken up through advertising a vast increase in consumption and stabilizing of the market had resulted. Mr. Giffen insisted, however, that the first step in advertising must be taken by the producer and that step was made plain by the use of the one word "quality." Quality and food value, explained to consumers of the United States, Canada and Great Britain, has cost the growers millions of dollars. It has, however, returned to the growers tens of millions.

Mr. Giffen also enlarged upon the problem that is before the producers in that the wonderful increase in production calls for a continually enlarging market. Only a few years ago the organization and efficiency of the cooperative movement was made necessary by an "over-production" of 35,000 tons. That production has been continually increasing until the present year's production will exceed 225,000 tons. In a very few years at present planting rate more than 500,000 tons will have to be consumed. The natural increase of the human race will not care for this additional consumption. A campaign of education as to the food value is one way in which the increased consumption can be encouraged. In addition there must be great care in extending the planting and in growing only those grapes which make highest quality raisins. Touching upon quality F. A. Seymour, general manager, stressed the point that unless the Sun-Maid growers offer the highest quality the marketing problem will become serious. Mr. Seymour said:

**By F. A. Seymour**

There is an old copybook motto which reads, "Whatever is worth doing, is worth doing well." If it is worth the time and trouble and the worry of weather conditions to produce a crop of raisins, it is certainly worth producing the best possible quality, and the additional expense incurred in getting the best quality is so little beyond that which is required to produce any kind of a crop that it is not worth considering, and the result to the entire industry is almost beyond belief.

The tendency and demand of modern times is to improve every product, and competition increases this necessity. Our product competes in the markets of the world with all other dried fruits to a certain extent, and also in a limited measure with fresh and canned fruits. We are advocating in the magazines and press of the country the use of raisins in pies, in which field we become competitors with both fresh and preserved fruits of almost every kind. The use of raisins in ice cream is a new departure and one which we have spent time in introducing, and which is becoming popular in many of the larger cities. In this line, also, we become competitors with a long line of fresh fruits.

There is in addition a real mercenary, monetary commercial reason for producing quality, which means the difference between a profit or a loss on our vineyards, and since this organization was formed for the purpose of securing better returns to the owner for his product, that alone should be sufficient reason for the greatest effort on the part of all concerned to produce quality.

We have progressed along this road a considerable distance, and we must continue to improve as it is not possible to stand still. We have been a success up to the present time, and some people claim that our success is due to world conditions, and in spite of inefficient management. We believe, however, that opinion is not entirely correct and think some measure of our success is due to an untiring effort of the entire organization. However, 'that' as Kipling says, 'is another story.' Our success, plus war conditions, has encouraged the planting of new acreage in enormous and unexpected quantities. This means greater tonnage to sell, and each year our continued success will automatically increase the burden and responsibility in that respect. Probably in not as great proportion as during the past three years, but a gradual and continual increase each year.

**The Industry Past and Present**

"From an average tonnage for five years prior to 1912 of 70,000 tons per year, during which time there was a surplus each year of 20,000 to 40,000 tons, we have increased our tonnage until this year we will have a total in excess of 225,000 tons, and the plantings to date assure us of something more than 400,000 tons within the next five years.

"This organization expects to handle 200,000 tons from this crop, which will be received from growers at 26 plants equipped with stemmers and manufacturing machinery, and 20 receiving stations where the present tonnage does not warrant the erection of a plant.

"During the height of the busy season we employ between 4,000 and 5,000 people, with a weekly payroll of from $90,000 to $100,000. We shall be receiving as high as 6,000 tons per day and paying to growers at time of delivery $500,000 per day. The gross amount realized from the sale of this tonnage will be about $40,000,000, with a net return to the growers of $24,000,000.

"There are few people in this valley who realize to what extent this big business has developed. We have the largest cooperative organization in this country and probably in the world. A business of such proportions must be conducted on a big business basis. By this I mean that we are in competition with the large firms doing business throughout the world, and in order to successfully compete we must have able men to handle our affairs, as it is only men of ability who can economically administer the many branches of an industry such as ours. It may seem this is digressing from our subject,

(Continued on Page 583)

# December in the Vegetable Garden

## Northern California

**By A. R. Gould**

A SUCCESSIONAL supply of vegetables is very important throughout the year and fortunately we are able to have quite an assortment even through the winter but of course we find our list somewhat curtailed. However, those crops gathered last month and stored in the cellar are very useful for immediate table use, and as we still have to look ahead and prepare for our spring crops there will be some hard digging, trenching and manuring, and there is nothing more important in the garden than these last named operations as they are the foundation of successful gardening. The use of the hoe or cultivator will be also necessary to most growing crops, and this system will, applied regularly prove the most effective weed killer.

**Peas**

Sow the early varieties, Little Marvel, Alaska and Blue Bantam in rows 2½ feet apart and cultivate those sown last month and protect from birds by netting.

**Swiss Chard**

Thin out the seedlings when large enough and leave the plants eight or ten inches apart in the row. Extended plantings may be made. This makes an excellent green vegetable and is also good for poultry.

**Onions**

Sow seed of all the early varieties; Early Pearl, White Bermuda, California Red, and White Queen on richly prepared ground in rows 12 to 18 inches apart, and the plots should also be prepared for the main crop varieties by deep trenching.

**Lettuce**

Sow Los Angeles, Big Boston and White Paris Cos, all good varieties, in rows 20 inches apart. The seed must be sown thinly and on fairly rich soil. Thin out those previously sown, and any of the more sturdy seedlings may be used for transplanting.

**Rhubarb**

This crop pays handsomely on a small investment and if given care in cultivation, which includes liberal application of manure, and kept fairly moist, the returns will be very encouraging. Strong clumps for immediate planting may still be secured and should be planted two to three feet apart, while the rows must be four feet apart. Wagner's Improved, Crimson Winter and Myatts Victoria are the best varieties to grow.

**Beans**

Cultivate between the rows of the Broad Windsor.

**Turnip**

Sow Early Snowball and White Flat-

(Continued on Page 599)

## Southern California

**By D. F. Reichard**

THIS is a good month to start preparing for your early spring garden. While some of the more hardy varieties of vegetables may be put in, the main garden operations should be preparation. In the old gardens if pruning and general cleaning up of mature crops has not been completed, it should be finished this month, putting into the compost pile all available refuse. On all ground that is to be worked up for spring planting, in both new and old gardens, there should be a liberal dressing of barnyard manure which should be turned under after the first good soaking rain. If this rain does not develop by the latter part of the month, it would be advisable to thoroughly soak the ground with a sprinkler. As soon as your ground can be worked without its sticking to your tools work to a depth of 10 to 12 inches, being sure to get all the manure well covered. Pulverize as deeply as possible so as not to leave unnecessary air spaces. After each rain during the winter the surface should be gone over as soon as it is workable to break up the crust formed by the rain and to kill such weeds as may start.

This month's plantings will comprise only the hardy vegetables as suggested before. However, there are some limited frostless sections with us where potatoes or even Canadian Wonder and Ventura Wonder beans may be planted. This is an ideal time to set out such permanent garden stuff as asparagus roots, Green Globe artichokes, also berry plants. By putting these in at this time, while they will make little or no top growth, their root system is getting established so that as soon as we get some warm weather in spring they will make rapid growth. Set out plants of cabbage, cauliflower, kale, Swiss chard and onion sets. Sow the seeds of beets, carrots, turnips, radishes, lettuce, parsnips, salisfy and cabbage and cauliflower seed for plants to be set out later. For those who have hot beds or can arrange for them, now is the time to get them ready for seedings. The latter part of this month egg plant, pepper and tomato seed should be put in the hot beds for early planting.

Look out for aphis on your peas planted the last month or so. It is also time to spray your dormant fruit trees with lime-sulphur for controlling fungus and insects.

# Agricultural News Notes of the Pacific Coast

## Northern California

Fruit Growers and Farmers Convention at Sacramento, December 12-14.

Early rains followed by warm weather have brought out young growth on pastures.

Six carloads of almonds have been sent from Orland to the Almond Growers Exchange.

A new fig cannery is to be established at Oakland in time to handle the 1923 crop.

Orange and Olive Exposition at Oroville, November 28-December 3. This is the 12th annual.

A Shasta County farmer reports loss of his sweet potato crop through depredations of deer.

Frank N. Bullard has been elected president of the Yolo, Solano and Colusa Counties Wool Growers Association.

With continued fair weather promised rice growers have redoubled their efforts to get their crops in before another rainy spell.

The state bureau of markets says that the usual supply of turkeys will not be available for Thanksgiving and Christmas trade.

The California Grape Growers Exchange has announced that unless it doubles its membership campaign by January 9, 1923, it will discontinue.

Approximately 88,000 pounds of New Zealand butter arrived in San Francisco on Monday of last week and helped to weaken the market. Most of it was shipped to Los Angeles.

The first car of new crop Navel oranges from the Oroville district was shipped by the Stewart Fruit Company on November 12. The fruit is said to have been of very fine quality.

Rice growers are liable for damage from water percolating from flooded fields, according to decision of the third district court of appeal affirming findings of superior court of Sutter County.

The table and wine grape crop this year is reported by Secretary Sheehan of the Grape Growers Exchange to be 20 per cent over last year's. Shipments brought gross return of $84,000,000.

Colusa County supervisors have voted $500 to aid tree planting on highways. This money will be used for purchase of European sycamore trees which will be planted on approaches to Arbuckle, Williams, Maxwell and Colusa.

Wallace I. Hutchinson, assistant chief of the branch of public relations in the Washington, D. C., headquarters of the United States forest service, will take charge of educational activities in the California district. He is stationed at San Francisco.

One hundred sixty-seven million feet of timber on the Plumas national forest has just been sold to the Swayne Lumber Company of Oroville. The timber covers about 14,000 acres in what is known as the sugar pine—yellow pine belt in the heart of the Sierra.

The $100 prize for highest production of butterfat at the Humboldt County fair was won by a Jersey cow owned by J. W. Coppini of Ferndale. During the three test days this Jersey produced 83.5 pounds milk testing 6.9 per cent fat. This in the ninth month of her lactation period.

## Central California

Stanislaus is discussing advisability of securing permanent county fair grounds at Modesto.

The California Nursery Company has secured a tract in the Waterford district of Stanislaus County.

Due to advance in wheat prices the price of flour has been raised 40 cents per hundred in the past month.

It is proposed to organize a Porterville irrigation district to include lands drawing water from the Tule River.

The first carload of Kern County Navels went forward on November 21 for New York's holiday market.

The packing plant of the Edison, Kern County, Orange Growers Association is working to capacity getting out new Navels for eastern holiday market.

The Oakdale section of Stanislaus County reports rainfall so far this season, 2.82 inches. Many farmers are seeding grains.

The Sun-Maid Raisin Growers invited publishers of the San Joaquin Valley to an all day meeting at Fresno last Tuesday, November 28.

Farm Adviser A. A. Jungerman of Stanislaus County has a new assistant in W. H. Brooks who comes from three years work as county agent of Miami County, Kansas.

Because of impossibility of driving trucks into Watsonville apple orchards since the recent rain growers hauled boxed fruit to paved roads where trucks await them.

The annual grape institute held under the auspices of the Sun-Maid Raisin growers of the San Joaquin valley will be held at Fresno shortly after the first of the year.

Sixty cows in the Patterson-Newman and Crow's Landing units of the Stanislaus County cow testing association were sold to butchers during September because they were low producers.

Officers of the Oakdale and South San Joaquin irrigation districts have been conferring with the owner of site for the proposed Melone reservoir in the hope of reaching settlement out of court.

The Stanislaus County Jersey Calf Club has been outlining plans for the coming year. A special meeting and election of officers will be held today, December 2. Six members of this club showed at the state fair.

The Mutual Orange Distributors has opened a new office in the Moore Building, Lindsay. The office will be maintained until December 23. The association's first carload shipment went out Wednesday, November 15.

Preliminary work on the five year program of the U. S. weather bureau in frost prevention work in Central California citrus districts has been in progress for several weeks. The office will soon be ready to send out frost warnings.

The first unit of the alcohol plant to be built at Turlock will distill 1200 gallons per day. It will be erected by the California Sweet Potato Growers Corporation and will be under constant supervision of federal inspectors. The alcohol will be used for medicinal and industrial use only.

## Southern California

The annual convention of the American National Livestock Association will be held at Los Angeles, January 30-February. 1.

A poultry show will be held by the California State Poultry Association, southern branch, at Los Angeles, December 12-17.

Cattlemen of Riverside County met with officials of the California Cattlemen's Association at Mission Inn, November 29.

Petition has been presented to San Bernardino County supervisors by Chino residents asking for passage of anti-smudge ordinance.

A uniform premium list of the livestock division of California fairs is proposed by Secretary Van Pelt of the Southern California Fair Association.

The Ontario-Cucamonga Fruit Exchange has just closed its 25th year with output of 1409 cars citrus fruit for which it received approximately $2,340,150.

Cattlemen of Riverside and San Bernardino Counties met at Riverside, November 29 to discuss legislative matters which should be brought before the next session.

Riverside County is asking improvement of the road between Blythe and Mecca to connect with the paved highway from Phoenix to the Colorado River at the ferry crossing.

The Mutual Water Company of Escondido has signed contracts with the San Diego County Water Company for delivery of water from the new Henshaw dam on the Warner ranch.

Highland, San Bernardino County, shipped the first cars of new crop Navel oranges from Southern California this season. The three carloads were sent to the eastern market on Thursday, November 16.

Approximately 1,000,000 pounds of prunes will be packed in one, two and five pound cartons by the Oregon Growers' Cooperative Association this year. This style of packing is proving a more popular seller every day.

Representatives of the poultry department of the seven southern counties in the California farm bureau will meet at Pomona on December 1 to adopt constitution and by-laws and draw up definite program of work.

Additional inspectors for quarantine service at Blythe, Parker, Yuma and Needles are urged by local interests. The state department of agriculture is taking the matter up with county supervisors on a cooperative proposal.

Rushing to precede the southern California shipment of first citrus fruit—Sanger, Exeter, Woodlake and Visalia, in the San Joaquin Valley have shipped carloads of Navel oranges to the eastern markets. The Fresno County crop was not injured by the frosts of last week according to report of Fred P Roullard, county horticultural commissioner.

The marketing committee of the potato growers department of the Los Angeles County farm bureau is composed of E. D. McSweeney, chairman; J. C. Craig, Owensmouth; H. G. Miller, Shafter; V. B. Burger, San Bernardino; T. H. Lambert, El Monte; Mark Grimes, Van Nuys; Mr. McMeekin, Arcadia; J. B. Mather, Van Nuys; G. A. Allard, Zelzah; W. P. Whitsett, Van Nuys.

## The Coast and General

Eight carloads of lettuce went to Chicago in October from Idaho Falls.

The Pacific Northwest Potato Show and Potato Growers Conference was held at Spokane, November 21-24.

The annual meeting of the American Farm Bureau Federation will be held in Chicago, December 11-14.

Annual field meetings of the Arizona Grape Growers Association were held November 15 and 16 in vineyards near Phoenix.

Within the past two months 78,000 sheep have been brought from Utah to the strip of Arizona north of the Colorado River.

Canada permitted sale and manufacture of oleo during war times but has now in force regulations practically prohibiting it.

Forty cars of livestock were shipped from Seligman, Arizona, during the week; in that district the range and stock are reported fair.

The beet sugar factory at Idaho Falls, Idaho, is running on an estimated tonnage of 70,000. The plant will run till well into December.

Penguin eggs are considered a great delicacy in South Africa, where nearly 48,000 dozen were gathered last year from nearby islands and sold at Cape Town.

The Phoenix district of Arizona estimates 75,000 cattle being fed this season. The Yuma and Upper Gila Valleys show large numbers of feeders also.

Sweet potatoes of excellent quality are now being dug in Arizona. Though the freeze killed the vines before growers cut them off, the tubers seem little damaged.

The first Arizona oranges of the season are on the market although picking generally is several weeks off. In the Yuma Valley orange picking will get well under way during the week.

Governor Hart of Washington has been in Sacramento in the interests of meeting of the 11 western states in Sacramento at the time of the Fruit Growers and Farmers Convention, December 12-14.

Livestock men and alfalfa growers of Bonneville County, Idaho, held a meeting recently to take steps to fix a price for alfalfa that would be equitable to all interests. A "live and let live" program is being worked out by these producers and consumers.

Now that they have had time to take stock of their losses, Arizona cotton growers agree that the untimely freeze of last week cost them from one-sixth to nearly one-half of their potential crop. Only those in the lighter soils of the upper bench lands escaped.

Cherries from Czecho-Slovakia are becoming common over western Europe. In one month during the summer over 40 carloads were shipped out of that country, according to American Consul C. S. Winans, Prague, the greater part to England and Holland.

Germany has become a country of candy eaters. The demand for candy to take the place of other foodstuffs which are too high to buy is so great that factories are working overtime and competition has virtually ceased. Dividends ranging from 200 to over 365 per cent indicate the profit in the manufacturing end of the business.

# What Shall I Plant?

By Fred K, Howard

NOW many fruit growers are pondering over this question in all sections of the state? California as a whole has perhaps felt the decline in prices of farm products less severely than any other section of the United States. It was only during the past season that organized producers of California really began to feel that there has been a severe adjustment in prices that very materially affects their business. Cooperative marketing organizations in California have, as a rule, "cushioned" the fall of prices, permitting producers to get out from under crops which were high priced because of high costs for labor and materials during the growing period. This season, therefore, there is a general trend toward more serious consideration of the prospects for the future of the California fruit industry. All classes of producers are making an effort to obtain authentic information which will guide them in their future crop.

Fresh fruit producers have quite generally felt the pinch of the lower buying power in their markets and have experienced considerable difficulty in securing cars for all their crops. It is believed by some that the car shortage during the past season saved the day for California fresh fruit since it prevented the serious glutting of terminal markets and a consequent red ink return.

The transportation problem was aggravated by the coal and rail strikes, and probably a similar condition will not occur in the immediate future. Emergencies of this sort have forced fruit growers to utilize every means within their power to cope with the situation. The all water route, for instance, from the coast via the canal has been used to a great extent by the dried fruit interests and extensive experiments have been made in the shipment of fresh fruits under various cooling systems. The experience thus gained should have a marked influence on the future of the California fruit industry.

One of the outstanding results of the past season is the more general feeling on the part of all that quality counts; all other things being equal. The best fruits have been those to stand the test and bring home the "bacon" in the form of substantial net profit. Important as is the question of quality there is still another very serious question; even more serious if such a thing is possible. It has to do with looking into the future of the business of fruit growing and viewing its potential possibilities. It has to do with a greater respect for cooperative marketing organizations. It has promoted a tendency toward closer community cooperation. Here and there, as the result of this condition there has already appeared on the surface concrete evidence of what is taking place. There is, for instance, at the present time, a general undercurrent throughout the grape growing district of the San Joaquin Valley looking toward the complete organization of the fresh grape producers along lines which will permit proper merchandising of this California product. An extensive advertising campaign is proposed.

There are smaller community movements such as one which took definite form at a farm bureau meeting at Earlimart, Tulare County, recently. That body, after due deliberation, appointed a committee of its own number to investigate and report back its findings with recommendations as to the fruit or fruits which should be generally planted in that district. It is not expected that a community can absolutely control planting in this manner, but it indicates that the more level headed individuals in the community are at least getting control of the situation.

During the past few years of unprecedented high return for fruit there has been as much "wildcatting" in orchard and vineyard development as has ever been experienced in oil. Trees and vines were planted without regard to the suitability of the district in either soil or climatic conditions to the variety or varieties. Very often water for irrigation was deficient or wholly lacking. Land was not properly leveled or put in shape before planting. Skilled labor for the peaks of pruning and harvesting will never be available in some of these districts because they are isolated and there is not sufficient acreage to furnish work during long periods for such labor.

Transportation, that great essential to successful marketing of fruits, was often entirely lacking except at the expense of long hauls. These and many other details were too often overlooked in the mad rush to plant "something."

The Earlimart idea contemplates a study of soil, climate and water requirements of that district, as well as labor, packing, marketing and transportation facilities. It contemplates promoting enough interest in certain varieties of fruit to insure volume, which in turn means efficient handling, standardized quality and many other direct benefits. Such a committee will give publicity to its findings and things which every grower in the district should know will become common property. Discussion of the problems involved will be had and thus the individual, the community and the industry as a whole will benefit. The day is past when the prospective producer of fruit in California can plant promiscuous varieties in any section of the state and expect to make a legitimate and fair return on his investment.

There should be more of such community committees as described above. It is an outgrowth of the cooperative idea. By this means, and by this means only, will the problem of what to plant be intelligently solved insofar as such solution is possible.

# Arizona's 1922 Fair

By M. E. Bemis

SOMETIMES it takes an object lesson to make us realize our progress. The Arizona state fair might be considered a milestone on the boulevard of the state's progress, but it is more than that; it is a barometer that indicates the trend of agricultural and livestock activities and enables one to estimate to some extent what may be expected in the future.

Beginning with the livestock exhibits, this department was so much ahead of the fair of two years ago that there was almost no comparison. It will be recalled that two years ago the state's agricultural activities were largely directed to the growing of cotton. The exhibits of livestock and agricultural products reflected the preponderance of cotton in smaller exhibits of dairy cattle and other livestock as well as of fruits, vegetables and grain and other farm products.

The beef breeds were represented by the Herefords only this year, but in sufficient numbers to show the popularity of this breed and the importance of beef cattle in Arizona. Babbitt and Cowden of Phoenix showed two herds, one horned and one polled. Heading the horned herd was Bonnie Donald, 548949. Most of the herd is of his get. He was exhibited as a junior calf in a number of eastern fairs in 1916 and was awarded the championship in each case. The Scotch Farms of Tucson also had a fine exhibit. This herd has two bulls and two heifers from Boleado's 6th. George W. Burgess of Casa Grande is one of the noted Hereford breeders of Arizona, and he was at the fair with a string of nine bulls. The University of Arizona also made a good showing of Herefords.

The hog show was exceptional in quality and brought out as many animals as any other state fair show. This show also marked the introduction of the Ohio Improved Chesters. These were shown by three exhibitors, one, the man who introduced them to Arizona, O. R. Harmm of Chandler. Mr. Harmm has interested a number of his neighbors in this breed, and they have formed a state association. Durocs were shown by four breeders. Among these are Smith Brothers, showing a good string, among them Desert Queen, with a record of 42 pigs in three litters. One of the Smith Brothers has supervision over the hogs at the St. Johns Indian Mission Farm. This is one of the largest herds of hogs in Arizona.

There were several other exhibits of Durocs and a large class of Poland Chinas, one of Hampshires.

Exhibits of sheep were disappointing as there were none from the big sheep firms of the north. Some good quality Rambouillets were shows by the Tempe Normal School. The U. S. Indian School, Phoenix, showed some quality Hampshires as well as Rambouillets. A number of milch goats were shown by Wm. Zeller of Phoenix.

The poultry show was the "best ever." More birds, better quality, and better cooping arrangements characterized the show. Judge Mumford of Los Angeles officiated very satisfactorily in making the awards. Poultry, like hogs and dairy cattle, are among the exhibits which in improved quality indicate the increase in interest the past two years.

There have been larger exhibits in the horticultural hall from some counties, but rarely, if ever, has the quality been better. Particularly was this true of the exhibits from Maricopa.

A noticeable feature of the fair this year was the absence from the most prominent part of the fair grounds of the objectionable fakers, fortune tellers and games of chance. In this the state fair commission has followed the example of most eastern fairs. There are two ways of estimating whether or not this pays. As a business proposition possibly it may bring more revenue to the state fair commission, but while fairs must be managed as a business, and by business methods, their first purpose is educational, and second, clean amusement, and the old time carnival attractions serve neither purpose. Whether or not more or less money is received the clean fair is a success.

## NATIONAL COUNCIL OF FARMERS COOPERATIVE MARKETING ASSOCIATIONS

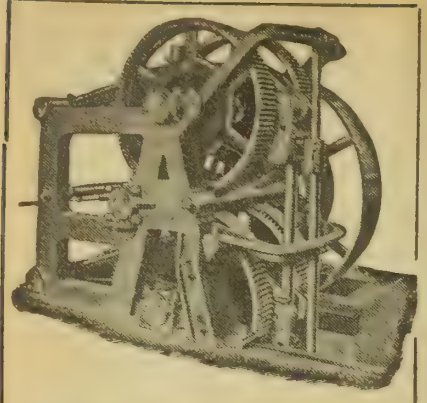
Invitations to send delegates to the first annual convention of the National Council of Farmers' Cooperative Marketing Associations have been sent to more than 200 cooperative marketing associations of the commodity type and more are to follow. This will be the first nation wide meeting of commodity cooperative marketing associations, or farmers business organizations for orderly marketing, ever held in the United States, and is scheduled for the New Willard Hotel December 14-16, 1922.

Among those already invited are the American Cotton Growers Exchange and ten state cotton growers organizations; the Northwest Grain Growers Associated of Portland and 16 state grain growers associations; six tobacco associations; six citrus fruit selling organizations; three dried fruit associations; ten wool growers organizations; eight livestock cooperative commission houses; seven apple, one pear, two grape, three berry, and several other fresh fruit organizations; 30 milk producers associations; 30 fresh vegetable and melon growers associations; four nut growers organizations; three rice associations, three bean growers associations; five hay growers associations; six poultry producers associations; and the remainder of the list of invitations going to organizations for the cooperative selling of maple sugar, ribbon cane syrup, grain sorghum, planting seed, canning crops, timber, honey, olives, alfalfa seed, mint and numerous other farm products that have been organized or are being organized for cooperative marketing methods.

All these cooperative organizations of the commodity type are being invited to send delegates or representatives. All farm papers and other periodicals are invited to send representatives to cover the convention and to take part in the side conference of cooperative education that will be a feature of the forenoon of the second day.

While one of the main features of the convention program is the consideration and recommendation from the standpoint of cooperative marketing associations of rural credits legislation, all the common problems of cooperative marketing will be discussed, and the problems common to the handling of each commodity will be discussed by group meetings of the representatives of organizations handling the same product.

Many prominent speakers have been invited to address the convention.



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# Agricultural Uses of Gypsum

By L. C. Holmes

(Mr. Holmes was for several years a soil specialist for the federal government, working with J. W. Nelson, now with the state college of agriculture. These two gentlemen are recognized as the highest authorities on soils in Western America.—Ed.)

A LINE of intermittently employed "soil improvers" hangs about the entrance to every plot of land given over to crop production. These figurative individuals are like human seekers for employment in many ways. Some of them come highly recommended from the neighbor's place as being specifically able to do certain things for certain crops under certain conditions, but as not being able to do certain other things. Others bear testimony that way off somewhere they did certain things but just exactly where it was, and under what conditions, fails to appear in the credentials. Sometimes nearly all the clamor set up amongst the applicants comes from a class of individuals who present nothing, but recommend themselves very highly as perfectly competent to do anything about the place, no matter what the soil or crop. These possible aids to the agriculturist get all sorts of receptions. Sometimes they are all invited in and set to work without supervision and so are all finally kicked out the back gate because the owner knows that in the aggregate they have robbed him. Closer study would have yielded him one or two honest employes fitted to his purpose. Again one look at the bunch makes some farmers bar the gate.

These comparisons may serve to indicate that each fertilizer or soil amendment has certain values and certain limitations which may or may not justify its use according to the soil and crop in question. Most soils can be improved in some manner; probably 90 per cent of western soils can be improved by increasing organic matter content, but intelligent use of fertilizers and soil amendments necessitates a knowledge of the local deficiencies or faults and the reasons for them, accompanied by a choice of the remedies, the latter based on a knowledge of what the remedy can or cannot do.

### The Place of Gypsum

The place of gypsum or land plaster in western agriculture seems to be guaranteed for certain purposes and is broadening in scope as experiments multiply. It has been used for centuries in some countries and it seems reasonable that with our diversified soils and crops there will develop increasing uses. For a long time it has been one of the standard aids in reclaiming "black alkali" land; that is, soil in which an appreciable per cent of the damaging soluble material content is sodium carbonate. This compound is hard to wash out of soils owing to the way in which it causes the surface soil to run together and seal over, thereby hindering the leaching process by which both the "black alkali" and accompanying compounds are washed out. The value of gypsum in such alkali land reclamation lies in its ability to combine with the black alkali chemically, thereby producing less harmful compounds which at the same time are more easily leached from the soil. It should be noted that this process of simply applying the gypsum does not at all decrease the total soluble material content in the soil. In fact soils carrying black alkali are practically always damaged as well by other compounds which require leaching from the soil. Gypsum, while a very valuable aid in reclaiming land, is rarely sufficient to effect the reclamation but must be succeeded by heavy irrigation or flooding and tillage in order to complete the process. Amounts varying from one to several tons per acre are necessary, depending upon the amount of sodium carbonate present which is necessary to change to less harmful and more readily removed forms.

The uses of gypsum and lime are sometimes confused. There are certain purposes for which they are not interchangeable. Lime can not be substituted for gypsum for alkali land reclamation as noted above. They are, however, both sources of the element calcium and are both valuable under certain conditions for improving the structure of tight, heavy or puddled soils which take water slowly and do not become friable and respond to cultivation satisfactorily. Lime alone, however, will correct acid soils, and gypsum can not be substituted for it. Some of the most valuable and extended uses of gypsum will propably appear upon the acquiring of more detailed information from an extended campaign of experiments with its use on varied soils and crops. It is quite generally recognized that gypsum has a favorable effect on many soils and crops, but the specific conditions where it can be definitely predicted to give good results cannot always be foretold; for instance, it seems to have a very definite value in liberating potash in the soil and stimulating bacterial activities of various kinds. An increasing interest in the whole subject of gypsum has been accompanied by many trials for numerous crops on different kinds of soil. Unfortunately many of these trials have not been planned or observed with due regard for the particular local conditions and consequently it is difficult to interpret the results. Conflicting results are to be expected when one contemplates the wide range of conditions in western agriculture, but heavy increases in yields of certain crops here and there indicate that there must be a considerable field wherein gypsum will finally become recognized as a special agent for benefit. Some questions of theory interpose also, such as the question of whether it is the sulphur in the gypsum or the calcium which gives favorable effects.

### Special Uses of Gypsum

One of its special uses may be mentioned in the decomposition of barnyard manures as an aid to fix and retain the volatile gases which are sometimes lost in excessive amounts. Citrus growers and nurserymen and others who receive manure in large amounts to be spread at some later time are making use of gypsum, but usually in too small amounts. It can be liberally applied around stables as an absorbent or deodorizer at the rate of a pound per animal per day or when turning the manure in piles to be applied at about the same rate.

Potato growers often use it to dust the cut seed as it dries the seed off, heals the cut surfaces, thereby preventing heating if the seed is to be held some time, and prevents sticking together in the planter. Lime cannot be substituted in this process owing to its ability to promote the growth of the organisms causing potato scab.

The above are some of the special uses of gypsum, valuable in themselves, but propably minor as compared with extended uses now being established. To the average alfalfa grower, truck crop producer and orchardist it may be said that in each of these lines there are many trials of gypsum which have yielded great benefit and other trials showing no appreciable effects. It is a sensible thing to try gypsum for many crops, just as numerous individuals are now doing, and determine for one's self the local needs of the particular soil and crop. Experiments to date are not sufficient to enable one to definitely predict results, but enough has been learned to justify the statement that there is a bigger place for gypsum as a soil improver than it now occupies.

## APIARY PRODUCTS AT ARIZONA STATE FAIR

Prizes were awarded in 20 classes. In two of these, extracted mesquite honey and Arizona made bee hives, competition was very keen. Awards were made to Nathan Hucklebee, B. S. Patterson, E. O. Etter, T. F. Wilcox, E. E. Tede, James E. Sudlow, S. M. Campbell, Ida L. Dickerson, Mrs. C. S. Brannock.

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# Raspberry Culture

By Ernest Braunton

RASPBERRIES are grown in every section of the state but are nowhere so common or of such importance commercially as the blackberry. Yet they are more nearly a continous crop than the blackberry and fully as great a favorite. The raspberry is a little more exacting of soil moisture and perhaps less tolerant of climatic extremes than is the blackberry.

When it comes to varieties, nearly all others have retired and left the field to the Cuthbert, some years ago. But of late the St. Regis has been making steady inroads upon the planting, and it may in a year or two more surpass in acres planted the older Cuthbert. Nearly all growers having it admit it is equal to the other in every point, that it is slightly earlier and, of most importance, it fruits the first year of planting, which the Cuthbert does not. But the public does not know it by name very well and in purchasing usually calls for the better known sort.

There is a yellow seedling from Cuthbert, known as Golden Queen, that is becoming very popular. The older yellow varieties belonged to the small hard cap type, but the new one is large and luscious. Other named varieties are occasionally offered, and much is claimed for ones called King of Cliff and New Red. Among the black caps there is little choice for they thrive in but few parts of California; the Kansas Black Cap is as good as any.

### The Planting

The distance apart for planting varies among even the best growers, also the spacing in the rows. One of the most successful market growers places all his rows six feet apart; others place them at four feet. Some space plants in rows at four feet; others at three feet. Much depends on the trellis, pruning, and training. If one should attend the training closely enough he may be able to have rows but three feet apart.

When to plant is not so important, but December, January and February are the best months. Soil preferred is light rather than heavy. Plenty of well decayed organic matter will aid as much as it will with any crop. Raspberries, also blackberries, naturally grow along streams. The soil is moist, usually sandy and well mulched with dead leaves. Often the bushes are in shade. From this we glean that roots should be kept cool and moist. If they are moist they are usually cool.

### The Support

Nothing about the growing of berries is so variable as the supporting trellises. The most elaborate now called to mind is a field in the San Gabriel Valley. Redwood posts three by four inches are set in the row, five feet high, spaced 16 feet apart. On top of these are cross arms four feet long. This gives a T-shaped support. On the posts two wires are placed, about 20 and 40 inches high. Four wires are run on the top of cross arm. Very few build such trellises, and they are more advisable for blackberries and unnecessary for raspberries. Stout posts at the row ends, three or four feet high, with an occasional post for support in the row, with two wires, is good enough and not expensive.

The writer well remembers that 20 years ago the general advice given on all cane berries in regard to pruning was: "cut them off at 16 inches above the ground." This is still practiced on hundreds of acres in California. Of late years more have pruned each strong plant to four or five canes, each cane four feet high and the laterals on these canes back to one foot. In succeeding years cut out the old canes, leaving always the last year's growth for the new framework. The crop will depend less on pruning than on food. During the growing season cane berries are very hungry and thirsty and on food and water entirely does the berry crop depend. More than a score of insect pests trouble raspberries at times, at least four of them being scale insects. For these it is best to spray, during the dormant season, with commercial lime-sulphur, one part to ten parts of water.

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## COOPERATION BY RAISIN GROWERS HAS RESULTED IN EFFICIENCY

(Continued from Page 579)

but in order to realize the necessity for quality production we must know how much depends on that quality.

### Quality Determines Prosperity

"Not only does this big business depend on the quality of raisins put out but, what is far more important, the happiness and prosperity of the 14,000 members and owners of this business, and on them and their prosperity depends to a very great extent the prosperity and success of every resident of the San Joaquin Valley. The cooperative spirit is growing and developing daily, and it is our aim to bring it to a point where each member of this organization will be personally interested in delivering at his packing house the highest quality of raisins he is capable of producing. If each member would do his best along that line, regardless of the fact that some selfish individual might be delivering an inferior grade for which he is paid approximately the same amount, every grower would soon by the mere weight of public opinion be compelled to deliver a real quality product, and with a quality product in the sweat box the manufacturing process would be reduced in cost and the problem of disposing of our ever increasing crops materially lessened.

"We have developed and this year are using machinery designed to eliminate stems, dust, etc., which is giving to the consumer the cleanest and best raisin ever shipped from California. The trade throughout the country recognizes the fact that we have raised the standard and when buying raisins from competitors insists on including in the purchase contract, 'quality must be equal to Sun-Maid.'

### Must Maintain Standard

"We have builded on a foundation of quality; we have talked it to the buyers through our advertising; we have preached it to the housewife and the baker; and we have appealed to the grower to make it possible for us to live up to the high standard of quality we have claimed for our product. We must depend to a large extent upon the expert knowledge and experience of you gentlemen to aid the grower in his effort to improve his quality and to thus sustain the enormous responsibility which rests upon this organization, and we ask you to help us foster and develop that spirit of cooperation, which is the only basis on which this organization can exist, so that each grower will do well that which is worth doing."

* * *

Raisin packing efficiency has kept pace with office efficiency. This was shown effectively at the time of the meeting referred to by a trip through Raisin City, the great packing plant. Everything from the nimble fingers of the Sun-Maids to the big automatic machines and carriers means the handling of dozens of carloads daily at lowest possible cost. Everyone autoing through Fresno should secure permission to see the great plant. It is operating every month in the year but of course its operations are shown in fullest magnitude at this time.

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In all the larger sizes you can now secure a rig with the tank located in the rear and mounted over high wheels. This is made possible by the use of the high-speed smooth-running Bean Engine instead of the heavy "hit-and-miss" type of engine, which would not operate satisfactorily over a rocking front axle.

By reducing the weight and elitminating the vibration at the engine end, and by putting the big rear wheels with wide tires under the tank end, we've made the larger outfits very much easier to haul. By shortening the wheel base, we've made it possible to turn in a very short radius. And by using the new all-steel drop axle we've lowered the entire outfit several inches.

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Street_____

Town_____ State_____

Kind of fruit grown_____

No. of acres_____

(50-SF22)

# Cooperation

By W. R. Wood

THE leaders in the great agricultural industries have come to see the necessity of cooperation in the handling and marketing of farm products.

For more than a quarter of a century those deeply interested in this work have endeavored to bring the farmers together, but only partial success has rewarded their efforts. Today the need of cooperation by the farmers and fruit growers of the United States is more apparent than ever before. This is an age of cooperation. Big business industries are consolidating, the banking interests are merging, and the general trend of all business seems to be to get together. If farmers are to successfully compete for their full share of prosperity they must cooperate to protect and stabilize their markets.

The past few years have witnessed a great change in farming methods. A systematic study of soil and cultural practices, together with better and heavier producing varieties of both horticultural and agricultural crops, has greatly increased the quantity and quality of production. Haphazard hit and miss methods of farming are things of the past. The successful farmer of today finds that he must put as much thought and study into his farming operations as do any of the professional or business men in other lines. Farming has come to be a science.

The increased production due to the improved farming methods necessitates better and wider marketing facilities and a closer relationship between producer and consumer. It is one thing to grow a crop but quite another to successfully market it; however, the farmer has come to the point where he must take up the marketing problem, for the old order of things has changed and no longer can he turn his crop over to the produce dealer, the commission merchant or broker and have any assurance of receiving an adequate return for his labor. With all due respect to the integrity and ability of the middlemen, I can not help but feel that the farm marketing problem has grown too large to be handled in this way any longer. These people will always have their place in the distribution of farm products but they can not be expected to go to the expense of exploiting markets and building up a demand for the increased production when they have no assurance that they will be given the crops to handle or that some competitor will not enter the field they have exploited.

This has come to be the farmer's problem, and he must through his cooperative marketing associations find new markets and stimulate the demand in the old ones in order to take care of the increased production. Advertising campaigns must be inaugurated to increase consumption and a closer study must be made of the likes and dislikes of customers to the end that a product may be put up so as to create the most favorable impression on the consumer. Such undertakings can only be satisfactorily carried out by large cooperative organizations where the expense can be apportioned on the production of their members. The immense advertising and publicity campaigns carried on during the last few years by the California Fruit Growers Exchange and the Associated Raisin Company, in their endeavor to increase the demand for their products, cost millions of dollars, yet the cost to the individual members was hardly noticeable and was many times repaid in better prices for their products.

And right here I want to say that better prices to the producer does not necessarily mean higher prices to the consumer. On the contrary, if properly handled by cooperative marketing organizations, the cost to the consumer can oftentimes be reduced and at the same time a fair profit be returned to the producer. It is a lamentable fact that the consumer usually pays just as much for a commodity whether it brings a profit or a loss to the producer. This can and should be controlled by cooperative marketing organizations. In times of overproduction when a reduction in price is necessary, the consumer should receive the benefit of such reduction and not the middlemen. This would have the effect of increasing consumption and thereby more quickly bringing prices back to normal. In a word, cooperation means a better and more dependable commodity, larger and more evenly distributed markets and therefore better and more uniform prices.

When the rank and file of farmers come to realize the necessity for closer cooperation in the marketing of their products and cease to take chances on getting more on the outside than they can reasonably expect through their marketing associations, then and not until then will the business of farming be placed on a substantial basis and gain the recognition that it justly deserves.


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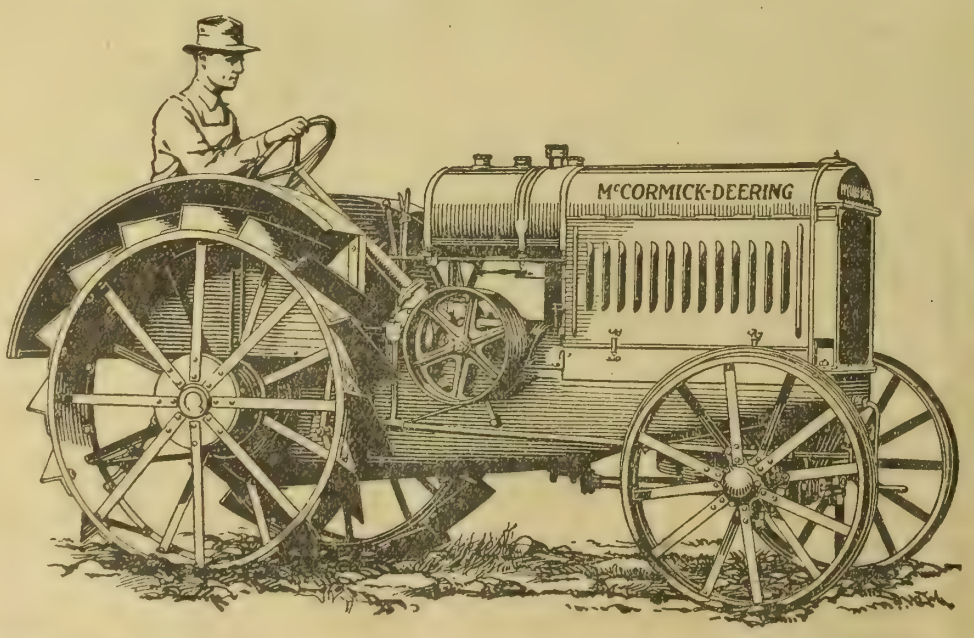



## STAY WITH THE GAME

AT the recent dedication of the horticultural building at the university farm at Davis the future of the fruit industry was seriously—and hopefully discussed. The outlook for California's material increase of output is the brightest.

In discussing "Horticulture As a Career" James Mills, Jr. made comparisons of production from which these facts are gleaned:

In 1920 there were 44 per cent less fruit trees bearing and nonbearing in the orchards of the United States, outside of California, than there were in 1910.

**Nonbearing and Bearing in Orchards In All Other States of Union, Not Including California**

| | 1910 | 1920 | Decrease % |
|---|---|---|---|
| Apples | 213,576,136 | 147,229,603 | 31 |
| Peaches | 124,433,986 | 76,837,916 | 38 |
| Pears | 22,205,334 | 16,214,668 | 27 |
| Plums and Prunes | 21,614,834 | 15,821,652 | 27 |

**Increase in All Varieties Fruit Grown**

| | Increase % |
|---|---|
| Florida | 57.4 |
| Washington | 1.9 |
| Oregon | 11.1 |
| California | 29.6 |

Measured in dollars, the production of California fruit in 1919, 1920 and 1921, was 35 per cent of that of the whole United States.

**Production Per Tree**

Figured on a basis of the number of trees, bearing and nonbearing, in orchards in the United States, per the census of 1920, and the production in dollars of orchard trees, aside from grapes, for the year 1919, 285,326,973 trees bearing and nonbearing in or

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chards, in all of the United States, excepting California, produced $371,486,807 of tree fruits, making an average production in dollars of $1.30 per tree.

For the same year, 64,387,338 trees bearing and nonbearing in orchards in California produced in tree fruits, not including grapes, $202,037,218, or $3.13 per tree.

From a study of the salient factors influencing this great readjustment of the nation's fruit average, it cannot be said that California has so dominated the fruit producing business of the United States solely because of her splendid climate and her successful cooperative marketing associations. Her standing today would have been impossible with either of the above factors lacking. There is I believe, another factor which has been of primary importance in the fight for state supremacy in fruit production, and that is the human factor. Only a few years ago fruit growing was a very haphazard business. Only the areas of finest soil were planted; except in a few favored districts no irrigation was practiced; there were no marketing organizations other than those owned by private capital, and very little, if any, interest in scientific horticulture among the farmers ever manifested itself.

Since the building of the orange industry in Southern California we have been living in a new horticultural era. I will not take your time by reviewing the early history of orange growing in Southern California, other than to recall to your minds that many of the orange men of the south in the early days of the industry were big business men with capital to operate with. Most of them came to California to improve their health and took up orange growing as a hobby rather than a business, but their business training early enabled them to see that in farming as in other lines of endeavor, energy and brains counted in a big way. They had no knowledge of the best horticultural practices and as a result all of the work they carried on was dominated by the influence of the college of agriculture and her experimental stations throughout Southern California.

All of you know the wonderful progress that has been made in citriculture in the past 25 years. Proper cultural methods have been worked out, cooperative marketing associations have been established, and today the entire business has become so intensely developed that it resembles one of our largest manufacturing enterprises. Experts are required to handle every phase of the business. As a result of intensive horticultural practices, the orange growing district of the south has become one of the most prosperous of all the world's farming communities.

### LOS ANGELES CITRUS GROWERS PLAN CAMPAIGN

Th citrus growers department of the Los Angeles County farm bureau has outlined program of work for 1923. The better part of the day was spent in outlining these plans which constitute what is regarded as the most comprehensive program for the improvement of the citrus industry ever outlined by any organization. This program includes a strong membership campaign, cooperation with the various research and regulatory agencies which have to do with the citrus industry and extensive series of field activities in cooperation with the agricultural extension service and a continuation of a number of projects which the extension service and citrus growers department already have underway.

### HONORS RECOMMENDED

At the recent meeting of the California Avocado Association at Santa Ana a resolution was passed to ask the Lemon Men's Club to join in requesting "such leading educational institution as they may deem suitable" to confer a doctor's decree upon A. D. Shamel in recognition of his research and development work in horticulture.

An International Agricultural Congress will be held at Paris in May or June of 1923. This will be the 11th international congress and the first held since the war.

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## it's chuck full of helpful planting hints

YOU ARE ALWAYS GLAD FOR SUGGESTIONS—like all progressive people, readers of California Cultivator are interested in helpful suggestions of all kinds. You will therefore be interested in THE 1923 ARMSTRONG CATALOG. IT IS CHUCK FULL OF HELPFUL PLANTING HINTS—on commercial or home orchard plantings—ornamentals, etc. Each variety is carefully described—all interesting facts pertaining to it are plainly stated—and you can depend on every word of it.

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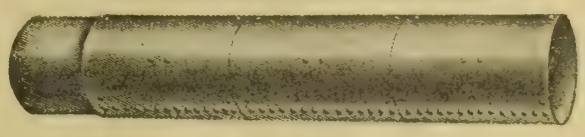

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# Questions and Answers

**Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Not Suitable for Walnuts

First of all let me express my appreciation for the help your paper has been to me. Then, as a regular subscriber I want to avail myself of some expert advice. In the spring of 1921 I set out some 60 Eureka walnut trees, and they have done very well considering, having passed through some severe tests due to killing frosts and several floods. Several of the trees had nuts on them this second season. Early this year I planted another 200 Eurekas and the majority of them were set back by the killing frost we had in May. I still have about ten acres but am not sure whether it would be best to plant all to Eurekas or vary my program by planting either the Placentia or the Ehrhart varieties. I have some Placentia trees on my place and they seem to be as thrifty as any seven or eight year old trees should be, but I understand that the Ehrhart is a better nut and has several advantages over the Placentia. Keeping in mind that my planting will be done in a canyon, elevation about 1300 feet, therefore subject to both early and late frosts, and to great summer heat, (although the heat is actually very much modified by the constant daily circulation of the air due to the pronounced winds which blow through the valley), will you please advise me which variety it would be best to plant as an alternative to the Eureka. Since the new planting will be to windward of the present grove what effect will the pollen from Placentias or Ehrharts have upon the Eureka nuts? Will this affect their market value? Seeing that the Ehrharts produce better sealed nuts than the Placentias and a greater quantity than the Eureka, year by year, the only thing left to consider is their respective marketability and value. Will you give me some exact information on this point?—Subscriber, Riverside.

This location is evidently not suitable for walnuts because of the late spring and early fall frosts. The Eureka walnut is among the very late leafing varieties and if it gets caught with late spring frosts there is not much hope for other varieties. Then an early frost before the leaves are ripened in the fall prevents the new growth from maturing and makes dead wood for the next spring. The new planitng being to windward of the other trees will not affect the value of the nuts on the earlier planted trees as cross pollination affects only the variety that might be obtained by planting the cross pollinated walnuts. The Ehrhart walnut being among the early leafing varieties would not be better than the Eureka in this location.—J. B. N.

### Selling Olives in Bulk

Will you please advise me in regard to selling olives in bulk? That is, can I sell olives without canning and cooking?—Subscriber, Hemet.

Under the regulations of the state board of health olive producers are prevented from selling processed olives unless they have been subjected to a temperature of 240 degrees for 40 minutes. Of course the only way to secure a temperature of 240 degrees is in a pressure cooker. In actual practice, however, we have been able to buy olives in bulk, and we understand these have not been subjected to the 240 degrees. We do not know what steps are being taken by the board of health to enforce this regulation.

### Pruning Peaches

When is the best time to prune peach trees? I have heard that at a certain time pruning will make for tree growth and at another time of year will make for fruit growth. Please tell me about it.—Subscriber, Fallbrook.

After all green leaves are gone is the proper time to prune all deciduous trees. While a green leaf remains it is making food for the tree. December and January are the best pruning months. The story you have heard doubtless relates to summer pruning for fruit and winter pruning for wood; there is nothing in it. So prune as to allow and encourage a normal wood growth, but the real purpose of pruning is to get the largest possible crop of best size and quality.

### Brown Rot on Apricots

Much has been written concerning brown rot on apricots. Has any subscriber found a spray which will overcome brown rot on sugar prunes? Any information concerning same will be greatly appreciated.—Subscriber, Redwood City.

As far as we know there has been nothing new developed in the control of brown rot of prunes. An article by Prof. H. P. Barss of the Oregon agricultural college, appearing on page 578 of the Cultivator of April 3, 1921, suggests the use of the Bordeaux mixture with casein spreader, to make tne solution adhere to the fruit. This spray, he says, should be applied about a month before maturity of the fruit.

### Growing Plants For Sale

In answering an inquirer as to growing of plants and seeds for market and also selling independently, we recently stated in this department "No license is needed." This is true as to producing plants and selling direct to a licensed dealer or nurseryman, but if one wishes to sell direct from the ranch to the consumer, then, technically at least, the farmer becomes a nurseryman and must comply with provisions of Section 2119 of an act which prescribes the policy of the state as to administration of laws through the department of agriculture, especially those laws relating to the selling of nursery stock and seeds: "Any nurseryman, agent, jobber, person, firm or organization operating in the state of California, who ships, sells or handles nursery stock, trees, plants, shrubs or vines which are for planting or propagation purposes within the borders of the state shall first obtain a license, etc." The fee is $5 plus 50 cents for each acre of growing nursery stock after the first acre. Any one proposing to enter the business should write the state department of agriculture at Sacramento for more explicit information and a copy of the act.

### L. A. Milk Regulations

To whom should I write to obtain a copy of the dairy regulations in Los Angeles County? I wish to deliver bottled raw milk.—Subscriber, El Centro.

Write to Dr. Powers, L. A. City Health Department

### Hogs for Pork

I am raising hogs for pork. Please give me names, if any, of hog raisers who are producing pork upon a scale of handling 50 sows or more, not however as garbage disposal proposition, and not as strictly purebred breeding stock sales. I want to see other ranches and compare notes on equipment, crops, feeding and management matters with the owner or operator.—Subscriber, Modesto.

Successful hog raisers near you are the Bassett Brothers of Hanford. The Bassetts have been in the hog business for nearly 30 years, and while they have sold a world of breeding stock they have also provided pork for a multitude in that time.

### Camellias

When and how is best time and way to start camellia plants?—Subscriber, Yountville.

Seedling camellias are seldom of much value, not one in a hundred being of the least commercial value so far as flowers are concerned. They are used for stock upon which to graft or inarch the named varieties. Plants imported from Japan are inarched; those from Belgium or grown in this

country are grafted. They are extremely hard to propagate in this way and the amateur is advised against the attempt unless having a strong liking for such experiments. The early spring months, when sap is free, is best time, and plants must be kept in shade. The graft will be very slow in taking as camellias are slow "actors."

### Walnut Bleach

In the Cultivator for October 8, 1921, Question and Answer column, appeared directions for bleaching walnuts. I tried to bleach some last fall by dissolving the sal soda in boiling water and adding the chloride of lime to the solution after cooling but could not get a smooth mixture. This fall I added the chloride of lime to the sal soda solution while it was boiling hot and continued the boiling for about 15 minutes, (using four gallons of water to one-fourth of the ingredients called for), then after cooling, strained it and added the remainder of water. There was considerable sediment that the water seemed to have no effect on, so I strained off the clear part and used it. Sulphured the nuts about one hour in a very light sulphur smoke and put them in the sun to cure. Would like to know proper method of mixing the bleaching solution and also amount of sulphur to use and length of time to leave in sulphur box. I use the sulphur box of my apple drier.—Subscriber, Sebastopol.

The formula referred to is as follows: Twenty-four pounds chloride of lime and 6 pounds monohydrate crystals of soda to 50 gallons water; the monohydrate dissolves in cold water while sal soda has to be boiled. By sulphuring very lightly after dipping while the nuts are still wet with the solution a much whiter nut is secured. The process used is all right, but apparently the nuts were not thoroughly dry. They should be perfectly dry before bleaching is attempted.

### Storing Olives in Brine

Will you please tell me through the Cultivator if fresh olives from the tree can be kept in brine and processed as wanted. If so, how long can they be kept in the brine and how strong should it be?—Subscriber, Lindsay.

This question was referred to W. V. Cruess of the University of California, and he answers:

"In regard to the preservation of olives in brine I would make the following suggestion: Dissolve three-quarters pound of salt in each gallon water to make a strong brine. When salt has thoroughly dissolved place olives in stoneware jar or barrel and cover them completely with the brine. Place board or large plate on olives to keep them submerged in brine. Store until it is convenient to pickle the olive by the recipe given on Page 589."

### Concord Grapes

Time was when Californians, in derision, dubbed the eastern Concord grapes as "slip-skins." Visitors from eastern states retaliated by saying: "You call 'em that because you can't grow 'em." But really, California did not try to grow them because we have so many grapes which, in the opinion of the majority of our people, are considered superior. But the Concord is now being grown more than ever and each year the acreage becomes greater. Near El Monte, in Los Angeles County, one grower sold $3,600 worth from a three-acre vineyard, surely a good return. In many sections they thrive equally as well as any European variety.

### Mulberry Fruits Drop

I have a weeping mulberry which set a lot of fruit but all drop off before ripening. What is the cause?—Subscriber, Ceres.

We can not state with certainty what has caused this drop for we do not know under what conditions your plant is grown. The most common cause of fruit dropping is lack of water. As mulberries grow in bottom lands, often where roots reach to the water level, and the weeping variety thrives best in lawns, it is a safe guess to state that lack of water caused the drop.

### Generating Electricity on Farm

I have a creek on my place that gives six inches of water in the dry of the season and of course plenty of water in the winter. I have about an 85 foot drop to the barn and dairy house and I want to know how I could rig it up to use water power to run my cream separator, churn and also a little lighting plant with this water. The 85 foot drop is all within a quarter of a mile from the barn. I would like to know what size pipes I should use and what kind of a turbine, etc. Hope that you can help me out.—Subscriber, Oregon.

It is possible this supply is not sufficient to justify installation of water wheel and dynamo. However, we note that the minimum flow is about 6 inches, and it is probable that the greater part of the year this would give sufficient for home use. In addition, it is possible that by carrying below the level of the house and securing a greater fall additional power may be secured. In this particular a hydraulic engineer, if available, could give best information. However, the question was referred to an electrical engineer of the General Electric Company, and we have from F. F. Bloomer of that company the following:

"This project does not appear to be very promising for developing hydro-electric power and light. The theoretical horsepower in a stream of six inches with an available drop of 85 feet is but slightly more than 1 horsepower. Taking into account losses in a pipe line and in the machinery the actual available power would be very much less, so that the desirability of the installation would be open to serious question. In order to definitely determine the possibilities of a project of this sort it is desirable, first, to check the matter up with the manufacturer of a water wheel. Then after the hydraulic problems have been solved the electrical manufacturer can figure on the electric generator, etc. A small plant would probably cost $250, more or less, without considering installation. It will be appreciated that this figure is a mere approximation, however. If the subscriber is within reach of a power company's lines it would be much preferable to secure electricity from that source than to attempt to develop his own plant."

### COMING EVENTS

(Corrections and Additions Requested.)

**Short Courses,** Davis, October 2-February 15; Deciduous Fruits, December 4-9. Dairy Manufacturers' Short Courses: Buttermakers and Creamery Managers, February 5-15.

Berkeley, November 13-February 8. Canners, January 2-6, 1923. Land Settlement, February 4-8, 1923.

**California Fruit Growers and Farmers Convention,** Sacramento, December 12-14.

**Lindsay Citrus Show,** Lindsay, November 25-December 2.

**Valley Citrus Fair,** Visalia, November 26-December 2.

**Orange and Olive Festival,** Oroville, November 28-December 2.

**California State Poultry Show,** Oakland, November 29-December 3.

**First National Walnut Exposition,** Santa Ana, December 4-9.

**California State Poultry Show,** (Southern Branch), Los Angeles, December 12-17.

**Northern Kern and Southern Tulare Commercial Poultry Show,** Delano, December 15-16.

**Annual Convention American National Livestock Association,** Los Angeles, January 30-February 1.

**National Orange Show,** San Bernardino, February 16-26, 1923.

**Canned Foods Week,** U. S. A., March 3-10, 1923.

**Raisin Day,** Fresno, April 30, 1923.

COAST AND GENERAL

**International Livestock Exposition,** Chicago, Illinois, December 2-9.

**Aberdeen-Angus Breeders Association,** Chicago, Illinois, December 6.

**Maricopa County Poultry Show,** Glendale, Arizona, December 6-9.

**American Farm Bureau Federation,** Chicago, December 11-14.

**National Council of Farmers Cooperative Marketing Association,** Washington, D. C., December 14-16.

**Fourth Annual Livestock Show,** Ogden, Utah, January 2-6, 1923.

**National Western Stock Show,** Denver, Colorado, January 13-20.

**Annual Convention of American National Wool Growers Association,** Spokane, Washington, January 24-26.

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# Household Department

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For the kindness of friends come to bless
Our sorrow or loss
'Neath the weight of the Cross;
It is telling our gratefulness.

It isn't the love that they have in their heart
And neglect or forget to reveal,
That brightens the lives
Of husbands and wives;
It is telling the love that they feel.

It isn't the thinking of good to mankind
That comes as a cooling drink
To the famishing ones
Of Earth's daughters and sons;
It is telling the good that we think.

It isn't the music, asleep in the strings
Of the lute, that entrances the ear,
And brings to the breast
The spirit of rest;
It is only the music we hear.

It isn't the lilies we hide from the world,
Nor the roses we keep as our own,
That are strewn at our feet
By the angels we meet
On our way to the Great White Throne.

It isn't the silence of hope unexpressed
That heartens and strengthens the weak
To triumph through strife
For the great things of life;
It's the words of good cheer that we speak.—W. J. Lampton, in the New York Herald.

### STEENA'S AMERICAN THANKSGIVING

(Concluded)

"I wasn't here when none of it happened," she explained. "It was toward night and the chores was done and so was supper. I went to town, to the movies, with my cousin Emma's girl. It seems like that the first person who noticed the smoke or the fire or anythin' was the Briby girl. She come running over and into the kitchen where Jim and Larry was settin' and she told them that the place was afire. It was the tool house that took first and then the hen house caught, and the sparks were like to get the rest of the outbuildings, only Briby's girl, she runs to the phone and in less than no time, I guess the whole countryside must have been here and she a'tellin' them what to do."

"Do you mean Steena Birby?" George asked quickly. Briby's girl might have meant Cousin Anna.

"Yes, her."

Mrs. Kerry looked sharply at her son. The radiant light that flashed over his features told her that a year of separation had accomplished nothing and her heart gave a quick bound that was almost a stab of self reproach. She hardly heard the rest of Mrs. Maguire's rambling narrative of how Steena had saved the barns, how she had worked with the men, directing, inspiring them, hair and face covered with soot, her eyes red, her throat choked. Vaguely she heard one of the hired men say that Steena was a "hero," and "ought to get a medal or somethin'."

What filled her mind was the fact that George loved Steena and she wondered if the girl really loved him. If only she had been less of the "immigrant type," if only she had been a more fitting wife for George. Well, at any rate, she must go over and thank her for her splendid service. Perhaps on the way an inspiration would come to her.

George and the hired man had made for the barns. Mrs. Maguire was busily scolding over the fact that she had not received Mrs. Kerry's telegram until so late that it was impossible to do even a tenth of the usual amount of Thanksgiving cooking.

"No turkey killed, no mince meat made, no decent crust rolled up for a pumpkin pie, not a cranberry in the house, no—" she went on but Mrs. Kerry did not even hear. She put on her hat and coat and started out for the Briby house, walked down the driveway to the kitchen door and knocked. Cousin Anna answered.

"I've come to see Steena," she said softly.

"Yeh, Steena she only go upstairs a minute ago to get changed from her work dress. I call her. Come in," and she led the way past the roomy dining room with its fine old furniture and its homely displays of china and glass, into the living room. There Mrs. Kerry waited.

She was rather surprised as she looked around the room. It was so comfortable, so tasteful. There was an air of home about it that she had not thought to find in the parlor of a "foreigner." She had been under the impression that the "parlor" was a place opened only on state occasions but this room evidently was used constantly.

She was still wondering when a quick step sounded in the hall and Steena entered. She seemed taller or was it the fit of her tailor made dress? Certainly, she was better looking than ever with a new note of refinement. Mrs. Kerry noted the fact before the girl had really entered the room.

"How do you do, Mrs. Kerry?" The younger woman's greeting was gentle and respectful.

"I'm quite well, thank you, Steena—Miss Briby," Mrs. Kerry had risen and taken the girl's hand. "I've come to thank you for what you did the other night. I really feel that it is to you we owe our home—our barns. It was a narrow escape. But for you——"

"I'm glad to have done it," the girl said simply, "we are all neighbors, friends and we must help each other always."

"Yes! And—Steena, there is something else about which I wished to speak to you." Then the words failed. She had been so full of what she meant to say, so excited, that for a minute she was not impressed with something that she should have noticed at once. Steena's English! It was perfect! There were none of the odd, broken phrases, nothing ungrammatical. She looked intently at the girl as if to be sure that this was really Steena.

"I—I wanted to tell you," Mrs. Kerry hurried, "that—I am sure—my boy—still cares for you. I did not know it. I did not think that you even thought seriously of one another, until this morning. His joy when he heard that it was you who had saved the barns well, it told me the truth. And—as for your being good enough—Why—" she stopped, confused, then, suddenly cried, "Steena! you've changed—how you've changed!"

The girl's musical laugh rippled through the room. It was the laugh of one who "laughs last"—a happy laugh of some unspoken victory.

"Yes, I have changed—all of us have changed, dear Mrs. Kerry. And I know what you came to tell me this morning; that you are sorry you spoke—that you did not mean to be unfair, unkind, that you were protecting your son. I know, Mrs. Kerry, and you were right. I was not good enough then!"

Mrs. Kerry did not know what to say but she took the girl's hand in both of hers.

"I told you that morning that I would think it over and talk with you again," Steena continued, lovely in her happy calm. "I did think of all you had said and what it meant and there was nothing to say to you—then. I sent George away each time he called. That morning after you left I said to myself that I would be good enough for him.

"I saw that while my people and I had come to this country, found happiness, comfort and almost riches, we had not become a part of the country. We could not even speak its language properly. But we could learn, my brother Ole, my father and I. We all talked it over and started at once. We went to the county seat and took out our first naturalization papers. We studied, we even went down to Chicago to take a short course. We read. Every day we were better Americans. You see, some day I wanted to be good enough."


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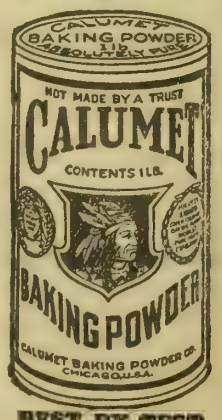


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"Steena!" Mrs. Kerry's eyes filled with tears and she put her hands in a caress on the girl's shoulders. "Steena, you're wonderful! And I—I was very cruel. I should have thought of that—I should have helped you. You must have been very unhappy."

"Unhappy? No. Lonely sometimes but not unhappy. I was doing right! I sent him away—it was best but I knew that the hour would come when I would have him back. When I was most lonely, I worked hardest."

"I shall have to tell him the whole story, even though he hates me afterwards," Mrs. Kerry said softly.

"No, that is my privilege. I will tell. She stopped suddenly, her eyes filled with a lovely light. "I know what you can do. It is Thanksgiving! You stay here. It will soon be time for dinner, an American Thanksgiving dinner. I will go and get George, and we will celebrate it together, the two families." Her eyes danced and the color flooded her cheeks as her heart raced for happiness. "You can help Cousin Anna with the table, and tell her how well she has learned to cook. You see, we have become such Americans that we celebrate the American holiday in the most American way. There is turkey, cranberry sauce, roast apples, pumpkin and mince pies, everything! You will stay? You will let me go and get George?"

An hour later, when Mrs. Kerry and Cousin Anna were beginning to fuss over the fact that dinner was ready for the table, and would spoil if not eaten in the fairly immediate future, Ole Briby, who had been his sister's confidant and had spent the past hour grinning in delight, announced that Steena and George were coming in by the front gate, "hand in hand." Mrs. Kerry ran to meet them. From just outside the kitchen door she heard Steena's laugh and the sudden sound of her boy's voice seemed as an echo of her thought.

"Hello, mother!" George shouted in happy abandon. "Say, everything over at the barn is O. K. Steena tells me we're going to have a Thanksgiving turkey after all. That's something to be thankful for!"

"Something to be thankful for? Mrs. Kerry echoed his words. Perhaps neither of them was really thinking of turkey but of love—the love of a man for a maid and a maid for the country of her adoption.—The Farmer's Wife.

## HOME PICKLING OF RIPE OLIVES

**By W. V. Cruess, Fruit Products Laboratory, University of California**

Use prime ripe fruit in good condition, preferably that which is light pink to cherry red in color. Avoid green or bruised olives.

### Stock Lye Solution

Prepare a stock lye solution by dissolving one pound of soda lye in two gallons of water, or one-half pound in one gallon of water. Babbit's, Red Seal, or other reliable lye is satisfactory.

Caution: Do not use this solution direct on the olives. It is to be diluted as directed below.

If skin of hands or face is burned with lye apply strong vinegar at once.

### First Lye Treatment

Place olives in stoneware, glass or wooden container. Prepare lye solution containing two ounces lye per gallon by mixing two pints stock lye solution, as above, with six pints water, or in this proportion.

Cover olives with this lye solution. Stir every half hour. Cut samples of the olives at hourly intervals, and when it is observed that the lye has thoroughly penetrated the skins of all the fruit and about one-sixteenth inch into the flesh, remove and discard the lye. Lye discolors the skin and flesh to the depth of penetration. A little experience will make it possible to follow the lye penetration readily.

Usually about four to six hours time is required. It will be more or less according to the temperature of the lye solution and the toughness of the olive skins.

### Darkening Color by Exposure

After removal of lye solution allow the olives to stand uncovered in the tub or crock and stir three or four times daily. Continue this treatment until the olives are black or very dark brown in color. This will normally require about five days.

### Second Lye Treatment

Prepare lye solution containing one and one-fourth ounces of lye per gallon of water, by mixing two and one-half pints of the stock lye solution (first lye treatment) with 13½ pints (one gallon and 5½ pints) water to give two gallons of solution.

Cover the olives with this solution. Stir occasionally. Leave until the lye solution has penetrated completely to the pits of the olives as shown by discoloration of the flesh of samples cut to the pit with a knife. This will usually require eight to 12 hours, and the solution can, if desired, be left on the olives overnight.

This treatment is for the purpose of destroying the bitterness.

### Washing

Remove and discard lye solution. Cover olives with water. Change water twice daily until olives are free from lye taste. This will require about seven days.

### Brine Treatment

Cover olives with brine of one-fourth pound salt per gallon of water, or one pound per four gallons water. Allow to stand three days. The olives are now ready to serve or can.

### Canning and Sterilizing

Pack into sanitary cans or jars. Add boiling hot brine of one-fourth pound


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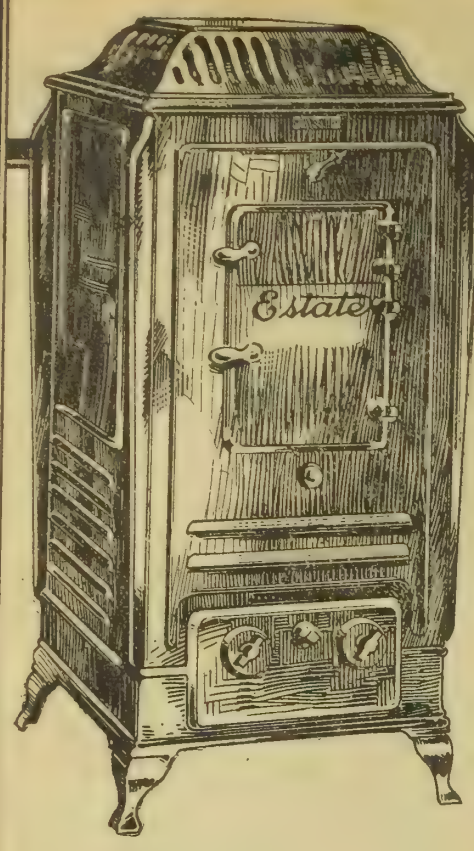


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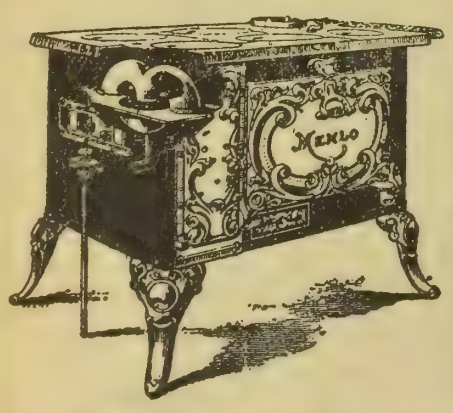


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salt per gallon. Seal cans with hand can sealer Place rubbers and caps on jars loosely. Place in steam pressure sterilizer (obtainable from any hardware store) and sterilize 40 minutes at ten pounds steam pressure (240 degree Fahrenheit). Allow pressure to fall to 0 for jars, before pet cock or lid of sterilizer is opened. Remove jars and seal. Cool cans in water.

### Alternative Method

If a can sealer and pressure sterilizer are not available pack olives in glass jars and place lids and rubbers on loosely. Place in wash boiler sterilizer and heat at boiling point one and one-half hours. Count time from time water is violently boiling. Remove and seal.

Caution: Olives preserved by this alternative method must be boiled in water for 40 minutes or more after jar is opened. Under no conditions can such olives be offered for sale without violation of state law.

## HOUSEHOLD QUERIES

### Thanatopsis

Will you please print Wm. Cullen Bryant's "Thanatopsis" in the columns of the Cultivator?—Subscriber, Burbank.

#### THANATOPSIS

To him who in the love of Nature, holds
Communion with her visible forms, she speaks
A various language; for his gayer hours
She has a voice of gladness, and a smile
And eloquence of beauty, and she glides
Into his darker musings, with a mild
And healing sympathy, that steals away
Their sharpness ere he is aware.

When thoughts
Of the last bitter hour come like a blight
Over thy spirit, and sad images
Of the stern agony, and shroud, and pall,
And breathless darkness, and the narrow house,
Make thee to shudder, and grow sick at heart;—
Go forth, under the open sky, and list
To Nature's teachings, while from all around,
Earth and her waters, and the depths of air,
Comes a still voice:

Yet a few days and thee
The all beholding sun shall see no more
In all his course; nor yet, in the cold ground,
Where thy pale form was laid with many tears,
Nor in the embrace of ocean, shall exist
Thy image. Earth, that nourished thee, shall claim
Thy growth, to be resolved to earth again;
And, lost each human trace, surrendering up
Thine individual being, shalt thou go
To mix forever with the eelments,
To be a brother to the insensible rock,
And to the sluggish clod, which the rude swain
Turns with his share, and treads upon. The oak
Shall send his roots abroad, and pierce thy mold.
Yet not to thy eternal resting place
Shalt thou retire alone, nor couldst thou wish
Couch more magnificent. Thou shalt lie down
With patriarchs of the infant world, with kings,
The powerful of the earth, the wise, the good,
Fair forms, and hoary seers of ages past,
All in one mighty sepulcher.

The hills,
Rock ribbed, and ancient as the sun; the vales,
Stretching in pensive quietness between;
The venerable woods; rivers that move
In majesty, and the complaining brooks
That make the meadows green; and, poured round all,
Old ocean's gray and melancholy waste,
Are but the solemn decorations all
Of the great tomb of man. The golden sun,
The planets, all the infinite host of heaven,
Are shining on the sad abodes of death,
Through the still lapse of ages.

All that tread
The globe are but a handful to the tribes
That slumber in its bosom. Take the wings
Of morning, and the Barcan desert pierce,
Or lose thyself in the continuous woods
Where rolls the Oregon, and hears no sounds,
Save his own dashings—yet—the dead are there;
And millions in those solitudes, since first
The flight of years began, have laid them down
In their last sleep: the dead reign there alone.

So shalt thou rest; and what if thou shalt fall
Unnoticed by the living; and no friend
Take note of thy departure? All that breathe
Will share thy destiny. The gay will laugh
When thou art gone, the solemn brood of care
Plod on, and each one as before will chase
His favorite phantom; yet all these shall leave
Their mirth and their employments, and shall come
And make their bed with thee.

As the long train
Of ages glide away, the sons of men,
The youth in life's green spring, and he who goes
In the full strength of years, matron, and maid,
The bowed with age, the infant in the smiles
And beauty of its innocent age cut off—
Shall, one by one, be gathered to thy side,
By those who in their turn shall follow them.

So live, that when thy summons comes to join
The innumerable caravan, which moves
To that mysterious realm, where each shall take
His chamber in the silent halls of death,
Thou go not, like the quarry slave at night,
Scourged to thy dungeon, but, sustained and soothed
By an unfaltering trust, approach thy grave,
Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams.—William Cullen Bryant.

## HINTS FROM HOUSEKEEPERS

### Old Fashioned Salt Rising

Noting requests for methods of making salt rising bread I am sending a century old recipe which has been used in our family.—Reader, Los Angeles.

At noon, the day before baking, take one-half cup cornmeal and pour over it enough sweet milk, boiling hot, to make it the thickness of batter cakes. Keep warm. The next morning pour into a pitcher one pint of boiling water, add one teaspoon soda and one of salt. When cold enough so that it will not scald the flour, add enough to make a stiff batter, then add the cup of meal set the day before full of bubbles. Place the pitcher in a kettle of warm water, cover and keep warm. When the batter rises to the top of the pitcher pour it into a bread pan and add one and one-half pints of warm water and flour enough to knead it into loaves. Knead but little harder than for biscuit dough and bake as soon as dough rises to the top of pans. This will make five large loaves.

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# Legal Queries

Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.

### Safeguarding Water Right

I am the only resident land owner in a small valley and have developed two wells which pump into a reservoir. There is no running water except an occasional storm flood, but there is a considerable underground stream. What are my rights as the only bona fide resident in the section, and how can I safeguard myself?—Subscriber, Riverside.

Insofar as the appropriation for beneficial use of water is concerned residence has nothing to do with priority or right of use. As you have developed this water and placed it to a beneficial use, you undoubtedly have an absolute right to the use of the amount you are placing to such use. There is no method by which this right may be more safeguarded than you have already taken, other than, perhaps, to take the matter up with the state water commission which may make an investigation and register your appropriation.

### Vineyard Not as Represented

A few months ago I purchased land which I was told was planted to Emperor grapes and Tilton apricots. I now find a large number of Malagas among the Emperors. Have I any legal redress?—Subscriber, Terra Bella.

You are entitled to bring action against the one who sold you this property for the difference between the value of the property as represented and that which it actually has; that is to say, if there is a difference between the value of Malaga grapes and Emperor grapes you could recover that difference. It probably is too late, at this time for you to take any action by way of rescission of the purchase.

### Trespassing Animal

My neighbor has a scrub bull. My stock is all pedigreed cattle. The bull broke down the fences and caused considerable damage. What are my rights?—Subscriber, Longvale.

As heretofore stated, the rule with regard to trespass of animals depends largely upon the particular county in which the party is located, but the general rule is that where land is planted to crops and at the time entirely enclosed by a substantial fence, in case of trespassing animals the land owner may attach animals and recover whatever damage is caused. Even though your property is not devoted to the raising of crops, but rather to cattle, you would doubtless have an action for damages against the owner of the bull for any and all damage caused by his breaking through the fence. You probably would not be entitled to the exemption from filing an undertaking, as specified in the estray act, but that is comparatively a small matter if the party has property subject to execution.

### Exemption from Attachment

How long does it take a book account to outlaw? What property is exempt from attachment? As I own an acre of land and live on it, can it be attached?—Subscriber, Van Nuys.

An action to recover on a book account, whether consisting of one or more entries, upon an account stated or balance due upon mutual open and current account may be brought within four years, and the time begins to run, where there is more than one item, from date of last item. There are very generous exemptions from attachment which are too long to here state; generally, all necessary household furniture, farming utensils, two horses or mules and harness, cart or buggy and two wagons, food for such animals for one month, or seed grain on hand for planting within ensuing six months not exceeding value of $200, 75 beehives, tools or implements of mechanic, cabin or dwelling of miner, fishing boat and net, poultry not exceeding value of $75, earnings of judgment debtor for personal services rendered at any time within 30 days next preceding levy of attachment, when such earnings are necessary for use of his family residing in the state, except in case action is for common necessaries of life, and then one-half such earnings, material not exceeding $1,000 in value purchased for use in construction or repair of any building, money received by pension from governments, besides several other matters are exempt. If the debtor owns land and resides upon it with his family he can file in the recorder's office a declaration of homestead, in which case such property is exempt from execution up to the amount of $5,000.

### No Will

If a man dies without leaving a will can the widow administer the estate or would it have to go to court? What share has the widow? Do step-children come in for a share?—Subscriber, Pomona.

Step-children of the husband have no claim; only his own children. If the decedent leaves a surviving wife and one child, then the property goes in equal shares to the wife and the child. If there is more than one child, then the property goes one-third to the surviving wife, and the two-thirds are divided equally between the children. This applies to the separate property of the husband. The wife, of course, has her right to one-half of the community property, the remainder of which is administered as separate property. It is necessary that the estate be probated in order to effect a proper settlement and place the title. This is especially true of real property as otherwise there is nothing to show of record as to the death of the decedent. See also answer to "Children of Two Marriages."

### Children of Two Marriages

When I married I had some property which was not paid for but was paid during marriage. My wife died and I then accumulated more property. I married again and desire to know what would become of the property in case of my death without a will. There are three children by the first wife and also children by the second wife.—Subscriber, Halleck.

It appears from the statement that all property is the separate property of the husband, all having been acquired prior to the marriage to the second wife. That being the case, all of the property is subject to the will of the husband. Upon the death of the first wife, the entire property, whether considered as separate property, prior to that marriage or as community property after marriage, went without administration to the husband. In the case of the death without will, therefore, the second wife would succeed to one-third of the property and the remaining two-thirds of the property be divided among the children of both the first and second marriage, considered without reference to such marriage, as the half blood inherit equally with the whole blood.

### SHORT COURSE IN DECIDUOUS FRUITS

One of the very important weeks of instruction to be held during the farmers' short course at the university farm, Davis, is that of December 4 to 9 in the growing of deciduous fruits. The work will be as thorough and complete as the time will allow. The course will be conducted by specialists in the division of pomology. These instructors are men who have made many years study of their subject and are capable of giving their information either to beginners or to experienced orchardists in such a way that it can be easily understood and retained. The facilities and equipment for efficient work are of the best.

The principal deciduous fruits such as almonds, apples, apricots, cherries, peaches, pears and plums will receive special attention. Lectures and demonstrations will be given on the essential orchard practices. Students will "learn by doing." Much time will be devoted to the principles of pruning; the fruiting habits of trees and how they grow; the pruning of young trees; and the pruning of the bearing orchard.

The question of proper pollination for increased yields is less understood by growers than that of pruning, but it is of great importance to fruit growers who wish to top-graft unfruitful varieties or who expect to set out new orchards. The results of several years experimental work in pollination will be available for class study and discussions.

Special attention will be given to a study of the habits of the principal insects and plant diseases of deciduous fruit crops and the best methods of control. Demonstrations and practice work will be a part of the instruction in mixing and applying spray materials. Opportunity will be given to study the leading spray pumps and power sprayer outfits.

These subjects are so vital to a clear understanding of the essential practices for successful orcharding that growers of deciduous fruits can hardly afford to miss any one day of the entire week. As some of the work will be conducted in orchards of the Sacramento Valley, growers are urged to bring their cars for transportation.

Plans for drainage of thousands of acres of alkali land in the eastern part of Imperial Valley were discussed before the El Centro chamber of commerce by Prof. Weir of the state university.


# Wipe Out Every Rat and Gopher

## Amazing Discovery Quickly Kills Them All. Not a Poison

Rats, Mice, Gophers—in fact, all Rodents can now be wiped out easily and quickly. Imperial Virus will do it. The original, time-tested Danyz, fluid true Virus. Entirely harmless to humans, poultry, stock, pets, etc.

Infects Rodents only. Greedily eaten on bait. Sets up burning fever. The pests die outside, hunting air and water. Imperial Virus is put up in sealed bottles, guaranteed to retain full strength and potency. Only safe and sanitary method to overcome these pests. Indorsed by more than 60,000 users, including Farm Bureau Experts, numerous factories and large, nationally known institutions.

## You Can Get Yours Free

Send no money—just your name and address to Imperial Laboratories, Dept. 1100, Kansas City, Mo., and they will send you by return mail two regular full-sized $1.00 bottles of Imperial Virus (double strength). Pay the postman only $1.00 and a few cents postage when the package containing the two bottles arrives. Use one to rid your place of the pests, and sell the other to a neighbor, thus getting yours free. Special inducements to represent us.

NOTE—Readers risk no money in accepting the above offer, as Imperial Laboratories are fully responsible, and on your request will refund your $1.00 any time within 30 days, if you are not entirely satisfied with the results.

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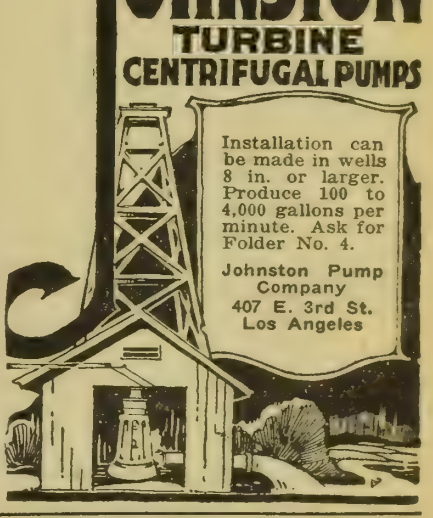

Installation can be made in wells 8 in. or larger. Produce 100 to 4,000 gallons per minute. Ask for Folder No. 4.

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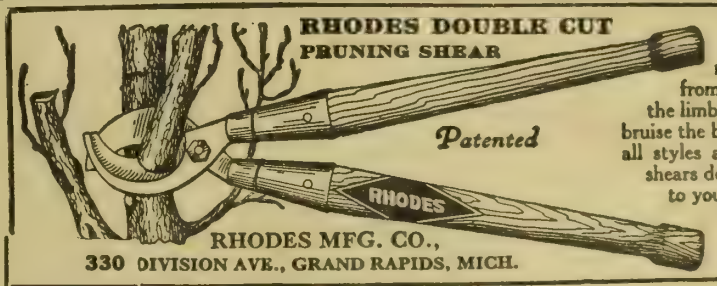


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## 50 Registered Holstein Females

## F. L. Hogue, Modesto, Cal., Tuesday, Dec. 5, at 10 A. M.

Mr. Hogue will sell to the highest bidder in this sale the very tops of his herd, including every female of milking age that is in actually desirable sale condition.

EVERY ANIMAL IN THIS OFFERING HAS PASSED THREE CONSECUTIVE TUBERCULIN TESTS, IS SOLD SUBJECT TO RETEST BY THE BUYER, AND IS POSITIVELY GUARANTEED TO BE A BREEDER.

The sale list contains a large number of splendid individuals, exceptionally well bred, and many with large 7, 305, or 365 day records, including EVA COLANTHA HUBBAVALE, the new state record junior 3 year old butter producer in the 305 day division.

PRACTICALLY ALL OF THE BRED FEMALES ARE IN CALF TO A BULL WHOSE DAM MADE OVER 1,150 LBS. BUTTER FROM OVER 29,000 LBS. MILK, AND WHOSE SIRE'S THREE NEAREST DAMS ARE ALL 1,000 LB. COWS.

TERMS OF SALE: California Breeders Sales and Pedigree Co. will extend terms of one-third cash, balance in 3, 6 and 9 months to responsible parties who make arrangements before sale. If you want credit, and deserve it, don't be afraid to ask for it.

PLACE OF SALE: The F. L. Hogue farm, seven miles north of Modesto on Escalon Road. Headquarters of sale will be Hotel Hughson, Modesto.

WRITE FOR CATALOG NOW

Auctioneer: Col. Ben A. Rhoades, Los Angeles
In the Ring: Col. John A. Davis, Los Angeles

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# You Should Not Buy a Bull Unless:

You have seen his dam and know that she is the type you want his daughters to be.

Or you have seen a good picture of her with a close-up picture of her udder.

She is a big producer of milk with a high percentage of fat.

Our cows are the tops of all the big sales in the state for the past three years. Practically all of them have high 7 day and yearly records. They hold 4 world's records.

Our herd bull is **Aaggie De Kol Mead**, whose five nearest dams average 1130.66 pounds of butter in a year testing over 4%.

You should have one of his sons out of a high record dam.

Call or write for our long-time, easy payment plan.

Lankershim, Cal. Fred Hartsook RANCH Visitors Always Welcome



## Just One More Son on Hand From King Segis De Kol Mead

But you can bring your good cow for service at a reasonable fee, and raise your own herd leader from this wonderful sire, who has an 1139 4 year old daughter (record made under herd conditions.)

An 1150 lb. 3 year old granddaughter with over 27,000 lbs. of milk.
A 1000-lb. 4 year old sister with an 1100-lb. 3 year old daughter.
A brother with 2 daughters averaging 1275 lbs. butter per year.
A paternal sister with 1000 lbs. butter in 365 days, Semi-official.
A brother with a 1000-lb. 2 year old and a 1300 lb. daughter coming.

IT RUNS IN THE FAMILY

His dam a granddaughter of the wonderful transmitting cow De Kol 2nd, to whom all the good ones trace.

Los Angeles County Farm — Hondo, California
Three Miles South of Downey on the Downey-Long Beach Boulevard



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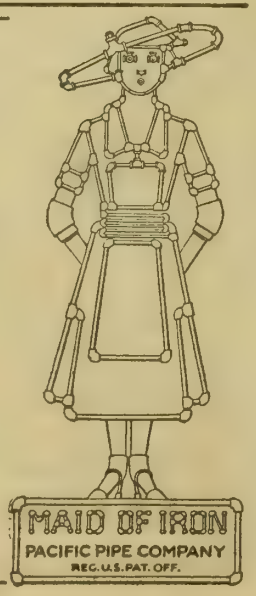



# Meeting of Livestock Marketing Association in Berkeley

The marketing committee of the California Farm Bureau Federation at the request of the California Farm Bureau Marketing Association, commonly known as the hog auction people, called a meeting of representatives of their organization, together with other people interested in the marketing of hogs, in the offices of the California Farm Bureau Federation.

At this meeting Roy Filcher, president of the California Farm Bureau Marketing Association, outlined the problem now confrontiing his organization in the San Joaquin Valley. When it started five years ago, there were a great many more hogs in the San Joaquin Valley than at the present time. At that time California was producing one-fifth of the pork consumed in the state, whereas at the present time we are only producing one-tenth of the consumption. As the San Joaquin Valley was the heaviest pork producing area it has fallen off more than any other section of the state. This has confronted the organization with two difficulties, one being that the sales are not frequent enough to keep the force working full time, the other that the sales are not large enough to encourage packers to attend. So the question of enlarging the scope of activities of this organization was the principal matter considered at the meeting held in Berkeley.

It was pointed out at this meeting that this organization had meant millions of dollars to the farmers of California. Before establishing the hog auction system, the California farmers always received at least 1 cent below the Chicago market, whereas since they have received from one and one-half to one-half cent above. In other words, formerly the farmers in California had been receiving a price for their pork based on the Chicago market minus what it would cost them to get their hogs to the eastern markets. Since this organization has been maintained, they have been getting a price based on the Chicago market plus the cost of freight into California, which has kept the California hogs up to a price equivalent to the next outside source of supply.

Since pork production has fallen off in California to such an extent the Los Angeles market has been getting most of its hogs from Arizona, Texas and Oklahoma, which has been a factor in California markets, as the freight on the hogs from these areas is not so great as it is from Idaho and other mid-western points.

After several hours of deliberation it was decided that the secretary of the Farm Bureau Federation should make a survey of the hog industry of California, after which another meeting would be held to consider plans for extending the system.

# Livestock News Notes

Caroline of Chilmark, one of the early high record Guernsey cows of the state, died recently in the Italian Vineyard Company herd. Caroline was noted as one of the foundation cows of the former Hollow Hill herd, and her record of 723 pounds fat in a year was made there. She was approaching her 15th birthday and dropped her ninth calf a few days before her death. She was the dam of three bulls, the best known of which is King of Hollow Hill who heads the Vineyard Company's herd, and six females, two of which have good A. R. records. Three of her daughters are in the Italian Vineyard herd, one of them being the grand champion Guernsey female of the Southern California and Los Angeles County fairs this year.

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The class leadership for all ages of Jerseys but one is held by Oregon cows. This one is held by Hood Farm in Massachusetts for the cow starting test as senior three year old. The class leaders are: Senior yearling, St. Mawes Lad's Lady, 829 pounds fat; junior two, Pearly Exile St. Lambert, 816.1 pounds fat; senior two, St. Mawes Pretty Lady, 824.3 pounds fat; pounds fat; senior three, Lass 66 of Hood Farm, 910.6 pounds fat; junior four, Old Man's Darling 2d, 983.7 pounds fat; senior four, Vive La France, 1031.64 pounds fat; aged cow, Lad's Iota, 1048 pounds fat. All these records are for 365 days.

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The Italian Vineyard Company recently sold two young Guernsey bulls to the association which is promoting pure bred bulls in Sonoma County.

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John L. Smith of Spokane, who judged at Sacramento and at the Tulare and Los Angeles County fairs, won junior champion Holstein bull in the big show at Portland.

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Sometimes when we have attended a pure bred sale and watched them go for meager prices and only after the hardest kind of work on the part of the auctioneers and all concerned we wonder whether people want cows or not. The other day we dropped in to the Rhoades and Rhoades sale yard at Hynes to see how a bunch of grades belonging to Roscoe Potter would sell. They were a top notch bunch of grade cows, all fresh or ready to calve, and almost before they were in the ring the price would be up to $200 and still mounting. We know now that people want cows. If these dairymen could be taught to realize that the thing which makes these cows big milkers is the pure blood of which they are carrying less than 100 per cent and that their sole value is in the milk they give, and that a purebred, besides giving milk, will reproduce animals equally as valuable as she is, then purebred sales would be easy. The system of financing purebred sales which is being applied in this state gives a chance to dairymen to acquire purebreds on the same basis as they buy grades, and more of them should take advantage of it. There has never been a sale of purebreds, even in the palmiest days, in which some very excellent animals were not knocked down at prices proportionately as cheap as grades were being sold, and dairymen should not overlook these opportunities to take home animals which literally grow into money instead of depreciating from year to year.

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A kindly meant remark in these columns after the state fair, as to an oversight of the fair officials regarding tuberculin test certificates, was well taken, and Superintendent Payne has said that all cattle shown there hereafter will undoubtedly have to be accompanied by certificates showing them to be free from tuberculosis. In some states cattle from herds having more than a certain percentage of reactors, cannot be shown even though they themselves appear clean. These rules often keep good stock away but the men who do show feel a lot easier when their herds get home again.

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The third annual meeting of the Horse Association of America will be held at the Drake Hotel at Chicago, December 6. There will be three sessions during the day. The evening one will be popular because it includes a banquet and eloquent speakers. The program includes discussion of The Relation Between Animal Motive Power and the Price of Grain; 40 Years With Horses in City Cartage; Equipping 19,000,000 Horses with Up-to-date Togs. Other questions discussed will include horse breeding in Europe, military use of horses, etc. The number who will attend from California is not definitely announced but it is known a good representation will be made.

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Roy (Buster) Bratzler, one of the well known Holstein breeders of the country, was accidentally burned to death by the explosion of a can of gasoline which he was carrying, on

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held at Minneapolis, October 7-14, use De Laval Cream Separators. These exhibitors of purebred dairy cattle are the cream of the world's best dairymen—they know the best separator and use it.

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In order to determine the oldest De Laval Separators still in service, we will give a prize of

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Simply write to your nearest De Laval office, giving the date you purchased the machine, length of service, size, serial number, and a statement regarding the service you have received from it.

Prize winners in each state will be announced in due course.

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N.B.—Old Style Powder and Pill Vaccines still made for those who prefer them.

When Writing Advertisers Please Mention Cultivator.

November 19 at the Glenwood Stock Farm, Riverside. He was formerly manager of Robert Hager's Riverside stock farm at Algonquin, Illinois, and only recently assumed his duties as manager of the new Stalder place.

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Freesias Pollyanna, a Guernsey cow, owned by J. A. Brown of Capitola, recently completed a record of 577 pounds fat in 365 days as a senior three year old.

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## POTATOES FOR HORSES AND CATTLE

Potatoes may be fed to livestock in limited quantities in connection with other feeds. While they may be sliced and fed raw with dry feeds, it is best to cook them before feeding, as heavy feeding of raw potatoes will cause scouring. Under ordinary farm conditions, boiling or steaming is the most economical method of cooking potatoes for livestock. Feeding investigations indicate that when potatoes are fed with other feeds to balance the protein requirements, from 350 to 450 pounds of cooked potatoes have a feeding value equal to about 100 pounds of corn, while from 500 to 600 pounds of raw potatoes are required to equal 100 pounds of corn.

Swine feeding experiments of the Oregon agricultural experiment station in 1913, showed that steaming the potatoes increased their feeding value about 60 per cent.

Vermont experiment station bulletin 152 shows that the average analysis of potatoes is 78.9 per cent water, 1 per cent ash, 2.1 per cent protein, 0.6 per cent fiber, 17.3 per cent nitrogen-free extract, and 0.1 per cent fat. The low protein content of potatoes makes it advisable to feed them in connection with feeds that are relatively high in protein content.

Unripe potatoes and sprouts of stored potatoes contain considerable solanin, a poisonous compound, and should not be fed.

Potatoes are palatable and well suited to horse feed. It is safe to feed as high as 15 pounds a day to work horses. They are equivalent to about one-third of their weight in hay. When potatoes are fed, a legume hay is a desirable supplement. If a grass hay, such as timothy, is fed, the ration should contain feeds, rich in protein, such as concentrates, legume hay, etc. It is advisable to chop the potatoes to lessen the danger of choking.

Cooked potatoes may be fed to cattle at the rate of from 25 to 30 pounds per day per 1000 pounds live weight. The allowance should be lessened somewhat if they are fed raw, on account of their tendency to produce scouring. A heavy allowance of potatoes, however, produces milk and butter of poor flavor.—Colorado Agricultural College.

## DON'T TRUST THE BULL

Farmers who keep bulls might learn from tiger trainers a valuable lesson that, if put into practice, would make them better life insurance risks. No man trusts a tiger until it is dead. A bull, although he uses an entirely different method, can do just as much damage as any animal in the zoo or in the jungle. He is more vicious and treacherous than most of them, and with such a reputation no man should trust him for a minute, no matter what his record for good behavior has been. "Mean" bulls perhaps have killed fewer men than those considered safe.

There are few rural neighborhoods without a list of tragedies and near tragedies resulting from putting trust in "perfectly gentle" animals. Only a few weeks ago an employe of the United States department of agriculture, visiting in New York state, was so badly injured by a dairy bull that he died a short time later. The owner led out the animal, always considered gentle, to have its picture taken. Without warning the animal knocked down his owner and then gored the department employe who had rushed to the man's assistance.

Had this bull been led on a staff attached to the ring in his nose the tragedy could not have happened. Better still, it might have been kept in a pen so arranged that handling would not have been necessary at all. Every farmer who owns a bull would do well to put up this warning in his barn: "Don't Trust the Bull."

## ARIZONA NEWS ITEMS

The Maricopa County Poultry Association held its monthly meeting at Tempe, Saturday, November 11. Several interesting talks were made on the feeding and raising of poultry. Before closing the chairman announced the annual poultry show would be held at Glendale the first week in December. This show is looked forward to with a great deal of interest. Last year an attendance of 4000 people made this a big event.

The dairymen and stock raisers in the Salt River Valley have determined by experimenting that Sacaton June corn is the best crop for silage in this section. This variety has been bred up here in the valley from the common June corn after several years work by experts. The best time to plant this crop for silage is in the latter part of June or the fore part of July.

Four men from the state university at Tucson are making a cotton survey of the Salt River Valley to determine yields and the best varieties adapted to this section. Fields will also be selected from which to save seed for planting next season. Of the 78,000 acres in cotton in the valley 4200 acres is planted to the short staple varieties and the balance in Pima. Right now the short staple upland varieties are very popular, due to the good price being paid, ranging from 25 to 28 cents per pound. No. 2 Pima, is selling for 32½ to 33 cents.

There will be much demand for purebred cotton seed for planting next spring. All those communities raising such seed this year should make arrangements to select carefully this fall to meet this demand. Good selected seed produces a better crop and insures a better price, thereby increasing the yield and more profit per acre.

At a recent meeting held in the Water Users Association building in Phoenix, agreement was reached between the farmers of the valley and the agricultural and horticultural commission of Arizona to cooperate in keeping out the pink boll worm and boll weevil. Rigid quarantine measures will be maintained in inspecting all shipments of seed into the state. These pests are doing several million dollars worth of damage to the cotton crop in the south annually.

By a contract just closed with the Maricopa Creamery Company the Arizona Dairy Association, a cooperative marketing association, agrees to deliver butter fat to the local creamery at a price based on the Los Angeles wholesale butter market, less one cent as quoted daily by the Los Angeles Produce Exchange. This arrangement will help stabilize the price of butter fat in this section and will mean much to the farmers of southern Arizona.

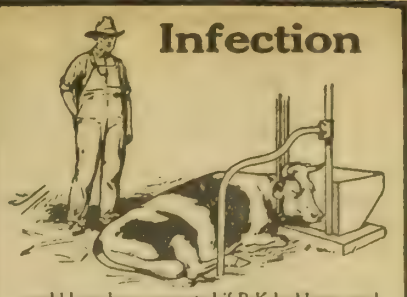
## TREATING SHEEP FOR STOMACH WORMS

"The Story of the Stomach Worm," is the title of a demonstration and exhibit by the United States department of agriculture at the International Livestock Exposition, Chicago, December 2 to 9. For several years the department has been testing methods for the prevention of injury and loss by this parasite, which is one of the most serious pests of farm sheep. Following a careful study of the life history of the stomach worm a practical and inexpensive treatment has been found that will prevent stomach worm injury.

In its exhibit experts of the department will demonstrate with a pen of wormy sheep the method of giving this treatment, known as the bluestone treatment. The simple apparatus necessary, and the proper solution to use, will also be shown to those interested.

Stomach worms are particularly destructive to young lambs, causing stunted growth and losses sufficient to wipe out all profit from sheep raising. By proper use of the bluestone treatment losses from stomach worms are prevented at small cost, and lambs thrive and reach market size at an early age. If the sheep man will acquaint himself with the principal points in the life history of this worm and apply the bluestone treatment at the proper time, most of the losses caused by the stomach worm will cease.

**Infection**



would have been prevented if B-K had been used shortly after this cow dropped that beautiful calf.

When cows do not clean properly after calving, it indicates a germ infection which is likely to run through the entire herd and result in Abortion and failure to "get with calf." The afterbirth should be removed at once, without force, and the cow flushed out with a powerful antiseptic.

B-K is scientifically correct for this work. It quickly dissolves the adhesions and slimy matter and brings the afterbirth, kills the germs and foul odors, stops the discharge and straining. B-K is non-poisonous, healing and soothing.

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FREE "trial offer" and bulletins on contagious abortion—calf scours—hog raising.

B-K—in one bottle—helps you keep all these diseases out of your herd—and prevents big cash losses.

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Prevent
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ABSORBINE, JR., the antiseptic liniment for mankind, reduces Strained, Torn Ligaments, Swollen Glands, Veins or Muscles; Heals Cuts, Sores, Ulcers. Allays pain. Price $1.25 a bottle at dealers or delivered. Book "Evidence" free.
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Herd Headed by the King of Hollow Hill
BERKSHIRE HOGS
Stock of Both Breeds For Sale
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I am also booking orders for fall pigs to be shipped when 3 months old. Sired by Orland Pan by Peter Pan and out of big, prolific sows.

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BABY CHICKS
**White Leghorns, Anconas, R. I. Reds.**
Order now for Fall and Spring delivery

THREE MONTH OLD PULLETS
All selected—no culls

"QUALITY SUPREME"

ORANGE COUNTY HATCHERY
Santa Ana, California

**The Parent Stock from Which** we get our day old chicks, is selected for vitality and laying capacity. We specialize in White Leghorns, but will furnish other desired breeds. Our capacity being limited by the necessity of carefully selecting only the best stock, orders should be sent in promptly. THE STEVENSON HATCHERY, Watsonville, Calif.

**Poultrymen Attention.** We are now booking orders for hatching eggs, baby chicks and 8 weeks old pullets, from our well selected and culled heavy laying utility stock. S. C. White Leghorns exclusively. Only a few more dates open for hatching eggs. All our cockerels are from trapnested stock. Pine Tree Poultry Farm, Los Gatos, Calif.

**Petaluma Electric Brooders** are world beaters for raising chicks. No danger of fire, less care, better chicks. They grow faster, and are stronger and more vigorous than by any other plan. Our Brooders give them "pep." Send for advance circular. Petaluma Electric Incubator Co., Petaluma, Calif.

**For Sale**—Pedigreed White Leghorn Cockerels—Mother laid 252 eggs at Santa Cruz egg laying contest. Father's mother laid 306 eggs, grandmother, 312 eggs. The egg habit can not be fed into a hen, it must be bred in. California Poultry Farm, R 1, box 160, Modesto, California.

**Baby Chicks**—From selected breeders. Order now for 1923 delivery. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. The J. H. Stubbe Poultry Ranch and Hatchery, Box 67-E, Palo Alto, Calif.

**Baby Chicks of Seven Varieties.** Order now for early Spring delivery from Fresno headquarters. Rohrs & Anson, 2028 Belmont Avenue, Fresno, California.

**Watch Us Grow** Quality Chicks. Booking orders now for the season of 1923. Brown and White Leghorns, Barred Rocks, Rhode Island Reds and Anconas. Order early. Ohlen's Hatchery, Campbell, California.

**S. C. White Leghorn Day Old Chicks and eggs** for hatching from stock bred by the late Walter Hogan, author of the Call of the Hen. Inquiries cheerfully answered. WALTER HOGAN COMPANY, Petaluma, California.

**White Leghorn Baby Chix** for summer and fall months from stock Accredited by Sonoma County Farm Bureau. We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Booking Orders Now for Fall and spring** delivery. Trap nested, single comb White Leghorn chicks, few pullets and pedigreed cockerels. Pramme Poultry Ranch, Los Molinos, California.

**Anconas**—Cocks, Cockerels. Satisfied customers for five years. We pay return express charges if you are not satisfied. $3.50, $5.00, $7.50 each. A. S. Wilkinson, Winton, California.

**For Sale**—100 Owen Strain, R. I. Red Pullets, 15 extra fine McFarland cockerels. A. J. Bourke, Arcadia, 2nd Ave. and Genoa St.

**Slighty Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

**For Sale**—Twelve prize winning Dark Cornish Games. G. V. Bushnell, Monrovia.

## POULTRY

**Hi-Grade Chicks For Less**—We want every one who reads this advertisement to write to us today for our new price list, just off the press. You will make a costly mistake if you are interested in BARRED PLYMOUTH ROCK, R. I. RED, W. LEGHORN, or ANCONA BABY CHICKS; if you do not get our prices. By FAIR, SQUARE, and HONEST dealing HARGETT & SON for the past seven years has made thousands of good boosters,. We offer chicks from what we believe are the best flocks in Southern California, at a price that will surprise you. Output for 1923; 8000 chicks a week. Hargett & Son, Route 2, Box C, Compton, California.

**Profitable Poultry News**—Capacity 200,000 chicks off every week of year. One customer's history: In 1919 bought 1000 Leghorns; 1920, 1200; 1921, 1200; 1922, 1200 Leghorns, 5000 Reds; for 1923, 10,000 Reds alone. Why? Many practical specialists producing the best in 21 varieties for every kind of market. 200-290 egg strain Leghorns, Reds, Rocks, Minorcas, Anconas, Wyandottes, Brahmas, Andalusians, Orpingtons, Ducks, Turkeys. For quarter century imported, trapnested, selected for vigor, growth, beauty, eggs. Booking ahead reduced for every winter, Spring month. Mail address: Profitable Poultry, 13 North Fair Oaks, Pasadena.

SANTA CRUZ CHICKS
FIRST HATCH NEW YEARS DAY

We specialize on Hyde and Ramer White Leghorns; "Hill Crest" Reds, and Buhrman's White Wyandottes. We also hatch choice Brown Leghorns, Anconas, Black Minorcas, Barred and White Rocks, Reds, Cornish Game, Silver Laced Wyandottes and Buff Orpingtons. Descriptive folder gladly sent from THE ARCHIBALD HATCHERY, B. W. Archibald, Proprietor, Soquel, Santa Cruz County California.

**Certified White Leghorn Baby Chicks,** hatched in the world's largest Electric Hatchery, for Spring 1923 delivery. January prices $4.00 per 25; $8.00 per 50; $15.00 per 100. Special prices 500 and 1000 lots. Order early chicks now and realize big broiler profits. Choice free range, high egg producing breeding flocks. Inspected by Sonoma County Farm Bureau. Safe arrival guaranteed. Must Hatch Incubator Company, 438 Seventh St., Petaluma, California.

**Penn's Quality Barred Plymouth Rocks and White Leghorns.** The last word in Barred Plymouth Rocks, 12 1sts; 8 2ds; 2 3rds and 5 specials at Fresno, Tulare and Los Angeles County Fair this fall in varied competition. True values in hatching eggs, day-old chix and breeding males from an egg strain established in 1908. The only hatchery who are specialty breeders of Barred Plymouth Rocks. GOLDEN RULE POULTRY FARM & HATCHERY, Porterville, California.

**Baby Chicks**—Twelfth year specializing on properly incubated chicks—the better grade that live and thrive—White Leghorns, brown and buff Leghorns, Rhode Island Reds, Barred Plymouth Rocks, Anconas, Black Minorcas, Blue Andalusians. Now booking orders for January and later delivery, safe arrival guaranteed. Free circular. Order early and get date wanted. McDonald Poultry Ranch and Hatchery, Route 1, Box 246, King Road, San Jose, California.

**We Want** your January-February baby chick order. We are after it with quality chicks at lower prices. For few weeks will book orders at a big reduction. Mail yours before dates are filled. Select White Leghorns, thousand lots at 14 cents; hundreds, 15 cents. Barred Rocks, R. I. Reds, two cents more. Brown Leghorns, Black Minorcas, White Rocks also reduced. Send for free circular and letter on early chicks. Mission Hatchery, Box 27, Campbell, California.

CHICKS
**Elec-Chic Hatched** Baby Chicks are the finest and best and pay **Highest Profits.** Buy them through us from Elec-Chic Hatcheries or hatch them yourself. Send for prices and delivery dates on all popular breeds. Ask for free literature about Elec-Chic Incubators, Brooders and Co-operative Hatchery Plan. **Poultry Equipment Co.,** Burbank, Cal., Dept. P.

**Baby Chicks from my purebred flock of** S. C. White Leghorns, a result of 17 years of most careful selecting for laying and standard qualities. Orders taken now for spring delivery 1923. Good, strong chicks of high quality at reasonable prices. J. R. Heinrich Poultry Yards, Arroyo Grande, California.

**Booking Orders Now for Fall and Spring** delivery. Order now, prompt delivery. Rhode Island Reds and White Leghorns. All orders given prompt attention. Oroville Hatchery, Irene Uren, Prop., Oroville, California.

**Vigorous Baby Chicks** bred from stock and under conditions to produce them. Order in advance. Seven breeds. PURE BREED HATCHERY, Box 59, Route 1, San Mateo, Calif.

**For Sale**—Thirty cockerels from pedigreed 272 to 290 eggs Tom Barron Leghorns. Males and dame's dames imported. 47 to 90 10/100 per cent lay this year. T. Chegwidden, Van Nuys, California.

**Pacific Poultryman,** West's oldest and best poultry magazine. Special rate two years $1.00. Trial subscription four months 25c. Seattle, Wash.

## POULTRY

**For Years I Have Used Cockerels** from hens with records of 200 to 250 eggs. This year the cockerels in my breeding pens are from hens with official records of 251 to 298 eggs, their sire dam 317, 21 of these males are from the high hen. See my records in three last Santa Cruz contests 2009-2112-2185 for pen of ten hens, chicks from these matings will make layers and payers. January price 20 cents, February 17½ cents, and 15 cents for following months. Order quickly. Twenty-five per cent deposit when ordering. Cockerels for sale $5.00 and up. W. J. Neef, Martin Blvd., Santa Cruz, Calif.

**For Sale**—Mission Bell Strain S. C. R. I. Red Cockerels, Dark show quality from heavy egg laying hens. As fine a bunch of cockerels as there is in the state. Hatching eggs $3.50 and $5.00 setting, delivered. Fertility guaranteed. Visitors welcome. Correspondence solicited. H. E. Barber, 1235 Laurel Avenue, Hollywood, California.

**Order Your Baby Chicks Early.** You will sure get plenty of eggs if your chicks come from Webb's Cackle Farm. Not a new one in the business but for 12 years Santa Cruz' largest breeder and hatcher of single comb White Leghorns. 2700 choice hens mated this season. Our stock is open for inspection at all times. 227 Parkway, Santa Cruz.

**Newton Poultry Farm**—White Leghorn Baby Chicks from our well known carefully selected stock. Best strain. Big plant. Order now for Spring delivery. Any number. Los Gatos, California, Dept. 2.

**Fine Breeding Cockerels**—White Leghorns, Tancred strain; day old chicks; hatching eggs. Member Santa Cruz Trapnesters' Assn. Write for price list. La Rita Trapnest Farm, Santa Cruz.

**Real He-Cockerels,** February hatch, Single Comb White Leghorns. Looks, breeding and vigor. Write to George G. Barker, 272 Martin Blvd., Santa Cruz.

**Los Gatos Hatchery** is now booking orders for White Leghorn Chicks. Shannon Station, Los Gatos, California.

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THE CHARLES WEEKS SYSTEM OF INTENSIVE POULTRY AND BERRY FARMS
ONE ACRE AND INDEPENDENCE
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The fine art of earning a comfortable living on one acre in California. For those who desire to dwell in sunny California without living up hard earned capital. For 18 years proprietor of the most intensive Egg Farm in the world and Founder of the Famous Charles Weeks Poultry Colony at Palo Alto, California. The Charles Weeks Poultry Colony No. 2 is now being established at Owensmouth, California, 26 miles from Los Angeles. Write for literature. Charles Weeks, Owensmouth, Calif.

**For Sale—A Money Maker.** Can be leased for oil. Fifteen (15) acres nine year old lemon orchard in perfect condition. Splendid crop on trees at present. This grove is 23 miles from the Court House in Los Angeles with two boulevards running to it. The very best of soil. Los Angeles Aqueduct Water. In the strictly frostless foothills of San Fernando Valley. Frost is unknown in this section. Ideal spot for country home and a good income. See OWNER, 1203 Loew State Building, Phone 15118, Los Angeles, California.

BUY DIRECT FROM THE OWNER
Irrigated river bottom lands in Sutter County. Rich, deep soil with a complete irrigation and drainage system. Southern Pacific Railroad and Sacramento River Transportation. Liberal terms, six per cent interest.
Sutter Basin Company,
California Fruit Building,
Sacramento, California.

**Level Irrig. Land,** plenty water; 5 to 7 cuttings alfalfa per season; Shasta County takes first prize at State Fair on prunes. Produces top quality all fruits and berries. Prices $50 to $200 per acre, easy terms. Stock, dairy and mountain ranches, all prices. No snow. G. E. Oaks, Redding, California.

**For Sale—180 Acres** in famous San Joaquin Valley. Fenced, cross-fenced, good buildings, plenty of water for alfalfa and rice. Two crops grain, wheat or barley followed by corn. Fine grape land. Will divide to suit. Write owner, C. L. Bartlett, Wasco, California.

**A Post Card will bring you a list of little** farms and chicken ranches in the famous San Gabriel Valley near Los Angeles. Fred W. Kelsey, 209 So. Rosemead Avenue, El Monte, California.

**For Sale**—20 acres bearing, 8 acres apples, 12 pears, in famous Antelope Valley Bartlett pear belt. Gravity, water, piped. Terms reasonable. Address H. J. Hammond, Littlerock, California.

**For Sale**—50 acre bearing orchard on highway near Chico; prunes and pears; easy subdivision. A good home. Levi H. Maxwell, RD. 1, Chico.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**Write C. E. Canfield,** Santa Cruz, for information on bulb, artichoke, poultry and pear lands.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## PIGEONS

**White King Pigeons** unmated pairs $3.00 mated pairs, $5.00, and Pearl Guineas $5.00. Paradise Valley Poultry Ranch, National City, Cal.

**White King Pigeons**—Selected and mated for breeding at $5.00 per pair. Orchard Lofts, Box 306, M. V. R., Oxnard, California.

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**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aaggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys**—Grape Wild Farms—Berkshires—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Shorthorns** bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Aberdeen-Angus Cattle**—Registered bulls, heifers always on hand. Everything priced to please buyer. Brook Hollow Farm, Hollister, California.

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**Ayrshire Cows and Heifers** priced right. Send for photos, prices. Redwoods Ayrshire Farm, La Honda, Calif.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

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**Registered Herefords**—Anxiety 4th strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

**High Class Jersey Bull Calves** for sale, from R of M Dams. Grant A. Brown, El Monte, California.

**Guernsey Bulls** from tuberculin free herd. Last test July 10th. J. A. Brown, Capitola, Cal.

## TURKEYS

**For Sale—Mammoth Bronze Turkeys,** Gold Bank strain. Winners for 16 years at Madison Square Gardens, N. Y. Our toms won 1st and 2nd at Hanford Poultry Show, December, 1921, and two firsts at Antelope Valley Poultry Show, January, 1922. Selected toms, $20.00; hens, $10.00. R .H. Corum, Muroc, Calif.

**For Sale—Mammoth Bronze Turkeys,** premium stock. Toms weighing from eighteen to forty pounds—hens fourteen to twenty-two, according to age. Mrs. T. D. Marshall, Laton, Calif.

**Berry's Giant Bourbon Red Turkeys.** A real Western Strain—Giants in size and wonderful color. Sweepstakes winners last two California State Fairs. Write for circulars. J. J. Berry, Oakdale, Calif.

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

**For Sale**—Fine turkeys for breeders. Toms and hens. Gold Nugget stock. C. W. Young, Route 2, box 106, Whittier, California. Telephone 7694.

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**For Sale**—Purebred Bourbon Red Toms from prize winning stock. The best in Arizona. Mrs. L. S. Grosse, Scottsdale, Arizona.

**For Sale**—Bourbon Red Turkeys of large size and good markings. Young toms and pullets, also a few yearling hens. Henry E. Hill, Route C, Box 132, Hanford, Calif.

**Bourbon Red Turkeys** from prize winners. Pairs or trios not related. Mrs. John Bernstein, R. A. Box 109, Hanford, Calif.

**Bourbon Red Turkeys,** Red Carnauex pigeons. Mrs. George T. Smith, Hardwick, Calif.

**For Sale—Bourbon Red Turkeys**—order before holidays. Mrs. R. E. Stevenson, Visalia, Calif.

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**Wanted—Men with cars in each California County** to represent established farm paper selling and collecting. Turn your spare time into money working part or all time. To responsible persons liberal guarantee, good territory and promotion. Write California Cultivator, 317 Central Avenue, Los Angeles.

**Want Dairy Ranch in San Joaquin Valley,** west side preferred. Will trade my 53½ acre ranch with 1800 head Tancred layers, producing splendid income. Excellent poultry equipment. Modern six room house, city water, electricity. Will give or take difference. W. F. Vernor, 121 LaFonda Ave., Santa Cruz.

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## HORTICULTURAL PRINTING

**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St. Los Angeles

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**Milk Goats Cheap**—One or carload. Robert Osborne, Campo, California.

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trawberries—38,000 standard boxes per acre within eight months after planting rom Hewitt's superior quality Mountain rown Everbearing plants. Guaranteed to ear full crop first year or money back. lso Banner, Carolina, Ettersburg, Everearing Raspberry and other varieties. escriptive folder telling how to grow uch record breaking money making crops nd price list on request. Carl N. ewitt, Summit, California.

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Hulless Barley—You buy pedigree stock because it pays, why not give your grain field the same chance The odds are even greater than in stock. McNeely's Hulless Barley will prove it o you. Chas McNeely, Alpaugh, California.

Strawberry Plants—Passed thorough inspection. Gold Dollars, Magoons, Oregons, 5.00 per 1000 f. o. b. Special offer 00 for $1.75, prepaid. Progressive Everbearing $1.50 per 100, prepaid. J. W. Vinacke, Aurora, Oregon, R. 1.

Write For Prices on fourteen different samples of alfalfa seed for your trial plot and free circular telling how each kind behaves under California conditions BOMBERGER SEED COMPANY, P. O. Box 986, Modesto, California.

Raspberry Snell Has It. The wonderful Giant everbearing Red Raspberry LaFrance. Many of the berries are one inch in diameter, delicious flavor. Order your plants now from Ralph L. Snell, Mountain View, California.

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Best D. Lotus seed for Japanese Persimmon stock, also choice budded Japanese persimmon trees. It will pay you to write me today. Fred W. Kelsey, El Monte, Cal.

For Sale—Rooted grape vines. Thompson Seedless, Muscat, Malaga, Tokay and others. Inspected, no dipping required. $40.00 per thousand. Sunset Ridge Nursery, box 625, Pasadena, California.

Carolina Strawberry Plants for fall planting. The most prolific and best berry. Gives crop the first year. For sale in large quantities. Write for prices. G. M. Hawley, El Cajon, Route No. 2.

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Cory Blackberry, Raspberry, Loganberry and Banner Strawberry Plants. Special November prices. PURE BERRY PRODUCTS CO., Palo Alto, California.

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We Carry a Complete Stock of Vegetable, Flower and Field Seed. Turlock Seed Company, Turlock, California.

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Greenwood Farm Durocs—An especially good lot of spring boars. Witherow & Stafford. Live Oak, California.

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Order Your Trees Now. We have a large stock of fruit trees of all varieties including Philips and Tuscan cling peaches, Bartlett pears, cherries, plums and prunes, etc. Also all kind of grape vines, ornamental trees and berry bushes. Burke's Nursery, 100 East Lodi Avenue, Lodi, California.

Grafted Walnut Trees on Northern California Black Roots. Placentia Perfection, Eureka and Payne. Tuscon, Phillips and Lovell Peach Trees. Stock first-class. Prices reasonable. Los Nietos Valley Nursery, Downey, California Phone 692.

Fruit Trees and Grapevines—Still have unsold few varieties grapes grafted on resistant root. We ship all stock on approval, if not entirely satisfactory return at our expense. Write for our special prices. J. F. Miller & Sons, Healdsburg, California.

California Black Walnut Seedlings, three-four feet. Send for sample. Ripon Nursery Company, French Camp, California.

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Trees and Plants—All kinds, Berries and Small Fruits a specialty at lowest prices. Over 25 years in business. Send for price list. M. J. Moniz, Berry Specialist, P. O. Box 264, Sebastopol, California.

Citrus Trees — 1500 Marsh Seedless Grapefruit trees. 1500 Washington Navel Trees, 2500 Valencias, 500 Eureka Lemon. "Fruit Growers Supply Co. Buds used." F. A. Tetley & Son, Riverside, California.

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5000 Grafted Walnut Trees on Northern California Black Root Stock, Placentia Perfection and Eureka varieties. Reasonable prices. F. A. Tetley & Son, Riverside, California.

For Sale—Grafted Walnut Trees for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

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For Sale—Hachiya Persimmon Trees, grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.

Palms—Washington Robusta, Phoenix Canariensis. All sizes—Reasonable. F. A. Tetley & Son, Riverside, California.

Hachiya Persimmons—Wonderful Pomegranates. Circular. Sherwood Persimmon Nursery, Fullerton.

Hachiya Persimmon Trees on lotus roots. Select buds, free from disease. Alcorns Nursery, Fullerton, California.

Trees of Quality on 3 year roots. Cash Nursery, Sebastopol, California.

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New Combination Cement Anchor Post. Light, strong, durable, simple, attractive and inexpensive. Write for circulars and free offer. S. W. Hinckley, Patentee Lincoln, California.

Tobacco—Select 3 year old Kentucky Leaf. Pay for tobacco and postage when received. Five pounds smoking, $1.25; 5 pounds chewing, $1.50. FARMERS' UNION, Hawesville, Ky.

Canco Spray Material. Absolute control for mealy bug, Black Scale, San Jose Scale, etc. Write for circular. Aurora Seed Mill, Stockton, California, distributors.

Natural Leaf Tobacco. Chewing 5 pounds $1.75, 10 pounds 3.00; Smoking, 5 pounds $1.25, 10 pounds 2.00, 20 pounds $3.50. Pay when received. TOBACCO GROWERS UNION, Paducah, Ky.

Hemstitching and Picoting Attachment; fits all sewing machines. Price $2.00 Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

4 Lbs. Salmon Bellies and 3 lbs. absolutely boneless Codfish delivered by mail, prepaid, $2.00. Sixth zone and beyond, $2.25. Coffin Fish Co., Seattle, Wash.

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For Sale—Registered Percheron Stallion. "Avelene 11" Kentucky bred saddle stallion "Jack Rogers" and three saddle horses (two geldings and one mare). Also three registered Jersey bulls by "Merry King Pogis" and five young Hereford bulls (Repeater strain) all ready for use. These can be seen at the ranch which is seventeen miles north of Santa Barbara on the main highway or particulars can be had through the mail on application to the Secretary. DOS PUEBLOS RANCHO, Naples, Santa Barbara County, California.

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For Sale Windmill, Tanks, Pump Cylinders
Another Cut
On Aeromotors, 8-ft. $29.50, 10-ft. $39.50, 12-ft. $58.00. Other makes reasonable.
Few Prices
For Competitors
To Worry About
New, Galv. Tanks, 665 Gals., $26.25; 1000, $35.25; 2000, $48.25; Wagon Tanks for half. Used Redwoods, 3000, $38; 4000, $42.50; 5000, $48; 8000, $68; 12,000, $88; 25,000 $135; 50,000, $250. New Used Cylinders for Less. Demmitt Co., upstairs, 120 N. Main, Los Angeles.

Wagon tanks, new: 300, $23.25; 500, $28.25. Round, not horizontal; load on truck, not behind. One man handles, save half. Demmitt, 120 N. Main, L. A.

Having Sold Ranch I Wish to Dispose of various farm implements—Hoover potato digger, potato planter and lots of other good machinery. Also two good cows. August Peukert, 7915 So. San Pedro, Los Angeles. Phone 294455.

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## CALIFORNIA AT THE CHICAGO INTERNATIONAL

Prof. E. H. Hughes of the state university writes:

"In looking up the numbers of animals that have been sent to the Chicago International by California breeders I find that Bullard Brothers of Woodland have sent an excellent display of Rambouillet sheep that should do well at this, the biggest livestock show in this country. Straloch Farm of Davis sent three Poland China barrows that won at the California State Fair. They were big smooth barrows and in good condition. Gatewood and Stevens of Fresno sent the well known Poland China boar, Navy Boy, that was grand champion this year and last year whenever he was shown. In addition, J. D. Rowe and Sons of Davis and Thomas Harrison of Santa Rosa sent to Chicago their excellent herds of milking Shorthorns. The University of California sent seven head of fat cattle; 21 head of wethers and 10 barrows."

## PACIFIC SLOPE DAIRY PRODUCTS SHOW AWARDS

First prize for county display at the big show held in Fresno, November 13-18, was won by the display prepared jointly by the San Joaquin County farm bureau and the Stockton chamber of commerce.

Prizes in the various classes follow:

Cheddar cheese—1, Christensen, Tillamook, Oregon 95; 2, Schlappi, Tillamook, 94. Entries scoring 90 or above: Christensen, Tillamook, 95; Schlappi, Tillamook, 94.5; Wendell Cooperative Company, Wendell, Idaho, 93; Barber, Tillamook, 92; Fish, Lookout, California, 91; Gamma, Adin, 91; Watson, Bieber, 90.5; Hetcher, Bieber, 90.

California cheese—1, Boise, Pescadero, 92; 2, Associated Milk Producers, Holt, 91.

Jack cheese—Gunchier, Soledad, 89.

Butter Awards—1, Lewis Pacific Dairymen's Association, Chehalis, Washington, 95; 2, Monotti-Larimer, San Francisco, 94.75; 3, Valley Flower Cooperative Creamery, Ferndale, 94.5. Other entries scoring 92 per cent or better—Petaluma Cooperative Creamery, Petaluma, 93.2; Hollister Creamery, Hollister, 93; Visalia Cooperative Creamery, 93; Riverdale Cooperative Creamery, 93; East Bay Creamery, Oakland, 92.5; Imperial Valley Milk Producers' Association, El Centro, 92.5; Cottonwood, 92.5; Eugene Farmers' Creamery, Eugene, Oregon, 92; Albany Creamery, Albany, Oregon, 92.

Ice Cream, Vanilla—1, Benham, Fresno, 97; 2, Sierra, Fresno, 96; 3, Gloria, Stockton, 95.

Ice Cream Catering—1, Globe, Los Angeles, 97; 2, Venus Inc., Oakland, 95; 3, Hughes, Los Angeles, 94.5.

Market Milk, Pasteurized, (24 entries)—City Dairy, Pomona, 98.4; Long Beach Dairy and Creamery Co., Long Beach, 98.3; Mutual Dairy, Los Angeles, 97.9.

Certified milk, (6 entries)—Ideal Certified Dairy, Burbank, 98.9; Sleepy Hollow Ranch, San Anselmo, 98.6; Arden Dairy, El Monte, 98.2.

Goat milk, (2 entries)—J. Winans, Los Angeles, 94.5; Fresno Goat Dairy, Fresno, 92.8.

Market cream, raw, (4 entries)—Brant Rancho, Owensmouth, 97.2; Hoy and Hoy, Healdsburg, 95.9; El Mirador Dairy, Pasadena, 94.4.

Market cream, pasteurized, (7 entries)—Dairy Delivery Co., San Francisco, 95.6; Farmers Dairy Products Association, Fresno, 95.6; Mutual Dairy Association, Los Angeles, 94.0.

Cream for manufacturing, (8 entries)—F. L. Irro, Hanford, 78.7; Goularte and Carerrom, Hanford, 78.7; Goularte and Cardoza, Hanford, 76.4.

Dairy inspectors, (7 entries)—Los Angeles City Health Department, Dr. W. M. Veit, chief inspector, Los Angeles, 98.1; Charles R. White, dairy inspector, Tulare County, Tulare, 97.3; W. McGinness and C. M. Lawrence, inspectors, department of public health, Fresno, 96.94.

Milk awards, (market milk raw)—(44 entries)—Brant Rancho, Owensmouth, 99.0; El Mirador Dairy, Pasadena, 98.6; Holland Dairy, Fresno, 98.5.

# Veterinary

**Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.**

### Dog Eats Eggs

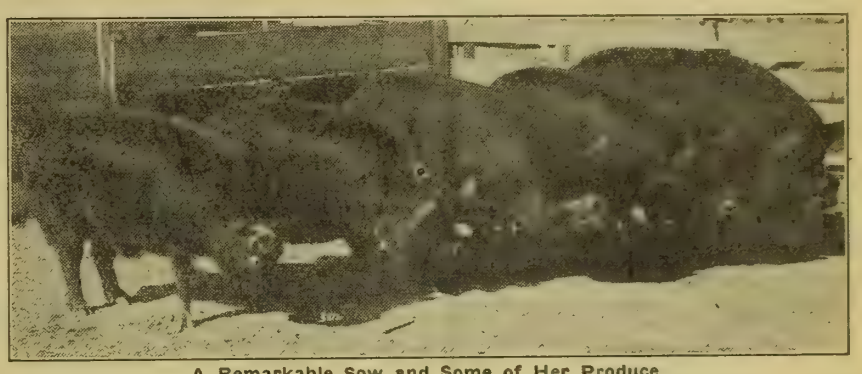
I wonder if you could give me a good remedy to break a pup from eating eggs. We have tried everything we know and have failed.—Subscriber, Calexico.

Dogs have been broken of eating eggs by taking a rotten egg and showing it to the dog and then putting it in his mouth and pressing his jaws together so the egg will be crushed. Another way that has worked well is to take a good egg and make a hole in the end and draw out part of the contents. Then put a quantity of red pepper in the egg and seal up the opening with some chewing gum. Be careful and do not get any of the pepper on the outside of the egg. Shake the egg so the pepper will be well mixed with the contents and place it in a hen's nest where the dog is in the habit of getting eggs. He will find it and try to eat it. One such egg will probably cure him as a dog has a good memory.

### Fresh Cow Sick

Cow came fresh, stopped eating, nearly went dry, won't eat enough What can be done to get her back on her feed and resume milk flow?—Subscriber, Ramona.

With no more information than is here given we can only suggest that a bitter tonic may help some. We would suggest giving her this which you can get of your druggist: One ounce of aloin, six ounces of turpentine and one quart of raw linseed oil. Mix and divide into four doses. Give one dose once a day as a drench. Follow up with these powders: powdered gentian, four ounces; nux vomica, two ounces; bicarbonate of soda, four ounces; corn meal, eight ounces. Mix and divide into 16 powders. Give one powder in the feed once a day.



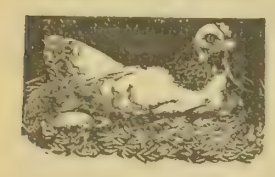
**A Remarkable Sow and Some of Her Produce**

The big sow on the right is Violet's Festline, a most remarkable Berkshire owned by the Italian Vineyard Company of Guasti. This sow has been shown 11 times, including the recent show at Portland, and has been grand champion every time, and nine times has been a member of the first prize aged herd. The four progeny have been heavy prize winners in their classes and at Portland were first prize produce of dam and first prize get of sire as well.

The Lincoln Fruit Growers Association has rented its packing house to the Stewart Fruit Company of Oroville. New equipment has been installed and the plant is now operating on new crop Navels.

# A New Discovery Makes Hens Lay

Any poultry raiser can easily and quickly double his profits by doubling his egg yield through the remarkable discovery of M. B. Smith, a Kansas City chemist.



Working along entirely original lines, Mr. Smith discovered why hens lay less in winter than in summer and perfected a formula that turns loafers into layers and profit makers.

Within five or six days this discovery, which is called Ditto Egg Tablets, will rejuvenate your flock. Your hens will go strutting and cackling about with red combs and full of life and pep. Every nest will yield an egg nearly every day in the week, which means a lot, since eggs are certain to sell for 60 cents or more. This is not guess work as over 100,000 successful poultry raisers testify to the value of Mr. Smith's products.

Although different from anything you ever heard of, Ditto Egg Tablets are easily administered by simply dropping in drinking water.

So confident is Mr. Smith you can double or triple your egg yield, that he offers to send two large $1 packages of Ditto Egg Tablets (enough for a season) to any reader who will write for them. If you are satisfied they cost only $1 on this introductory offer, otherwise, nothing.

Send No Money—just your name and address to M. B. Smith, 1217 Coca Cola Bldg., Kansas City, Mo. The two $1 packages will be mailed immediately. When they arrive, pay the postman only $1 and postage. Use the tablets 10 days. If you are not getting more eggs or are not satisfied for any reason, simply return unused tablets and your money will be returned immediately without question. A big Kansas City bank guarantees the reliability of this offer. Write today before this introductory offer is withdrawn, as you can sell one package to a friend and thus get your own free.

## Moe's Poultry Supplies

Famous Star Fountain Fits any Mason Jar. Price.....10c

Round Chick Feeders. Easily cleaned and filled. Eight hole, 15c; Twelve hole, 25c. Ask your Dealer and write for catalogue of Moe's Big Line of Poultry Yard Fixtures.

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220 No. Alameda St. Los Angeles, Cal.

## We Pay Highest Prices For Your Poultry

Will buy any quantity of turkeys
Eighteen years in the wholesale and retail poultry business.
Get our prices before you sell.

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FOR GREATER EGG PRODUCTION
CHICKENS FOR SHELL & MARKET
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SEND FOR PRICE LIST
CLAY PRODUCTS
PERMANENT PIPE FOR IRRIGATION DRAINAGE CULVERTS SEWERAGE
CROCKER BLDG. SAN FRANCISCO
WORKS—LINCOLN, CAL.

When Writing Advertisers Please Mention Cultivator.


# Final Report National Egg Laying Contest

By T. W. Noland, Director

TWELVE years ago the first egg laying contest was inaugurated at Mountain Grove, Missouri, sharing with Storrs, Connecticut, the honor of being the first in the United States.

Many changes have come to pass since that time. Egg production has gradually but steadily increased, Standard birds are more frequently found in the contest pens, and egg records show that there are high producers among all the more popular breeds. Plymouth Rocks, Rhode Island Reds, Wyandottes, Leghorns, and Rhode Island Whites have all won the honors of high pen and high hen during the 11 years of competition. The contest has always been conducted along practical lines. No methods of feeding, housing, or general management have been used that could not be practiced by farmers and poultry raisers.

In recent years the interest in this and other contests has been greatly increased by the desire for official record birds as breeders. We would like to call attention to the fact that cockerels from such birds are greatly in demand. This is partly shown by the inquiries we receive for cockerels from 200 egg hens and partly by the fact that over one-half the pens for the thirteenth contest are reserved one year before that competition is to open (November 1, 1923).

### The Contest

Pen No. 11, S. C. White Leghorns, owned by D. Tancred, Tancred Poultry Farms, Kent, Washington, won the large cup and $50 for the high pen over all breeds, with record of 1297 eggs for the year, or an average of 259.4 eggs per hen.

Hen 3, Pen 23, Barred Rock owned by G. Caball, Hudsonville, Michigan, won prize of $5 for high hen over all breeds by laying 293 eggs during the year.

The 300 hens in the contest laid 58,100 eggs during the 12 months, making an average of 193.6 eggs per hen; 134 hens making records of from 200 to 293 eggs during the year.

As practically all breeds made an excellent average production during this contest as well as in the previous contests, this indicates that most any breed of poultry can be kept at a profit when the proper feed and care are given them. The mash used during the contest consisted of the following: 25 pounds bran, 25 pounds shorts, 30 pounds corn meal, 10 pounds ground oats, 12 pounds beef scraps, and 1½ pounds fine salt. A moistened mash was fed each morning throughout the year, while a dry mash was kept in hoppers before them all the time. The grain feed consisted of 50 pounds cracked corn and 50 pounds whole wheat. The principal grain feed was given them in the evening, allowing the birds to consume all the grain they wanted. The average mash consumed per hen for the year was 41.6 pounds, at an average cost of $1.82 per 100 pounds for the year. Each hen consumed an average of 40.9 pounds of grain at an average price of $1.64 per 100 pounds for the year. All feeds were bought on the local retail market.

The total feed consumed per hen for the year was 82.5 pounds at an average cost of $1.43 per hen. Straw for litter, oyster shell, and cases for shipping eggs averaged approximately 32 cents per hen, or a total expense of $1.75 per hen for the year. The average production for the year was 193.6 eggs per hen. These eggs were sold to commission merchants at an average price of 30 cents per dozen for the year. The sale of eggs from each hen averaged $4.80, leaving a profit of $2.05 per hen for the year above the cost of feed, oyster shell, etc.

The feed ration used constitutes as nearly as possible a balanced ration, supplying the needs of the laying hen. Impractical methods, which sometimes force egg production, that cannot be followed by farmers and poultrymen in general are not used in the contest. The substantial gain in the egg yield this year is another demonstration showing the value of better breeding, practical methods of feeding and housing, and general management.

### Ten Leading Pens

S. C. White Leghorns, Washington, 1297; White Wyandottes, England, 1281; White Wyandottes, England, 1271; R. C. Rhode Island Whites, Missouri, 1206; Barred Rocks, Missouri, 1182; Barred Rocks, New Jersey, 1175; Barred Rocks, Indiana, 1149; R. C. Rhode Island Whites, Missouri, 1139; S. C. Anconas, Missouri, 1133; S. C. White Leghorns, Missouri, 1119

# Poultry Queries

(Conducted by Jean A. Koethen)

### Marketing Turkeys

Can you give me information as to marketing turkeys so as to get the highest price for them? Should I ship to commission houses or sell to local buyers? Should I dress or sell them alive? When is the price higher, at Thanksgiving or Christmas?—Subscriber, Orland.

The best way to market turkeys is direct to the consumer. This may be done by judicious advertising some time ahead and is easy if the producer happens to be on or near a highway When cost of shipping is considered there is very little difference between selling to local buyers and shipping to larger markets. Unless you can sell to your neighbors or to private consumers within a short distance you will have to sell your birds alive. Five cents a pound is usually added to the live weight price if birds are dressed. Thanksgiving and Christmas prices are usually about the same. The nearer home you can sell your birds the better, for shipping is expensive.

### Selecting Turkey Hens

Please tell me how to select turkey hens for their laying qualities.—Subscriber, Wasco.

As turkeys are bred for meat rather than for eggs fecundity is not so important as in chicken hens, but vigor is its foundation as it is with chickens. Use no turkey hen as a breeder that is not vigorous and healthy. She should also be of fair size and weight. Keep scrubs and undersized birds out of the breeding pen. Other things being equal, the hen that lays earliest is the one that will lay most eggs. The hen that begins to lay in November should be a more valuable breeder than one that does not begin till January, but remember, vigor is the first and vital test.

### Brooder for Turks

I have a 500 chick Reliable brooder. Do you know whether baby turkeys can be successfully hovered under it? —Subscriber, Wasco.

I am not acquainted with this make of brooder, but turkeys can be hovered under anything that will keep them warm enough. They seem to require more heat and longer than chicks.

### Mating Turkeys

Would you advise mating a two year old 34 pound tom turkey with 13 of his own daughters? The hens will be a year old at mating time. What constitutes inbreeding?—Subscriber, San Diego.

A successful breeder told me not long ago that she would not again use a tom that weighed over 25 pounds. This is because the hens are so often injured by heavy toms. Aside from the weight of the tom, I doubt if such a mating is desirable. The relationship is too close. Inbreeding is the mating of birds that are closely related. Theoretically tom and hens should be absolutely unrelated stock in order to produce vigorous offspring. In practice there is a good deal of inbreeding, but it is the mating of birds of different lines of the same stock rather than those closely related. That is to say, suppose this year you buy a tom of entirely unrelated blood and mate him to those 13 hens. Next year you might mate a son of one of the hens to the daughters of the others and vice versa. In this way you start two lines which gradually get farther and farther away from the parent stock and less and less related.

### Rhode Island Whites

I should like to know more about R. I. Whites. Do you think they are really superior to R. I. Reds? Where can I get hatching eggs at a reasonable price?—Lenore Hartman, Puente.

Will some one who has R. I.White eggs for hatching kindly communicate with Miss Hartman. As I am quite partial to R. I. Reds I cannot give an unbiased opinion, but I presume the Whites are just as good.

### Brooder House

We wish to build a brooder house for at least 250 chicks. Can roofing paper be used?—Subscriber, Wasco.

Tarred roofing paper makes a very good brooder house if it is of good quality and has a solid foundation of lumber. The house should face south and have large openings to admit the sun during the day and shutters or screens to use at night.

### Laying Mash

Will you kindly let me know if this is a good balanced mash for laying hens?— 18 sacks Terripe bran; 7 sacks ground barley, 4 sacks ground milo, 2 sacks cottonseed meal, 2 sacks ground bone, 5 sacks fish meal, 100

(Continued on Page 599)


# MORE EGGS NOW AT 65c A DOZEN

**Poultry Raisers Doubling Daily Egg Production Without Extra Expense**

Eggs are scarce and prices steadily going higher. Every poultry raiser can greatly increase and maintain the daily egg production of the entire flock all winter by using Imperial Egg Tonic.

All that is necessary is to occasionally drop a few of these highly concentrated tablets in the fowls' drinking water. This standard, time-tested remedy acts as a splendid tonic and blood purifier, stimulating the egg production qualities. Starts hens and pullets laying faster than ever. Every day you put off using Imperial Egg Tonic you are delaying big egg production. Start now to get your share of these high prices all winter.

## YOU CAN GET YOURS FREE

Send no money. Just your name and address to Imperial Laboratories, Dept. 5101, Kansas City, Mo., and they will send you by return mail, two regular $1.00 size packages of Imperial Egg Tonic (double strength). Pay the postman only $1.00 and a few cents' postage when they arrive. Enough for yourself and neighbor. Your $1.00 refunded on request, if not pleased, any time within 30 days.

## 100,000 Chicks Died Last Night — Roup Killed Them

That's probably true, for that means only one death to every 64 farms in America—a ridiculously small average during Roup time. Millions of chickens killed yearly by this terrible disease. Don't let Roup get a start. Stop it quickly with

(97) Conkey's The Original **Roup Remedy**

KILLS THE GERM — SAVES THE CHICKEN

Just put it in the drinking water—chickens doctor themselves. It kills the Roup germs and saves the fowl. Keep it on hand and use it for prevention. Sold by dealers everywhere.

CONKEY'S POULTRY TONIC Keeps Hens Healthy and GETS WINTER EGGS

It is a Regulator, Laying Tonic, Moulting Powder and Chick Conditioner of the highest type. No cayenne pepper—no filler. CONKEY'S POULTRY BOOK is well worth 50c to anyone who keeps chickens. Sent for 6c in stamps.

THE G. E. CONKEY COMPANY 6586 BROADWAY, CLEVELAND, OHIO

Wholesale Distributors for Conkey Remedies and Feeds
A. W. Robison Co., San Francisco, Cal.
Germain Seed and Plant Co., Los Angeles, Cal.

Poultry Supplies
Incubators
Hovers
Brooders, Feeds

# Poultrymen's Guide

The value of chickens and eggs produced in California (1919 census) was $34,727,935.00. There is poultry on 92,409 farms in the state—78.5 of all farms. January 1, 1920, poultry of all kinds on farms in California numbered 10,811,183, a gain of 4,723,916 since 1910, indicating the rapid and important development of the industry. At the present prices of eggs, hens and baby chicks and the big demand upon hatcheries for more stock it is wise to order early. The representative advertisers whose announcements appear below are recommended to prospective purchasers.

BABY CHICKS
Hatching Eggs
Breeding Stock

## The Charles Weeks System

of Intensive Poultry and Berry Farms.

### One Acre and Independence

or

### The Fine Art of Earning a Comfortable Living on ONE ACRE IN CALIFORNIA

For those who desire to dwell in sunny California without living up hard earned capital.

For 18 years proprietor of the most intensive Egg Farm in the world and Founder of the Famous Charles Weeks Poultry Colony at Palo Alto, California.

The Charles Weeks Poultry Colony No. 2 is now being established at Owensmouth, California, 26 miles from Los Angeles.

Write for Literature

**CHARLES WEEKS**

Owensmouth California

## We Guarantee 100% Fertility in All Hatching Eggs

### By Replacement of Infertile Eggs

We are now booking orders for hatching eggs and baby chicks from Emerson & Martin exhibition W. Leghorns, also the heaviest egg-laying strains in America and England. It will pay you to arrange for yours now. Make a 10% payment and know that you will have them when you want them.

Our heavy commercial egg-laying hens are mated up to males from Emerson, Martin, Tancred, Hanson of Oregon, Hollywood Farms of Washington, Barron, Ferriss and Hillview Farms of Illinois. Why don't you arrange for some of each. Let us toe punch the chicks and see which produces the type of hen you like best?

HATCHING EGGS—From Nov. 1st to April 1st, 15 for $2.00. In 100 lots, 12c each. In 500 lots, 11c each. In 1000 lots, 10c each. BABY CHICKS—January, February, March. In lots of 100, 25c each. In lots of 500, 24c each. In lots of 1000 or over, 23c each.

WE ALWAYS HAVE THREE, FOUR, FIVE AND SIX MONTHS OLD PULLETS FROM PEDIGREED, TRAPNESTED STOCK

## The California White Leghorn Breeding Farms

LANKERSHIM, CALIF., R. R. 1—Box 277

Located three miles north of Lankershim, on Lankershim Blvd., then two blocks west on Tulare St. (Tulare St. is the first street north of S. P. tracks).

You are welcome on our farms any time. Go north through Lankershim on Lankershim Blvd. to Tulare St., turn west. You can't miss it.

The Foundation for Poultry Success
PCA Dry Mash
Los Angeles

Superior in Quality. Hundreds of Poultrymen have Adopted Its Use

All Feed—No Waste

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## Just Off the Press

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Ranch located on Pacific Electric-Santa Ana Line at Hansen Station, 6½ miles west of Anaheim.
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SUPERIOR EGG FARM

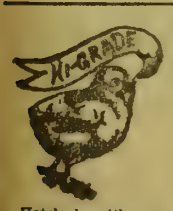
## Rose Lawn Ancona Ranch

501 S. 1st Street San Gabriel, Cal.
R F D 1, Box 149

**Stock—Eggs—Baby Chicks**

Nothing but Anconas

Blue Ribbon Egg Machines




## Baby Chicks

With Laying Strain That Live and Thrive

Hatched with our new mammoth, forced draft incubators, from pure bred, farm raised, Hoganized stock. This insures you a large fluffy chick, full of pep and grows from the very start.

We are now booking orders for 1923 delivery. Write today for our price list and reserve your delivery date. We guarantee 100% delivery anywhere within 72 hours from Long Beach. We hatch nothing but S. C. White Leghorns and S. C. R. I. Reds.

**BERK'S HI-GRADE HATCHERY**
119 W. Lincoln Ave., Long Beach, Calif.

## Pacific Coast Championship Giant Bronze Turkeys

Gold Nugget Strain
J. Will Blackman
Originator

Again prove their superiority by winning championship Gold Special Sweepstakes for both male and female at the

### Coast's Greatest Shows in 1922

Also the following awards:

**California State Fair, Sacramento, Sept., 1922:** 1st Old Tom, 1st and 2nd Yearling Tom, 1st and 3rd Yearling Hen.

**Southern California Fair, Riverside, October, 1922:** 1st, 2nd and 4th Old Tom; 3rd and 4th Old Hen; 1st, 2nd and 4th Yearling Tom; 1st, 2nd and 4th Yearling Hen; 2nd Young Tom; 1st Pullet.

**Pacific International Livestock Exposition, Portland, Oregon, November, 1922:** 1st and 2nd Old Tom; 1st and 2nd Yearling Tom; 1st Young Tom; 1st and 3rd Hen; 1st Pullet.

### An Unequalled Record

**Large Turkeys** can be raised at practically the same cost as small ones. It is in the strain. One of our toms will give you five more pounds of meat to market in all his get, besides vitality and beauty.

Toms and Hens for sale. Eggs in season. Book orders for December and January shipment as each year we are sold out early. Address:

**BLACKMAN & MUMFORD**

607 East Third Street Los Angeles, California

## "WEAVER'S REDS"

"Reds that ARE Red"

No, Weaver has not gone out of business, but has increased his capacity, hoping to be able this season to supply his old and new patrons with the same high class Laying Strain, in Breeding Cockerels and Hatching Eggs as in the past.

Prices Eggs: $3.00, $5.00, $7.50 and $10.00 per 15; fertility guaranteed. Cockerels, $10.00 up.

Visitors Welcome

2390 Lincoln Ave. E. A. WEAVER Pasadena

## THE STAR POULTRY RANCH AND HATCHERY

GARDENA, CAL., R. D. NO. 1

White Leghorn Baby Chicks, the Vigorous Kind

We hatch only eggs from our own high-producing two and three-year-old hens, which have been bred for years for heavy winter production. Our modern incubation insures strong, healthy chicks.

## WORMS

Are the most expensive enemy the Poultryman has to fight. *Barnes' Worm Emulsion* controls and assimilates this parasite. THE POULTRYMAN'S FRIEND. 1 gal. $3.00, by parcel post; 5 gal. $12.50, by freight; 10 gal. $22.50, by freight; ALL PREPAID. Our Emulsion is *Poultry Insurance, an Investment Policy.* It is a proven fact that "Emulsionized" flocks resist other poultry diseases. Send for Booklet J *S. O. BARNES & SON, GARDENA, CALIF.*

## Fanciers' Exchange

640 So. Main St.
Los Angeles

BABY CHICKS, Hatching Eggs, Pullets, Rabbits, Pigeons, Brooders, Incubators, Dogs, Cats, Birds, Pet Stock. Our prices will please you.

Established in 1910

## Holly Hatchery

Capacity 200,000 Eggs

WHITE LEGHORN CHICKS ONLY

Order spring chicks now; delivered by our Special Tan colored Auto delivery around your brooder. We have Wyckoff, Hillview, Tancred, England, Beal and other high record male lines. If you want the best in laying strains, tried out and proven for years, buy from us.

Our special egg turning trays now available in quantities at reduced prices.

We are San Fernando Valley agents for the Lyon Improved Electric Brooder and Powers gas regulator for brooder stoves and hot water systems.

I supply you with accurate information on construction and ventilation of Pride of Petaluma Brooder Houses; also carry a full line of stoves and parts.

A Card Brings Our Circulars
Visitors Welcome Except on Sunday

**B. R. HOLLOWAY, Box K-4, Van Nuys**
West Sherman Way and Saugus Ave.
Phone 144 P. E. Hanna Station

## C. R. RHYAN

Electric Hatchery and Egg Ranch

50,000 CAPACITY

White Leghorns, R. I. Reds, Barred Rocks. Also Light Brahmas from an extra fine pen.

We are hatching from the leading flocks of the famous San Gabriel Valley as well as from our own high quality flock of heavy layers.

BOOK ORDERS NOW
For HATCHING EGGS and BABY CHICKS

Write for prices and delivery dates. Visitors welcome. Ranch located at

1322 Mission Drive
R.R. El Monte, Calif.

## Baby Chicks

from heavy laying strains. They are the chicks that will lay the high priced eggs. Order now for immediate or spring delivery. We positively guarantee safe delivery of live chicks on shipments anywhere within 72 hours of Los Angeles. Our experience covers 16 years in hatching chickens. We also sell incubators, brooders, feeds and supplies at lowest prices. Write for price list.

**PIONEER HATCHERY**
320 South Spring St., Los Angeles, Calif.

# Los Angeles Markets

Los Angeles, November 28, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 50 cents.

Prices extra past week:

| | | | | | |
|---|---|---|---|---|---|
| November | 22 | 23 | 24 | 25 | 27 |
| | 49½ | 49½ | .... | .... | 50 |

### CHEESE

Brokers' prices:
California flats, 24.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 57; case count, 55; pullets, 46; pewee pullets, 30.

Prices extras past week:

| | | | | | |
|---|---|---|---|---|---|
| November | 22 | 23 | 24 | 25 | 27 |
| | 62½ | 62½ | .... | .... | 57 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 22; colored, 30; broilers, 36; roasters, 26; old roosters, 14; fryers, 26; ducks, old, 20; ducklings, Pekin, 3½ up, 26; others, 22; geese, 25; turkeys, live, young toms, 35; dr., 40; old, live, 31; dr., 36; hens, live, 34; dr., 39; small hen and tom, 15; squabs, 25@50; capons, 30@35.

Belgian hares, 12@18; old, 8.

### LIVESTOCK

Weekly summary, Saturday, November 25, 1922, furnished by Federal-State Livestock Market News Service, 1028 Pacific Finance Building, Los Angeles.

Cattle: Liberal receipts resulted in lower price scale. Beef steers declined 25 and cows as much as 50 to 75 cents during the period. Feeder steers did not suffer, due to buying orders.

The 8.00 mark was reached Thursday on a load of good 1141 pound Colorado steers. A string of good 1062 pound Orange County steers brought 8.00, weighed off cars at a local packing house, late last week. Good 1117 pound Inyo County steers Thursday scored 7.75 at the yards, a price duplicated on Wyoming bullocks. Other shipments of medium and good steers during the week ranged from 6.80 to 7.50. Common steers cleared as low as 5.75 to 6.10, with Mexicans on the cutter order at 4.35.

Strictly good 1171 pound Utah cows brought 5.60 Tuesday but 5.50 was the top Friday, this price being paid for 56 good 1026 pound Wyoming cows. Bulk of beef cows cleared from 4.25 to 5.00, with common kinds at 3.50 and canners 2.00 to 2.50. Bologna bulls cleared largely from 3.25 to 4.00.

Calves: Practically no good or choice calves arrived, bulk coming from Texas and Arizona and selling from 6.00 to 7.25. Weights ran mostly from 240 to over 300 pounds. Common culls sold as low as 5.00.

Hogs: Hog prices broke sharply, due partly to lower Eastern prices but largely to a plentiful supply in the city, the result of the easing up of the railroad car situation. Good 162 pound Utah hogs brought 10.00 Monday but 9.00 to 9.25 took bulk of good grain fed hogs Thursday. Heavy packing cows cleared from 7 00 to 8.00.

Sheep and Lambs: Active demand prevailed for the few lambs offered. Two loads of choice 86 pound Inyo County lambs sold straight for 13.75 Thursday, and 778 Utah lambs, averaging 77 pounds, brought 13.50, with 27 wethers, averaging 116 pounds, at 7.50. Two doubles of medium quality Utah lambs sold straight at 12.50.—Nelson R. Crow, local representative.

At L. A. stockyards on Monday only:

Cattle: With moderate receipts Monday, the cattle market held about steady, with some sales showing strength. No strictly good cattle arrived. A string of 100 medium quality Wyoming cattle, averaging 1077 pounds sold at 7.00 with ten out at 6.00. Two loads of medium to good quality Utah cows averaging 1022 pounds brought 5.00, with a load of 790 pound Utah heifers at 5.50. Most of the cows were sold from 4½ to 5 cents with canners as low as 1.50. A few plain Arizona stocker steers averaging around 650 pounds sold at 4.25.

Calves: Calf market showed no change.

Hogs: Hog market was very slow. Killers attempted to regain part of last week's losses, but had little success up to a late hour. A string of 278 Texas hogs averaging 177 pounds sold at 9.00, a price duplicated on 336 Utah hogs averaging 253 pounds. Several other loads of hogs had not sold up to a late hour. A few 133 pound feeder pigs sold at 9.50.

Sheep and Lambs: No fresh arrivals, the market was nominally steady

Quotations, based upon actual sales at Los Angeles Union Stockyards, follow:

Cattle: Beef steers, good grade, 7.50@8.00; medium grade, 6.75@7.50; common grade, 5.75@6.75. Beef cows, good grade, 5.25@5.75; medium grade, 4.25@4.75; common grade, 3.75@ 4.25; canners and cutters, 1.50@3.25. Bologna and butcher bulls, 3.00@4.50.

Calves: 150 to 200 pounds, good and choice, 7.50@8.50; 200 to 250 pounds, good and choice, 7.25@8.00; 250 to 300 pounds, good and choice, 6.50@7.25; over 300 pounds, 5.00@6.50.

Hogs: Good and choice grain fed Californias, 150 to 200 pounds, 9.00@9.25; 200 to 250 pounds, 8.75@9.25; 250 to 300 pounds, 8.00@8.75; over 300 pounds, 7.50@8.00; smooth sows, 250 to 300 pounds, 7.50 @8.00; rough sows, 250 to 300 pounds, 7.00 @7.50; over 300 pounds, 6.00@7.00.

Sheep and Lambs: (Full wooled). Lambs, good and choice grade, 13.25@13.75; medium grade, 12.00@13.25; ewes, medium and good, 5.75@6.50; yearling wethers, medium and good 8.50@9.50; aged wethers, 7.00@7.50.

### POTATOES AND ONIONS

These are the actual prices obtained Tuesday, November 28, 1922, furnished by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement moderate, market steady. Northerns: Rivers, 1.85@2.00; poor, low as 1.50@1.60 cwt. Idahos: Russets, 1.50@1.75. Sweet Potatoes: Locals: Nancy Halls, 2; Jerseys, 2@ 2½ lb. Northerns: Nancy Halls, 2½@3 lb.

Onions: Demand and movement moderate, market firm. Stocktons: Yellows and Browns, 2.25@2.50; Whites, best, 3@ 3.05; poorer, 2.75 cwt. Locals: Whites and Yellows, 75; Spanish, 1.00 per lug; 3.00 per cwt.

Garlic: Mex. and Northern, best, 8; poorer, 7.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, November 27, by wholesalers in their sales to retailers, pedders, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Artichokes: Doz., 1.25@1.50; small, 75@ 1.00.

Beans: Kentucky Wonders, 11@13. Limas, 6@8.

Bunched Vegetables: Per dozen bunches: Turnips, beets, 30@35; carrots and spinach, 25; parsley, onions and radishes, 15; parnsnips, 40.

Cabbage: Market steady, quality generally good. Field cr., best mostly, 2.75@ 3.25.

Cauliflower. Per doz., 1.50@1.75; few 2.00.

Celery: Movement moderate, market dull. Wide range in quality and prices. Locals: best, 2.50@2.75. Northern, 3.50@ 4.50 crate according to quality.

Cucumbers: Southern, 1.90@2.00 per flat.

Eggplant: Local, 5 lb.

Lettuce: Market steady. Locals: Ordinary, 1.00; best, 1.25@1.50 field cr.

Okra: Lb., best, small, 12@14.

Peas: Northern, lb., few best, 12@15; poorer, 8@9.

Peppers: Locals: Bells, mostly, 6; Chilis, 4½@5; pimentos, 4@5; Cherry Chili, 12@13.

Sacked Vegetables: Per sack. Beets and Carrots, 90@1.00; Turnips, 1.25@1.50.

Squash: Market steady. Locals: Summer, lugs, 1.25; Italian lugs, 1.50; Hubbard, 2@2½; Cream, 3. Banana, 2½.

Tomatoes: Demand moderate, movement slow, market dull. Local: lugs, ripe best, 1.25@1.50; poorer, 80@1.00.

### FRESH FRUIT

These are actual prices obtained November 27, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Bellefleurs fancy, 3½ tier, 1.35@1.40; 4 tier, 1.35@1.45. Utahs: Jonathans, loose, 3½@ 4½; Delicious, 6 lb. Idahos: Jonathans, loose, 4 lb. Washingtons: Jonathans, packed, extra fancy, 2@2.15; fancy, 1.75@ 2 per box. Delicious, extra fancy, 2.40@ 2.65; Yellow Newtowns, fancy, 1.65@1.75 per box. Oregons: Spitzenburgs extra fancy, 2.25 per box.

Casabas: Northern, 1.75@2.00 cwt.; local, 1.50@1.75 cwt.

Cranberries: Cape Cods: Late Howes, 18.50@19.50 per barrel; 9@9.75 per half barrel crate. New Jerseys: Late Howes, 18@19 per barrel, crates 9@9.50.

Grapes: Locals and Northerns: Muscats, 4@4½; poorer, 2@3½. Malagas, best, 4@ 5; poorer, 2@3; Tokays, 3½@4½; poorer, 2@3; Cornichons, 3½@4½; Red Emperors, 4@5 lb.

Pears: Northerns and Locals: Bartletts, best, 7@8; poorer, 5@6.

Persimmons, Lb., 9@11.

Pomegranates: Lb., 5@6.

### CITRUS FRUIT

Grapefruit: Arizonas, 64-96 sizes, 5.00@ 6.25; Imperial Valley, 6.50@7.00; Northern, 5.00@5.25 box.

Lemons: Special brands, fancy 8.00@ 9.50; choice, 6.00@8.00; market pack, 3.50@ 4.00.

Oranges: Valencias, special brands, 6.00 @7.00 according to size. New crops Northern Navels, 6.50@7.25 box.

### HONEY

(Honey same as last week.)

### WALNUTS

(Walnuts same as last week.)

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

| | |
|---|---|
| Tame Oat | 24.00@26.00 |
| Barley Hay | 18.00@20.00 |
| Rabbit Alfalfa | 26.00@28.00 |
| No. 1 Dairy | 24.00@26.00 |
| Standard Alfalfa | 18.00@20.00 |
| Wheat Straw | 10.00@12.00 |
| Barley Straw | 9.00@11.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around 24.00@26.00 as a fair average. No. 1 dairy is varying from 15.00@18.00 with 16 as a mean or average price. Standard, 10.00@12.00.

### GRAIN

Prices L. A. Grain Exchange, November 28:

Milo, 100 ton lots, December del., 2.10.

Cal. Farm Bureau Marketing Exchange reports:

Prices cwt. f. o. b. L. A. package deductible:

| | |
|---|---|
| Wheat, hard white | 2.40 |
| Wheat, soft white | 2.35 |
| Wheat, Sonora | 2.20@2.25 |
| Barley | 1.62½@1.67½ |

Milo, 2.20@2.25 f. o. b. L. A. for No. 2 or better, federal grading.

Reports from San Francisco indicate prices there running about 3.00 per ton under Los Angeles prices.

# San Francisco Markets

San Francisco, November 28, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

Extras ..... 49

Extras past week:

| | | | | | |
|---|---|---|---|---|---|
| November | 22 | 23 | 24 | 25 | 27 |
| | 40 | 48½ | .... | .... | 49 |

### EGGS

Dairy Exchange Quotations:

California Extras ..... 60

Extras past week:

| | | | | | |
|---|---|---|---|---|---|
| November | 22 | 23 | 24 | 25 | 27 |
| | 61½ | 61½ | .... | .... | 60 |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of November 25, by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers: 1 to 1¼ lbs., 33@36 per lb. 1½ to 1¾ lbs., 30@32 per lb. Colored, 28@ 30 per lb.

Fryers: Leghorn, 2 lbs., 28@30 per lb. Colored 2 to 3¼ lbs., 28@30 per lb.

Young Roosters: Colored, 3½ lbs. and up, 28@30 per lb. Staggy, showing spurs, 21@23 per lb.

Colored Old Roosters: 17@18 per lb. Leghorn old roosters: 14@15 per lb. Leghorn hens, 2½ to 3 lbs., 18@20 per lb. 3 lbs. and over, 24@27 per lb. Large colored hens, 29@31 per lb. Off stock, 27@28 per lb.

Ducks: Young, 23@25 per lb. Off stock, 15@20 per lb.

Geese: Young, 28@30 per lb. according to quality.

Live Turkeys: Old, 32@35 per lb. Spring, 38@40 per lb. Dressed turkeys, spring, 44@48; old hen, 43@47; gobblers, 40@45.

Belgian Hare: Live, 15@18 per lb. Dressed, 18@23 lb.

Jack Rabbits: 2@2.50 per doz.

Squabs: Live, fancy, 55@60 per lb. Common, 3.00@3.50 per doz. Old pigeons, 2.50 @3.50 per doz.

Guinea Fowls: Young, 8.00@10.00 per doz.

### LIVESTOCK

In reviewing conditions governing the local livestock market during the past week the Federal-State Livestock Market News Service says:

There has been practically no change in steer values this week. The arrival of several shipments of good Colorado steers showing a cost of 8 off cars here, reflects steady prices with last week's sales. Medium qualified steers from Utah, Colorado and Nevada sold steady with last week around 7.50, and some common qualified kinds turned at 6, with a few on the rough, oxenish order as low as 5.50. Very few California bullocks have arrived this week, but a few loads have been bought for early December delivery from 6.50 to 7 at the shipping point.

Fat cows are cashing from 5.75 to 6 off cars. One shipment of Colorado cows weighing around 1000 pounds went over the 6 mark, reflecting a stronger market than a week ago today. Bulls are selling from 25 to 50 cents higher than last week. Several loads this week showed a cost of from 4.25 to 4.50 delivered in San Francisco.

Feeder steers are changing hands at steady prices, mostly around 6, with an occasional sale reaching 6.25.

There has been an active demand for vealers throughout the week, with values strong to 25 cents higher than a week ago today. Two loads of good and choice lightweights cleared 8.25 off cars here and calves weighing up to 250 pounds are finding active outlet at 8.

The bulk of arrivals of lambs this week were from Nevada and Utah points and cashed at steady prices from 13.75 to 14 off cars here for good and choice wooled lambs weighing from 70 to 80 pounds. One string of choice Nevada lambs ran considerably over the 14 mark delivered here, but this was ont of line sale due to immediate needs of the local packer.

A string of Utah lambs in fair flesh weighing around 80 pounds at the shipping point cost 13.75 off cars here, and arrivals of California lambs weighing around 85-90 pounds turned from 13 to 13.50. Practically no ewes or wethers are arriving.

Cattle prices, per cwt. (delivered off cars from San Francisco)—Beef steers, good grade, 7.75@8; medium grade, 7@ 7.50; common grade, 5@6.75; beef cows, good grade, 5.75@6; medium grade, 5.25@ 5.50; common grade, 4@5; canners and cutters, 2@3.50; bologna bulls, 2.50@4.

Calves—150 to 200 pounds, good and choice, 7.75@8.25; 200 to 250 pounds, 7.50@ 7.75; 250 to 300 pounds, good and choice, 7@7.50; over 300 pounds, 5.50@6.50.

Hogs—Good and choice, grain fed, Californias, 150 to 200 pounds, 10.75@11.25; 200 to 250 pounds, 10.25@10.75; 250 to 300 pounds, 9@9.50; 300 pounds up, 8.50@9; smooth sows, 250 to 300 pounds, 7@7.50; rough sows, 250 to 300 pounds, 6@6.50; rough sows, over 300 pounds, 5@6.

Sheep and Lambs—Lambs, good and choice grades, 13.50@14; medium grades, 13@13.50; ewes, medium and good, 5.50@ 6.50; wethers, medium and good, 8.50@ 10.

### FAT HOG AUCTIONS

California Farm Bureau Marketing Association reports:

| No. Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Tulare, November 21** | | | |
| 71 | 127 | feeders | 10.40 |
| 98 | 163 | .... | 10.20 |
| 98 | 160 | .... | 10.15 |
| 67 | 187 | .... | 10.15 |
| 89 | 194 | .... | 10.10 |
| 99 | 170 | .... | 10.05 |
| 93 | 156 | .... | 10.00 |
| 30 | 227 | .... | 10.00 |
| 86 | 197 | .... | 9.85 |
| 79 | 233 | .... | 9.65 |
| 10 | 167 | .... | 9.65 |
| 20 | 312 | 290 | 7.50 |
| 1 | 430 | stag | 4.25 |
| 2 | 190 | sows | 1.25 |
| 843 hogs | | | |
| 10 cars, 54 consignors, $15,107.42. | | | |
| **Visalia, November 22** | | | |
| 96 | 161 | .... | 10.25 |
| 93 | 172 | .... | 10.10 |
| 49 | 192 | .... | 10.05 |
| 42 | 110 | .... | 10.05 |
| 83 | 203 | 100 | 10.00 |
| 27 | 237 | .... | 9.55 |
| 10 | 170 | 120 | 8.80 |
| 77 | 226 | .... | 8.25 |
| 3 | 273 | 10 | 7.05 |
| 480 hogs | | | |
| 5 cars, 21 consignors, $8,548.02. | | | |
| **Hanford, November 23** | | | |
| 26 | 64 | feeders | 12.10 |
| 57 | 123 | feeders | 10.85 |
| 99 | 163 | .... | 10.20 |
| 91 | 191 | .... | 10.20 |
| 10 | 187 | .... | 10.10 |
| 59 | 187 | .... | 10.10 |
| 44 | 163 | .... | 10.10 |
| 52 | 226 | .... | 8.70 |
| 2 | 700 | .... | 9.20 |
| 1 | 300 | .... | 9.20 |
| 4 | 435 | 40 | 7.50 |
| 29 | 326 | 380 | 6.85 |
| 1 sow | 400 | .... | 4.30 |
| 1 boar | 490 | .... | 1.50 |
| 467 hogs | | | |
| 5 cars, 44 consignors, $8,259.92. | | | |
| **McFarland, November 24** | | | |
| 95 | 170 | .... | 10.00 |
| 96 | 157 | .... | 9.80 |
| 92 | 191 | .... | 9.65 |
| 92 | 163 | .... | 9.65 |
| 74 | 181 | .... | 9.60 |
| 39 | 233 | .... | 9.50 |
| 62 | 110 | feeders | 8.00 |
| 6 | 278 | 20 | 7.00 |
| 1 stag | 440 | .... | 2.00 |
| 557 hogs | | | |
| 6 cars, 24 consignors, $9,071.18. | | | |

Totals 2,347 hogs., 26 cars, 143 consignors, $40,986.54.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Hog auctions for the coming week will be held at: Tulare, December 5; Visalia, 6; Hanford, 7; Corcoran, 8.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Rivers, 90@1.15 at wharf; Salinas, 1.75@2 cwt.; Idaho Russets, 1.40@1.60 cwt. Washington Gems, 1.40@1.50 cwt. Jobbing Rivers, 1.25@1.40. Sweet Potatoes: Merced, 1¾@2 lb. Nancy Halls, 2@2¼.

Onions: Green onions, 1.25@1.50 box. Stockton Browns and Yellows, 1.50@1.75 cwt. at wharf, jobbing price, 25@35 higher. Garlic: 4@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, November 25, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per lug, 21.00@24.00.

Beans: Kentucky Wonder and Wax, 12@15 per lb.; French, 16@20; Limas, 6@8 per lb.

Brussels Sprouts: 7@7½ lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 55@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: 1@1¾ per lb.

Cauliflower: Doz., 1.00@1.50.

Celery: Local, 2.00@3.25 cr.; 15@25 per half doz. bunches.

Chicory: Cr., 2.50.

Corn: Green, 1.50@3.00 sack.

Cucumbers: Lug, Southern, 2.25@2.50 L. A. lug. English, 1.75@2 doz.

Eggplant: Southern, lb. 8@9.

Endive: Lb., 25@35.

Lettuce: Local, best, 1.25@1.50 cr.; Sacramento fy., 2.25@3.00; So., 2.25@2.75.

Mushrooms: Lb., 20@50.

Peas: Lb., 10@15.

Peppers: Cal. Bells, 1.25@1.75 lug; Southern, 8@9; Chili, 5@6.

Rhubarb: So., 1.50@1.75 box.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 1.00@1.50; beets, 1.00@1.25; pumpkin and squash, 1.25@1.75 sk.; lb. 2.

Spinach: 7@8 lb.

Squash: Summer, 1.75@2.25 L. A. lug; Italian, 1.50@1.65 box; Cream lug, 1.75@2.00.

Tomatoes: Bay and Peninsula, 50@2.00 lug. San Diego best, 1.25@1.50 cr.; 1.50@2.00 L. A. lug. Los Angeles, 1.75@2 per lug.

### HONEY

(Honey same as last week.)

### HAY AND FEEDSTUFF

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges for switching, cartage, commission and handling expenses must be added according to conditions.) Transportation bad, scarcity and high prices for spot.

| | |
|---|---|
| Wheat Hay, No. 1 | 17.00@20.00 |
| Wheat Hay, Fair grade | 15.00@17.00 |
| Tame Oat Hay | 17.00@21.00 |
| Wild Oat and Barley Hay | 14.00@16.00 |
| Alfalfa Hay | 19.00@21.00 |
| Stock Hay | 12.00@15.00 |
| Straw | 11.00@12.00 |
| Barley, Ground | 35.00@37.00 |
| Rolled | 33.00@35.00 |
| Oats, Rolled Feed | 45.00@48.00 |
| Bran | 37.00@39.00 |
| Millrun | 39.00@41.00 |
| Middlings | 47.00@50.00 |
| Linseed Meal | 58.00@60.00 |
| Coco Meal | 34.00@36.00 |
| Alfalfa Meal | 30.00@31.00 |
| Cottonseed Meal | 51.00@53.00 |
| Molasses Beet Pulp | 44.00@46.00 |
| Milo | 45.00@46.00 |
| Corn Meal or Cr. Corn | 46.00@48.00 |
| Whole Corn | 41.00@43.00 |
| Scratch Feed | 50.00@52.00 |

### GRAIN

Prices S. F. Grain Exchange, November 21 f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 2.20@2.30; feed, 2.20@2.25. Barley Feed, 1.47½@1.52½; shipping, 1.52½@1.57½.

Oats: 1.60@1.65.

Corn: Colored Milo, 1.80@1.90; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.85@1.86.

## Snappy Notes on Livestock

**By A. L. Spellmeyer**

The reported prices of fat steers are up to 8.00 and down to 5.75, and fat cows from 5.50 down to canner cows at 2 cents, top lambs around the 13.75 mark.

Things happen like they used to happen. Those Kingman men who made range f. o. b. cars beef contract at 6.50 about two months ago had their troubles with gathering, and the butcher took 185, I am told, from the first drag, said the others were not what he expected and contracted and let the man rustle for a sale as best he could. One can't help wondering what would have happened if general markets had advanced a cent instead of declined.

I hear most of the Springerville stuff went south towards the Phoenix district and one party sold 1000 head elsewhere but left out some lots whose owners had been figuring on turning with them. One of these lots owned by Alex J. McKay and Love put them on the cars and shipped to the Globe yards Los Angeles where Mr. McKay states they will either feed or sell to grass men later when he shapes them up.

Word comes from Flagstaff that snow has tied things up and no more cattle there can be sold than already contracted.

Mr. Johnson of Wilcox states it is rather cold down in southern Arizona for this time of year but range conditions are good generally, and he expects better prices soon.

Prices on some northern cows and steers will probably discourage part of that volume for a while. If so and California has another rain soon these light grass cattle may be in better demand here in California.

In 20 years I have never seen the condition that seems to exist around California now. In 20 years I have never seen certain light cows and steers sell so low, although beef prices have been lower.

## VEGETABLE GARDEN IN NORTH

(Continued from Page 579)

Dutch in rows two feet apart on rich soil.

### Carrots

For succession sow French Forcing Chantenay and Half Long in rows 18 inches to two feet apart. They like a deep sandy loam in which a good supply of manure has been added.

### Cabbage

If strong plants of these were put out last month they should be well cultivated between the rows. There is still time to plant Early Winningstadt, Danish Ball Head or Jersey Wakefield.

### Spinach

Sow seeds of Dark Green Prickly and Bloomsdale Savoy in rows about two feet apart in well prepared soil. The New Zealand variety is also excellent as it spreads rapidly and can be cut very often.

### Asparagus

Roots of these may be secured and planted in beds which must be heavily manured. They should be planted three feet apart. The best varieties are Palmetto and Conover's Colossal.

### Berries

Still time to plant strawberries, raspberries and loganberries. The former are the most extensively grown and should be planted so they can be conveniently irrigated in rows 2½ feet apart at least 12 inches apart in the row. Banner, Brandywine and New Ettersburg, are excellent varieties. Among the raspberries are the Ranaree, Cuthbert and Superlative. They should be planted two feet apart in rows which should be at least three feet apart. Established plots should now be well dressed with manure.

### Parsley

Sow the Moss Curled very thinly in rows or broadcast on a well prepared bed.

### Radish

Sow Icicle, Chinese Winter and Giant Forcing in rows in fairly rich soil.

## POULTRY QUERIES

(Continued from Page 597)

pounds oil cake meal, 100 pounds charcoal, 25 pounds salt.—Subscriber, Glendale, Arizona.

I should omit the ground bone and half the cottonseed meal. Ground bone is not necessary for laying hens and is not contained in the mash used in the egg laying contests in this state. Cottonseed meal is not the best vegetable protein. Make it 100 pounds oil cake and 100 pounds cottonseed. Instead of 500 pounds fish meal I would use 200 pounds fish meal and 200 pounds beef scrap. This lessens the protein content somewhat but it is still high enough. It is difficult to keep hens healthy with a mash so rich in protein. With this mash you should use a scratch mixture that is at least one-third cracked corn. Make the other two-thirds wheat and barley and sprout some of the barley.

### WEATHER REPORT

San Francisco, November 25, 1922.

| Stations | Rainfall Week | Rainfall Season | Norm. | Temp. Max. | Temp. Min. |
|---|---|---|---|---|---|
| Eureka | .20 | 6.68 | 8.32 | 60 | 40 |
| Red Bluff | 0 | 7.77 | 4.90 | 70 | 36 |
| Sacramento | 0 | 3.74 | 3.11 | 62 | 40 |
| San Francisco | 0 | 6.72 | 3.53 | 65 | 47 |
| San Jose | 0 | 4.25 | 2.74 | 68 | 34 |
| Fresno | 0 | 1.11 | 1.85 | 66 | 36 |
| San Luis Obispo | 0 | 5.71 | 3.20 | 82 | 40 |
| Los Angeles | 0 | 1.62 | 2.00 | 82 | 47 |
| San Diego | 0 | .46 | 1.20 | 76 | 49 |

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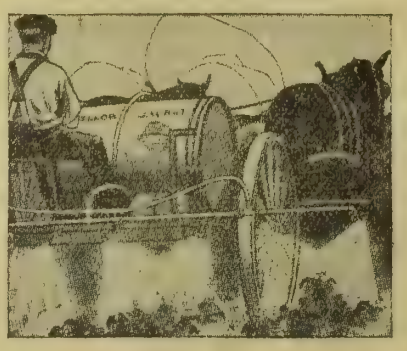

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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — December 9, 1922 — No. 24


# Recently Introduced Avocado Varieties

See Article on Page 605

Established 1877 Forty-fifth Year

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and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian. Established 1877. Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, Dec. 9, 1922

OUR ADVERTISERS RELIABLE

We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will we pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertisers.

## EDITORIALETTES

Photograph of some of the more recently introduced avocados which have come into bearing in this state is given on the cover. These fruits are: 1, Benik; 2, Cabnal; 3, Cantel; 4, Lamat; 5, Mayapan; 6, Nimlioh; 7, Pankay. These fruits are supposed to be the best, selected from 20 of the original lots secured by Wilson Popenoe of the foreign seed and plant introduction, U. S. D. A. Of these seven it is probable that No. 6, the Nimlioh, makes promise of greatest value in California. That particular fruit has grown to three pounds in weight though it is probable an average weight would be around two pounds.

* * *

F. W. Read, for the past three years chief of the bureau of standardization of the state department of agriculture, has resigned to take up on January 15 position with the California Fruit Exchange. He will be in charge of the newly created department of the exchange concerned with grading, standardization and inspection. Mr. Read is amply qualified for such an assignment since, in addition to his three years service along the same lines in California, he was for five years with the federal department in Eastern markets.

* * *

Wire comes from Chicago announcing honors to California because of the work of the livestock judging team of the Ontario Junior College. Owing to sickness of one member of the team the score for the entire team was materially lessened and eleventh place only was secured but highest honors were won by Wm. Armstrong, one member of the team, who secured first place in individual livestock judging. The International has brought judging teams from many sections of North America. Competition was fierce, and the boys deserve high honors because of their winnings.

## $6000 PER ACRE

A publication issued by one of the state's representative commercial bodies states that "some land was sold in California within the past few months at $6,000 per acre." Later it states: "It was not oil land; it was land carrying a bearing orchard." It is suggested that "that property was worth the $6,000 an acre paid for it." The article continues with many valuable tables favorable to California's high valuation and to the fact that California's climate, water and soil have a worth given to no other section of the world. The article closes with: "Therefore, when it appears that the laws of supply and demand have tagged California lands with what appear to be high prices it is a fairly good sign that the lands are paying their way even at the high prices."

We do not doubt the correctness of the statements as given in the publication but we must call attention to the abuse sometimes made of such statements. While it is true that favorably located land in the hands of a farmer of the highest intelligence, with favorable marketing conditions, may be made, and at times has been made, to pay as high as $6,000, there is an old time saying that "What has been done may be done again," and on that basis sales of real estate have been made which have led to heartaches and failures. Speculative prices which have been forced upon California lands and which result in the final burden coming upon agriculture are the cause of much unfavorable comment heard in the East.

As we said above, the figures which may be given as to productive values may be absolutely correct and yet they may be used to convey the impression that the impossible is still possible under the magic of California conditions. Let us encourage continued development by giving a living chance to the real farmer. A $6,000 an acre orchard is not everlasting. Many a real dirt orchardist has found that its profitable bearing life is all too short. It must ultimately be replaced and that must take years of time.

California has too often had its land dreams when reason was thrown aside and a wild rush made to secure at any cost a small parcel of its rich lands. We began our experience in California in the old 1886 boom, and we hope we may never see another. California's orchards are the wonder of the world in output, both as to quality and quantity. Reasonable use of this quality of ours will result in more permanent development than will overenthusiasm.

## SHOP EARLY

With Christmas coming on we are again reminded of the rush that usually occurs during the last few days preceding that date and are implored to "Shop early and avoid the rush."

The heavy demand for most all kinds of nursery stock, coupled with the very limited supply, make it imperative that those expecting to plant orchards next spring get busy and engage their stock before it is all sold or before the best grades are gone. It always pays to plant the best, and naturally that grade in all varieties is more or less limited, so that the planter who defers placing his order until planting time may be compelled to take second or third choice, and in a season like this may even have to put off planting until another year. There is nothing so disappointing as to get ready to plant an orchard, feeling sure that all you have to do is to go to your nurseryman and get what you want, and then find that he has been sold out of the variety you want for weeks and does not even know where it can be secured. You must then take some other variety, which may not be at all satisfactory or wait another year. In the meantime it is probably too late to put in any other crop and your land lies idle for the year. Besides you lose a year on your orchard.

If you expect to plant an orchard next spring, by all means secure your trees at once, then you can rest content in that respect, until planting time.

### CONVENTION BEGINS TUESDAY MORNING

Calling attention to a misprint in last week's issue George W. Ashley writes regarding the date of opening of the 55th state fruit growers convention. As noted on cover page of the same issue the convention opens Tuesday morning, December 12. Speaking of the importance of that day's program Mr. Ashley calls attention to the fact that the work of the first day of the convention has to do with transportation. The first number on the program is by Charles E. Virden, chairman of the transportation committee. Practically all of the remainder of Tuesday will be used in consideration of the transportation question. Amongst other speakers is President Sproul of the Southern Pacific.

### CALIFORNIA A LONG WINNER AT INTERNATIONAL

Wire from Chicago:

California has won on Poland China barrows under 350 pounds first, second and third; also first, second and reserve championship on pens; senior yearling Angus steer; third junior yearling Angus steer; second Hereford calf; second crossbred calf; first, also second, get of sire; champion steer herd of show; four firsts on pen of lambs, Shropshire, Hampshire, Southdown and crossbred; also champion college wether on Southdown lamb competing against reserve champion of show.—True.

## AT THE CONVENTION

It is possible the fireworks and fun which many think will attend the transportation discussion at the state convention at Sacramento next weeek will have largest place on the program. In any case it will be interesting. But we believe that effective plant and seed quarantine is the most important matter which will be presented at the convention. The only important fruit growing section of the world yet free from the most destructive of fruit flies is the North American continent. The most deadly pests affecting horticulture are the fruit flies. The worst of these is the so-called Mediterranean fruit fly, or Ceratitis capitata. This pest has spread over a large portion of the world within the last two years. Increasing commerce gives opportunity for its entrance into new fields. It is now in the Hawaiians to the west of us and the Bermudas to the east. Another fruit fly, the parent of the Mexican orange maggot, has been established for many years in southern Mexico.

California's agitation of the question and insistence on the more effective quarantine has resulted in protection to the entire country. Quarantine measures have, however, been expensive to carry out, and at the present moment there is fear that the expense factor may be given a consideration which will outweigh and the efficiency of quarantine forces be lowered. Washington is agitating an absolute fruit quarantine at all ports, and a meeting to discuss the question will be held at Washington almost immediately after the close of the state fruit growers convention. Heretofore eastern ports of this country have been open to all kinds of fruits from Mediterranean countries, the original home of the fruit fly. It has been thought that the fruit fly will not exist in a section which has the climate of New York. This may or may not be true, but it is also true that Mediterranean oranges received at New York are used in provisioning steamers that come in through the Panama Canal and dock at Los Angeles and San Francisco harbors. Only a few weeks ago one of the largest steamers entering Pacific ports showed several boxes of Mediterranean oranges in her ice box. Quarantine officers consigned them to the steamer's furnaces and no harm was done, but the question remains how long will it be until from some of these many infested sections there will be brought to us an infestation of this dreaded pest. It must be kept out at all hazards.

### PROHIBIT IMPORTATION OF FRUITS AND VEGETABLES

The secretary of agriculture has information that dangerous insects, including the Mediterranrean fruit fly (Ceratitis capitata) and other fruit flies new to and not heretofore distributed within the United States, occur in Europe, Asia, Africa, Australia, South America, Central America, and other countries, and that there is danger of bringing these pests into the United States with shipments of fruits and vegetables in the raw or unmanufactured state.

It appears necessary, therefore, to consider the restrictions or prohibitions which should be enforced to prevent the entry of such fruit flies with fruit and vegetables in the raw or unmanufactured state imported from all foreign countries and localities.

Notice is therefore given that a public hearing will be held at the department of agriculture, Washington, D. C., at 10 a. m., December 19, 1922, in order that any person interested in the proposed quarantine may appear and be heard either in person or by attorney.

# California Cultivator

Vol. LIX, No. 24 December 9, 1922 One Dollar Yearly


# The Colorado River Compact

AFTER many days of executive sessions and much of contention on the part of "Upper States" and "Lower States" the compact has been signed. The date of signing should mark a milestone in the development of the Southwest. The compact has been so variously commented on and caused such diversity of action that the best commentary as to its real meaning is the compact itself. So we give it below entire.

Selfish interests are already organizing, and the strangest part of this is that George Maxwell seems to be leading this opposition. Maxwell has spent nearly a lifetime in working for reclamation and in the interests of the National Irrigation Congress. Why he has become so active against the people's interests is a question to which there is no immediate answer.

The compact has been signed by the delegates regularly appointed to the Santa Fe meeting. It is now necessary for the legislatures of the contracting states to approve, when the governor shall notify other governors and the president. Approval is also necessary by the congress of the United States. The fight is not over but it is to be hoped that the wisdom which brought the warring factions together at Santa Fe may yet succeed in securing approval of the contract. The text of the compact is:

* * *

**Commission Pact**

**Article 1.**—The major purposes of this compact are to provide for the equitable division and apportionment of the use of the waters of the Colorado River system, to establish the relative importance of different beneficial uses of water; to promote interstate comity; to remove causes of present and future controversies, and to secure the expeditious agricultural and industrial development of the Colorado River basin, the storage of its waters and the protection of life and property from floods.

To these ends the Colorado River basin is divided into two basins, and

(Continued on Page 611)

# Greater Quarantine Efficiency or Reduction in Fruit Quality and Quantity

By C. B. Messenger

FRUIT growers of the North American continent have been all too slow in awakening. For years they slept peacefully in the belief that the pests which are devastating orchards in other states "will never come to America," and "if they do come will not exist in our climate." "If they do exist they will be readily controlled by the efficiency of American sprays and gasses." The alarm clock has gone off so many times in the past third of a century that the awakening is fairly complete, that is, so far as the fruit growers are concerned.

There are a vast number of people, including a few importers, who have not yet begun to rub their eyes, nor will they make the least effort to see the great danger confronting them. Even some of the real "back to dirt" producers have been content with the practices "followed by dad."

The jolt which Californians got because of the introduction of San Jose scale, cottony cushion scale and innumerable other pests proved sufficiently alarming that under the leadership of Alexander Craw this state started its fight on the invaders more than 30 years ago. Appeal was made to the federal department of agriculture for assistance and so far as possible it was given. The powers of the federal government, however, were limited and agitation was started which resulted in the plant quarantine act of 1912. That did not become law until 14 years of vigorous fighting gave to the people of the East sufficient realization to overcome the opposition of the importers. This fight was aided by the ravages of the brown tail and gypsy moths, and more recently, the havoc made by the Japanese beetle in New Jersey and Pennsylvania. This pest seems to be supplied with a stomach which digests the strongest of poisons, and it grows fat and multiplies. The only control so far devised is gathering the pests in buckets or washtubs of oil. Even under that treatment it has persisted in increasing, especially along roadways where it boards passing automobiles and moves to new pastures, and the spread has been with the rapidity of a prairie fire. So far as can be learned the introduction of this pest was because of the introduction into New Jersey of a large shipment of Japanese plants consigned to a nursery. The work of this pest was graphically shown in the photographs on the cover of the California Cultivator of October 7. The leaf used to make that illustration was given to me by Mr. Shaw, in charge of quarantine work in New York harbor.

The greatest danger comes from the lack of understanding of the real menace by the mass of the people and the pressure brought by the importing interests. These importers secure a measure of support from large manufacturing interests and others because of "reciprocity" in foreign trade relations. It is of vital interest to the American exporter that the European trade balance be maintained and that this be done through large receipts of foreign fruits is as agreeable to him as any other method. Take, for instance, the Mediterranean orange and lemon directly from the home of the Mediterranean fruit fly. The fruit comes to the ports of the frozen northland where it is supposed the fruit fly will not exist. The steamer in port, taking on cargo for California points, necessarily takes on ship's supplies, a large portion of which consist of fruit. These fruits come through the canal and all the way under conditions which make for preservation of the life of any pests infesting that fruit. The steamer comes into San Francisco and Los Angeles harbors and conditions are ripe for establishment of these pests in California orchards.

What is to be done about it? Educate! Agitate!

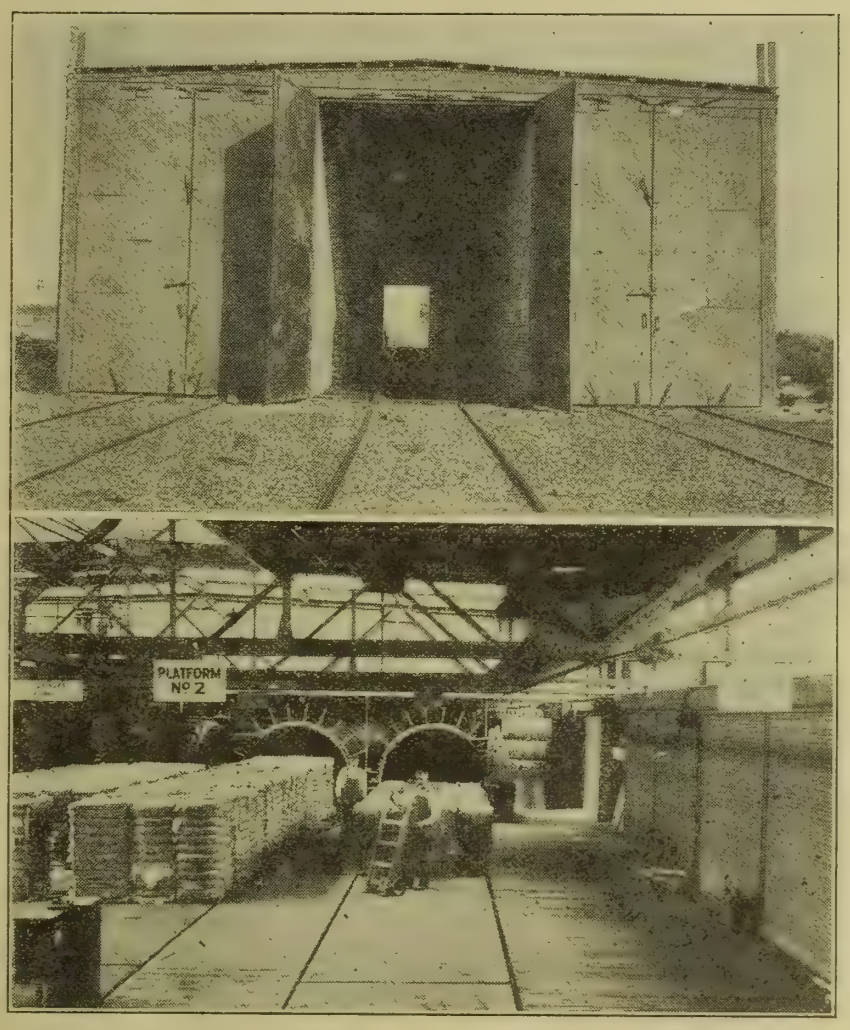
It is probable that even Californians are slow to appreciate the magnitude of the loss from these pests which should have been kept from our shores. Take, for instance, the San Jose scale which has infested orchards of this state for the past 40 or more years. It is estimated that the total loss from this pest, and largely in California, has aggregated between 200 and 300 million dollars. Citrus canker in its 13 years infestation of Florida's orchards has caused in cash appropriated by federal department of agriculture and the state of Florida and in cash value of trees burned nearly 20 millions of dollars loss. This does not take into account the loss of annual income because of orchards burned nor the disheartening effect on the industry. Then there is the Hessian fly, Argentine ant, corn borer, pine blister, chestnut bark disease, and pests almost innumerable which have cost other millions or even billions of loss. The department of agriculture at Washington has made a list of some of these and this list has already passed the total number in excess of 3,000.

So far as known none of these major pests have been introduced since the federal horticultural board has been functioning, but the efficiency of the past is not sufficient for the future for increasing commerce means increasing menace, and a greater control force, and more efficient must be employed.

It has been my privilege to observe methods of inspection and quarantine enforcement at both San Francisco and Los Angeles harbors. With an average of 10 to 20 ships a day in each of these harbors it seems to me that excellent work is being done. Greater safety, however, would be secured by the increase in number of men employed.

Knowing methods of work on this

(Continued on Page 631)




**Each the Largest in the World: The Upper at El Paso; the Lower at Boston**

Watch is kept on the boundary between the United States and Mexico at Calexico, Del Rio, Nogales, El Paso, Dorado, Eagle Pass and Brownsville. This is to prevent crossing the line by any pests which may affect American agriculture, but principally those of the cotton plant. Any car which has been used in transporting cotton or cottonseed which crosses the Rio Grande must be thoroughly fumigated before it is used for transportation in the United States. The disinfection is accomplished through the use of monster fumigation houses as shown above. There are three tracks running through the house in the upper photo, each of which are capable of carrying five cars. When the cars are set the doors at both ends are closed and clamped, as may be seen, by use of the levers at bottom and top and up and down the center. The center chamber and the one at the right may be used for five cars each while the one at the left has two movable gas tight doors so arranged that one, two, three, four or five cars may be set and fumigated in that compartment. When the doors are closed and clamped the great generators are started and the chambers are charged at the rate of two ounces to every hundred cubic feet. The cost of the fumigation is $4 per car and is paid by the shipper. This fumigator is built and kept by the F. H. B. The gentleman standing at the far end of the "tunnel" is H. H. Willis, in charge of the El Paso installation.

The lower picture gives a view showing the open end of two of the great vacuum tubes at Boston. The swung back doors, also the clamps upstanding around the circumference of the opening are plainly shown. As the big steel doors are closed after a load of cotton has been moved in on the cars on a movable platform which as may be seen is on a level with the remainder of the floor of the warehouse, the clamps are set, the big pumps started and in 15 minutes a 26-inch vacuum is obtained. Then the hydrocyanic acid gas generators are started. Six ounces of cyanide are used for each 100 cubic feet of space. The controller which operates the electric motor for the "train" is shown at the lower left corner of the photograph.

Both these photos were taken by the Cultivator camera, the lower one being especially gratifying because in order to take it it was necessary to climb up amongst the roof girders where dust and cobwebs prevailed.

# Agricultural News Notes of the Pacific Coast

## Northern California

Farmers of Lassen County are discussing formation of a milk testing association.

The Latona farm center of Shasta County will hold a dairy cow contest for three months.

The Chico board of education has decided to add a course in agriculture to the local schools.

California Certified Seed Potato Growers holds next annual meeting in Sacramento, December 13.

The olive crop in Shasta County is very light this year. Picking has been going on for a couple of weeks.

An irrigation system has been installed at Tudor, Sutter County. It will supply water to several hundred acres.

Shasta County proposes to have a land colony, or two of them, in spite of the failure of the state aid bond proposition.

Two poultry club contests will be held in Napa County the coming year. One will be an egg laying contest, the other pullet raising.

Fourteen carloads of cattle were shipped from Lincoln, Placer County, last week to Dos Palos, Merced County, for winter feeding.

Grizzly Flat, El Dorado County, reports the heaviest crop of acorns and other mountain nuts in many years, good fattening ration for sheep, hogs and goats.

F. W. Read, for three years chief of the bureau of standardization, California department of agriculture, has tendered his resignation to take effect January 15.

Schedule of Pacific Mail liners from San Francisco to the Orient has been shortened one day Necessity of quick delivery of costly silk shipments is credited with the speeding up.

[illegible]rmers of the Coloma district of El [illegible]do County shipped almost their entire crop of Lady apples to Honolulu for the Thanksgiving trade. Growers received four dollars a pear box.

Orange growers of the Fairoaks section of Sacramento County began picking Navels the middle of November, many growers planning to get their entire crop in the first pool closing the end of November.

It is announced that 5,000 standard refrigerator cars have been ordered. The total cost will be about $15,000,000. It is hoped that these cars will be in commission before the beginning of the 1923 shipping season.

There were more than a thousand forest fires in the state of California during the last summer. The total acreage burned over was 290,800, nearly all of which was government land. The damage to timber was estimated at $134,000.

Fertilizer dealers met in Sacramento recently and discussed with Chief Gray of the division of chemistry, state department of agriculture, the matter of lime, marl, gypsum and sulphur. Many dealers in these materials have hoped Chief Gray would consent to classify them with fertilizers. For the present, however, the dealers have endorsed Mr. Gray's attitude and the term fertilizer applies only to materials containing nitrogen, phosphorus or potassium.

## Central California

Effort is being made to reopen sorghum factory at Modesto.

The Tulare board of trade is backing campaign to organize a cow testing association.

Installation of equipment in the Don Pedro power plant has been recorded in picture films.

Watsonville is planning a community Christmas tree on Christmas night at the Auditorium.

The annual grape institute to be held at Fresno early in the year will last two or three days.

An organized band of chicken and turkey thieves was reported to be operating in the Turlock section.

It is expected that the Don Pedro dam on the Tuolumne River will be completed about the middle of December.

The poultry department of the Stanislaus County farm bureau plans to put on a culling and egg laying contest.

The annual grape institute held by the Sun-Maid Raisin Growers at Fresno will be announced soon after the new year.

The ninth annual poultry show of the Stanislaus County Poultry Association was held at Modesto Winter Garden, December 5-8.

The Tulare County branch of the California Cattlemen's Association will hold annual meeting and election at Porterville on January 14.

The cockerel sale at Tulare under auspices of the county farm bureau auctioned off 65 purebreds from Oregon, Washington and California.

County Horticultural Commissioner Hickman says that production of gladiolus bulbs in Monterey County the past season brought in over $7,000,000.

Manager Young of the Terra Bella-Richgrove and Grand View packing houses says this promises to be one of the most successful orange seasons.

The California Canning Peach Growers held its first annual meeting at San Francisco, December 5. Directors were elected for the ensuing year.

An expert gang of cattle rustlers at Salinas has been jailed. They have been operating for months, selling cattle to the Union Sugar Company at Betteravia.

The two units of the cow testing association in the Merced County farm bureau have under test 2475 cows. It is probable that a third unit will be formed in the spring.

A committee has been named by the Tulare County branch of the California Cattlemen's Association to work out cooperative arrangements with the Tulare farm bureau.

The Keyes farm bureau reports almost universal demand for electric power from the Turlock irrigation district. The power is generated at Don Pedro dam and will be distributed by the district.

The annual meeting of the California Raisin Festival Association will be held at Fresno, January 18. Representatives of civic organizations and chambers of commerce throughout the valley have been invited to attend.

## Southern California

The cement plant at Victorville is to be enlarged to capacity of 5000 barrels per day.

The Escondido grape board reports all bills paid and $200 on hand for next year's celebration.

San Bernardino County has plant quarantine inspector at Barstow to check up on incoming automobiles.

Seven carloads of winter produce were shipped from San Diego into the Imperial Valley for Thanksgiving trade.

Six additional plant quarantine inspectors will be stationed in Riverside County through cooperation of state and county.

The San Juan Capistrano Walnut Growers Association was burglarized, over $1000 worth of No. 1 softshells being stolen.

A sow and litter contest was started in the Ventura County Pig Club on December 2. Scoring will be made on April 15.

Manager Fatjo of the California Cattlemen's Association, zone five, announces that the office at Los Angeles was discontinued on December 1.

Water users in the Imperial irrigation district are notified that water will be cut off during repairs at Hanlon's heading from December 11-16.

A quarantine inspection station has been located at Daggett to inspect baggage of auto tourists coming in over the National Old Trails and Arrowhead highways.

Chairman Hoover and Reclamation Chief Arthur P. Davis were in Imperial Valley last week to meet irrigation district directors and go over plans for flood protection.

Negotiations are now under way between San Bernardino County officials and the Santa Fe railway company for the construction of walls for storm protection in Cajon Pass.

The Associated Chambers of Commerce of the Imperial Valley are asking the state highway commission to complete the paved road through Westmoreland to El Centro.

Vista, San Marcos, Carlsbad and other communities in that section of San Diego County are forming committees to discuss plans for securing water from the Hénshaw dam.

Randall T. Chew has been named manager of the Duarte-Monrovia Fruit Exchange. He has been superintendent of the field department of the Charter Oak Citrus Association.

Farm center meetings in Imperial County at Seeley, December 11; Westmoreland, 13; Jasper, 15; McCabe, 20; Imperial, 21; Acacia, 22; Eastside-Sunset, 26; Alamo-Verde, 27; Niland, 28; Directors, 29.

The annual duck dinner of the National Orange show management at San Bernardino last week was attended by 160. The toast of the evening was "To the Success of the Thirteenth National Orange Show."

The home department of the Imperial County farm bureau will hold meetings at Jasper, December 12; Magnolia-Mulberry, 13; Alamitos, 14; Calipatria, 15; Westmoreland, 19; Seeley-Lantana, 29; Meloland, 21; Spruce-Trifolium, 22.

## The Coast and General

Oregon potato growers are considering necessity of grading their stock before sending to market.

A new national bird reservation has been established on a 40 acre tract adjoining the elk refuge near Jackson, Wyoming.

The annual meeting of the National Association of State Marketing Officials will be held in Chicago the early part of December.

Squash raising has been unusually successful in Skagit County and squash canning is a feature of the packing industry there.

Bids for construction of highway between Morgan and Peterson in Morgan County, Nevada, will be received by the state road commission.

The world's production of all kinds of commercial cotton this year will be about 16,750,000 bales. America's production is figured at 10,135,000.

A farm bureau publicity conference will be held in Chicago, December 8 and 9 in conjunction with the fourth annual meeting of the American Farm Bureau Federation.

The second pig survey of the United States was begun by the department of agriculture on November 1. It will gather information on swine raising in all states in the Union.

An organization of purebred livestock breeders is being pushed by interested stockmen in Arizona. The first get together meeting was held at Phoenix during state fair week.

The apple crop of the state of Washington is estimated at 25,678,000 bushels. 1921 crop was over 29,000,000 bushels. The quality is estimated at 85 per cent this year against 91 last year.

Shippers at Salen, Oregon, announce that 75 per cent of the prune crop has been sold and about 50 per cent of it shipped. A larger percentage would have been shipped had it not been for car shortage.

The Coconino Sun is calling for a road connecting southern and northern Arizona before appropriating millions for a paved road from Phoenix into California which it calls "a down hill shoot out of Arizona."

The Minnesota farm bureau is pooling orders for fuel wood. Farm bureau township units in the southern prairie counties are grouping orders so that farmers in the northern wooded sections can ship carloads direct.

At a recent meeting at Flagstaff, called by the Coconino Cattle Growers Association it was decided to ask a larger appropriation for the state livestock sanitary board in order to maintain an inspector on the range a greater part of the time.

In New York City unloads of Texas onions during April and May amounted to 832 cars, and in the same period the following equivalent carloads arrived from foreign countries: Egypt 300, Bermuda 72, Chile 56, Australia 20, Argentina 16, and Mexico 8.

It is estimated that the sugar beet crop of the Yakima Valley grown on 3200 acres this year will yield as large a tonnage as was harvested from 6000 acres last year. One farmer on the reservation, A. B. Bartlett, reports harvesting 294 tons from 15 acres, an average of 19½ tons to an acre.

# New Varieties of Avocado

HE September issue of "Plant Immigrants" gives notice of the release for dissemination and propagation of a number of Pope- . Guatemalan introductions.

ny of these have been tested out in California but the United s department of agriculture states these tests have not been suffi- to prove their real worth and they planters against planting them ommercial quantities until they been more thoroughly tried out. also ask that these varieties be agated and disseminated under names given them by the depart-

ose interested may get further in- ation regarding these varieties by ng United States Department of culture, Bulletin No. 743, "The ado in Guatemala."

e attached list gives the names numbers of those varieties re- d:

ny of the avocados introduced Guatemala in 1916-17 have come bearing in California and Florida. ral of the varieties are already in rade and are being planted com- ially.

e office of foreign seed and plant duction has received numerous ries concerning the meaning of names given to these varieties. In ed States Department of Agricul- Bulletin No. 743, "The Avocado Guatemala," the statement was "In order to distinguish these ados from varieties originated in United States, names taken from of the Maya dialects have been them. Inasmuch as they come the Maya territory, this may not appropriate."

e Maya race occupied Guatemala Yucatan in prehistoric times, and developed the most remarkable enous civilization of the western sphere.

e Mayas particularly excelled in tecture and art, and they were the only race in the new world to develop a written language. Of their numerous deities, Itzamna, the creator of mankind, was held to be the chief, and Yum Kaaz, the Maize god, who is portrayed as having for his headdress a sprouting ear of corn surrounded by leaves, symbolic of growth, may well be called the god of agriculture.

From the ancient Maya stock have sprung the twenty or more tribes which today occupy Guatemala. They are agricultural peoples, intelligent and industrious. The avocado is one of their favorite foods, and is called, in various dialects, oh, okh, un, on, and so forth.

In selecting the names for the varieties introduced into the United States from Guatemala, an effort was made to choose words which would not be unreasonably difficult of pronunciation, and which would, in as many cases as possible, have appropriate meanings. Several were named for Maya deities; one for an Indian who assisted in the work of introducing them; and in half a dozen instances, appropriate names were chosen from the Kekchi dialect of the Alta Vera Paz, an important avocado growing region of northern Guatemala. Below is the list, with a word of explanation concerning the derivation of each name:

Itzamna (No. 2), S. P. I. No. 55736. Named for the chief diety of the Maya Pantheon. Itzamna was considered the father of all other gods, and the creator of mankind. He was the founder of the Maya civilization, the inventor of writing and books, and the great healer.

Lamat (No. 3), S. P. I. No. 43476. This name is that of one of the twenty days of the Maya calendar. The hieroglyph which represents it shows, presumably, the setting sun. It is also connected with the planet Venus in some way.

Kanola (No. 6), S. P. I. No. 43560. This word is used in the Kekchi language of northern Guatemala to mean "sweetheart." It may not be of Maya origin.

Ishkal (No. 7), S. P. I. No. 43602. Kekchi word, meaning "little girl." The avocado was so named because it was obtained through the aid of an Indian girl; it might be termed "the little girl's avocado."

Coban (No. 8), S. P. I. No. 43932. Named for the town of Coban, capital of the department of Alta Vera Paz in northern Guatemala, where the parent tree is growing. Coban is one of the most important Indian towns of Guatemala.

Kashlan (No. 10), S. P. I. No. 43934. A Kekchi word meaning "foreign." The parent tree stood in the yard of one Diego Muus, an Indian of San Cristobal Verapaz. It was selected for propagation, and several visits were made to secure budwood. Because of this fact, the Muus family termed the tree the kashlan oh or "foreigner's avocado," and the name was adopted for the variety when it was introduced into the United States.

Chisoy (No. 11), S. P. I. No. 43935. The river Chisoy, an affluent of the great Usumacinta, flows close by the town of San Cristobal Verapaz, where this variety was secured.

Pankay (No. 12), S. P. I. No. 44785. A coined word, from the locative prefix pan and the Kekchi word keh or kay, meaning "cold"—literally "place where it is cold." The name was applied to this variety because it came from an extremely cold region, that of Totonicapan, elevation 8,500 feet.

Nabal (No. 15), S. P. I. No. 44439. A Kekchi word (the dialect spoken in the Alta Vera Paz region), meaning "plenty, abundance." The variety was so named because the parent tree produced unusually large crops.

Nimlioh (No. 17), S. P. I. No. 44440. A Kekchi phrase, meaning "large avocado." This variety is one of the largest secured in Guatemala.

Panchoy (No. 18), S. P. I. No. 44625. A phrase from the Cakchikel dialect (spoken in the vicinity of Antigua), meaning "place where there is a lake." It is the name of the valley in which Antigua lies, and where the parent tree of the variety was found.

Hunapuh (No. 19), S. P. I. No. 44628. One of the twenty Maya day names. In the Kiche dialect it means "the one Lord of Power."

Tumin (No. 20), S. P. I. No. 44627. A Kekchi word, meaning "money." The variety was so named because it appeared to be a particularly valuable one.

Benik (No. 21), S. P. I. No. 44626. One of the glyph signs from the Maya inscription. It is taken by Brinton, the well known archaeologist, to mean "strength and deific power."

Kekchi (No. 22), S. P. I. No. 44679. Name of one of the principal Maya tribes of the highlands of Guatemala. The variety was obtained in the territory occupied by this tribe.

Mayapan (No. 23), S. P. I. No. 44680. This was the name of an important Maya city. It means "place where there are Mayas."

Kayab (No. 25), S. P. I. No. 44681. A Maya word, meaning "tortoise." It was the name given to one of the 19 months in the Maya calendar.

Manik (No. 26), S. P. I. No. 45560. One of the twenty Maya day names. The hieroglyph which represents it shows a hand in the act of grasping.

Cabnal (No. 27), S. P. I. No. 447 2. Named for Jose Cabnal, a Kekchi Indian of Coban, who assisted in the work of securing these varieties in Guatemala.

Cantel (No. 28), S. P. I. No. 44783.

(Continued on Page 606)

# Does Environment Lessen Pear Blight?

## By George C. Roeding, President California Nursery Co.

HERE is possibly no single disease of fruit trees that has of late years caused wider disaster to the coun try than pear blight; nor is one which has been more diffi- o control. For fully two decades s commanded the attention of in- gators and research workers ever pear growing has attained nercial rank. In some of the s east of the Rocky Mountains its ges have been so pronounced as to out the pear orchards over wide ; in others the cost of combating ctically rendered pear culture un- table; in still others it is only ble to keep it below the danger with heavy expense. Owing to its nce pear culture, according to the federal census, shows an appreci- decline east of the Mississippi y, while in the Rocky Mountain n and in the Pacific Coast states not without menace to the in- y. There is no state in the Union is immune; often it is more viru- in one section than another, but ere has a specific remedy been , though measures that afford relief in checking its spread more or less in evidence and if fully observed do much to main- pear culture on a profitable basis. view of these facts it is not at all surprising that pear blight was a subject of intense interest at the late State Fruit Growers' Conference held at Berkeley under the auspices of the University of California. Interesting as the discussions were, there was one important point that many failed to grasp, and that is the influence of en vironment and climate. For over 20 years it has been my observation that pear blight is almost entirely absent in the coastal regions of California, Oregon and Washington, that is, directly along the coast and inland, say, for a score of miles. The region immediately surrounding San Francisco Bay is practically free. I know of orchards in that region 40 years old that never have been affected. At Niles, in my test orchard, where I have growing and in full bearing 120 varieties of pears, including a number of trees nearly half a century old, pear blight is unknown. Similar testimony comes from other orchard owners in the same region. Prof. F. C. Reimer, in answer to my question why the disease never found lodgment along the Coast, replied he did not know, but it was a fact known to research workers that the disease was practically unknown along the Coast from Washington to California, that the area exempt to its attacks extended inland for some miles, that in this area, under certain climatic conditions, it might appear in a modified form one season, only to disappear in the next, and that the salt air seemed inimical to the disease.

### Conditions and Environments

Professor Reimer's observations coincide with my own. Pear orchards of large production are no uncommon feature in the central coastal regions of this state, and, what is of vastly more importance, they are invariably free from blight. While fruit growers' conventions are full of talks on dis eases and insect pests, one hears little of conditions and environment for the production of commercial fruits. It is a demonstrated fact that more highly colored pears are grown along the Coast than farther inland. The best colored fruit at the University Fruit Exhibit came from Monterey and Santa Cruz Counties. The Buerre Clairgeau, Buerre Bosc, Buerre d' Anjou, Doyenne du Comice, Bartlett and Forelle (Trout) were indeed beautiful to behold by reason of their high color, rendering them especially desirable for eastern shipment. In my visits to the leading pear orchards in Santa Clara, San Benito, Alameda, Sonoma, Contra Costa, Santa Cruz, San Mateo, Mendocino and Humboldt Counties, I found much the same conditions prevailing, with little or no blight in evidence. In some respects this is quite remarkable and merits consideration in relation to pear culture.

### Climate a Factor in Pear Culture

In California the four points of the compass have but little significance in defining climatic conditions. To say "northern" or "southern" California does not mean that the former is "cold" nor that the latter is "warm." Citrus fruits flourish in both regions, likewise do apples and pears. If we will consult a climatic map of the state we soon learn that there is a belt or region with an average temperature of about 52 to 56 degrees where there are few very hot or very cold days. This belt traverses the length of the coast line of the state. If Professor Reimers, after ten years of research work in trying to combat the disease, is correct in his statement as to the absence of pear blight along the Pacific Coast, our pear blight problem is at least in a measure solved.

## *Severe Frosts Are Predicted for Southland*

Heavy to killing frosts were forecast for Southern California early today in a telegram from the district United States weather observer at San Francisco received yesterday at the local weather office. The weather for today will be fair, according to the Weather Bureau data.

It is considered likely that the frosts will be confined to the valleys of the Southland. Precautionary measures by fruit and vegetable growers are suggested by the Weather Bureau, especially if the weather in the particular locality is clear. If the skies are clouded a frost is considered unlikely.

The above appeared in a Los Angeles paper December 1st.

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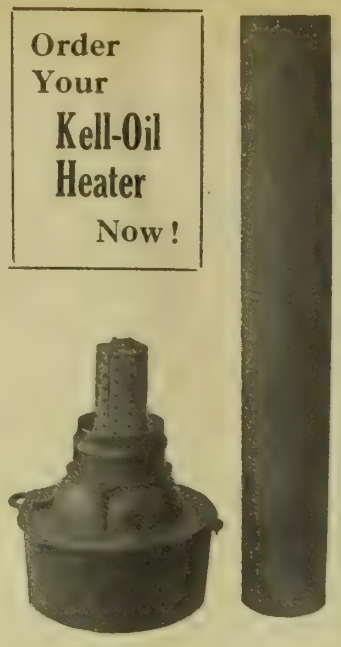

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The California Fruit Growers Exchange on November 1st estimates the citrus crop for 1922-23 at 54,686 car loads—this is about 5,461 car loads less than the actual shipments of 1920-21—the loss being attributed to the frost damage of last January.

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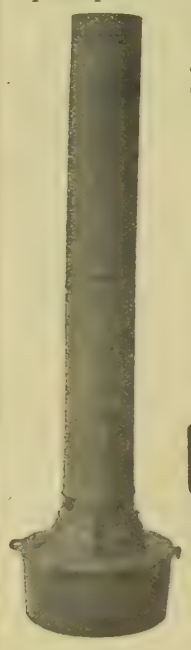

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ETC.


### NEW VARIETIES OF AVOCADO

(Continued from Page 605)

Named for the Finca Candelaria, a coffee plantation in Antigua where the parent tree was growing. "Cantel" is a corruption of this Spanish name, used by the Kekchi Indians of the Alta Vera Paz.

Tertoh (No. 30), S. P. I. No. 44856. A Kekchi word, meaning "expensive" or "costly." The variety was so named because its fruit sold in the market at a much higher price than that of any other grown in the same region. It is one of the largest fruited of the Guatemalan avocados.

Nimah (No. 31), S. P. I. No. 45078. A somewhat corrupted form of the Kekchi phrase nim-li-ha, meaning "large stream." The variety was so named because the parent tree stood close to the edge of a stream at Mazatenango.

Akbal (No. 32), S. P. I. No. 45505. One of the twenty Maya day signs, meaning "night" or "darkness."

Kaguah (No. 33), S. P. I. No. 45561. A word used by the Kekchi Indians, meaning "chief" or "master."

Ishim (No. 34), S. P. I. No. 45562. This word means "corn" (Zea mays) in most of the Maya dialects. We have thought it appropriate to use it as a varietal name for one of the Guatemalan avocados, because the Guatemalan Indians consider this fruit as useful and valuable as corn, their great staple food crop.

Kanan (No. 35), S. P. I. No. 45563. A Maya word, meaning "yellow when ripe." The flesh of this variety is of a rich yellow color.

Chabil (No. 36), S. P. I. No. 45564. A Kekchi word, meaning "pretty" or "beautiful." The fruit, though small, is unusually attractive in appearance.

### AVOCADO ABUSES

**By Ernest Braunton**

Every fruit industry has had its enemies, within and without. Even the citrus, greatest of all, has been at times sorely beset, and not always by natural enemies alone, such as insect pests and plant diseases. Man, supposedly a natural friend, has often proven an unnatural enemy, and to such an extent that he has had to be restrained by law from attempts to seriously injure the industry and therefore the interests of himself and fellow growers. One of the most drastic yet most necessary of these laws is the one that says he shall not sell or ship his oranges until they have attained a certain degree of ripeness as attested by their color and per cent of sugar.

At several conventions of the California Avocado Association various members have sought to have adopted resolutions recommending a somewhat similar law to be applied to marketing avocados. At the 1922 spring convention the present president, F. O. Popenoe, for the third time introduced such a resolution, which passed for the first time the approval of the delegates but was so amended as to render it impotent for certain benefit. Yet it was urged from necessity. For several years at varying times of the year half-grown and entirely unripe avocados have appeared on the local markets. This year has been no exception. About the first of November the writer received a letter asking him to visit a public market and inspect a lot of 60 lug boxes of "windfalls" of many varieties, some of which were stated to be but one-fourth grown, others half-grown and all in varying stages of unripeness. The visit was made, some of the fruit secured, and it still lies on the writer's desk, awaiting the day of ripening, which, alas, will never come, for the wait has now been a month. In the writer's estimation the 60 boxes of avocados were not worth 60 cents.

This is a matter that should be taken up by the directors of the avocado association as early as possible, and such action taken as lies in their power to combat and remedy this evil. If if can be ascertained who marketed these valueless fruits, he or they should be called upon for an explanation, for even a child of 15 years who knows avocados could not market such fruit with a clear conscience. If the seller or sellers hold membership in the association a promise should be exacted that such offence would not be repeated or the offender or offenders should be expelled from membership. If the directors have no such powers the matter should be acted upon, as herein outlined, at the next convention. The association cannot afford to have its members pursue such evil practices and should do all in its power to restrain outsiders from striking what are certainly deadly blows at their cherished infant industry. The injurious effects of unprincipled marketing, as evidenced by the fruits seen by the writer, call for no discussion; they are known to all growers and consumers of avocados. If such practices continue some legal restraint must be had or the rapid extension of the number of avocado consumers will receive a severe and lasting check. All interested are aware that the greatest, and nearly the only deterrent to the widespread popularity of the avocado is the sale of unripe fruit.

### ARIZONA COTTON NOTES

A meeting of the cotton growers was held in Phoenix, Saturday, November 25, to discuss the various phases of cotton culture. Director J. J. Thornber from the university of Tucson read a very interesting report on the recent cotton survey mad this section. Dr. O. F. Cook, c expert from Washington, D. C., r an interesting talk on the cotto periments being carried on at th S. experiment farm at Sacaton. C. Mote stated at the meeting tha ton seed could be imported from fornia under proper inspectio planting purposes here in the va Being able to secure this good will be a great aid to the cotton g ers. It developed in the meeting the leading varieties for planting season will be, Pima, Acala, Me Durango and Hartsville. All thes rieties have been tried out this se and farmers stated that yields ing from one-half to one bale per are being secured this year. Clo $5,000,000 worth of cotton will be duced in the Salt River Valley season.

An eminent authority on c growing in southern Arizona rec made the statement that he beli it would be but a few years unti southern part of Arizona and Ca nia would be producing 1,000,000 of cotton annually. This produ will be made possible by the ope up of the vast acreage that will e ually be put under irrigation by development of the storage pro on the Colorado River. Owi climatic conditions and the assu of production each season a fine staple is produced in the sectio the Southwest. Planting the rig riety and the best seed obtainab sures not only a greater yield bu ter profits per acre.

Hartsville, one of the long s upland varieties of cotton, so Phoenix, Saturday for 31¾ cent pound. The staple of this variety full 1¼ inches. The price of short staple varieties sold the date was 26 to 28 cents, while tions for Pima were 33 to 35 cen No. 2. More than one-half of the ton crop has been harvested an doubt with the continuance o present good weather for 30 days bulk of the cotton will be picked.


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*Chilean Nitrate Committee*
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# Persimmon Growers Gather

By Ernest Braunton

SIXTEEN named varieties of persimmons in considerable numbers and as many plates of unnamed or unknown varieties would of themselves of sufficient attraction to permon growers. Such an exhibit staged at Fullerton, Orange nty, November 24, at the first itute of persimmon growers ever in California. The 16 names the exhibits were: Dai Dai u, Fuyu (Fuyugaki), Godby's lless, Hachiya, Hyakume, Miyotan, mi, Saburosa, Shakumi, Tamopan, anashi, Tsuru, Tsurunoko, Yeddo , Yemon, Yotsuwari.

ut the attendance of 200 was much e than anticipated, as first meet- of this character are usually at- ed by a faithful dozen or so. Both ors and fruit exhibits came from ts as far away as San Diego and amento, also from Chico, Butte nty. From the latter point came . Thomas, the United States plant au's persimmon specialist, with s of all the varieties grown at the ral government's plant introduc- garden located near that city. ng these were some new seedlings romise not yet given names.

### Program

. J. R. Schofield, president of the ge County farm bureau, presided, Knowles A. Ryerson of Los An- was the first speaker. His sub- was "Commercial Experience with mmon Varieties in California." He that as yet we have no recognized ority on Japanese persimmons in country. In order to learn we have lternative but to visit bearing ards, observe closely and discuss ubject with the grower. The first ed trees to reach California came the department of agriculture at hington in 1870. There are sev hundred varieties in Japan, and confusion exists as to names, of course the names we have may ll be right. The three most com- here, in the order of their desir- y, are the Hachiya, Tananashi, Hyakume. In Placer County the is meeting with some favor. county in 1921 shipped 137 tons this year may exceed that quan- All of Southern California will roduce more than 125 tons but it all be consumed at home. Fruits in cold storage at Berkeley re- ed in good condition for periods ing from 140 to 250 days. In r County, when grafted on Amer- wild stock, the fruit sets 30 days than that on Chinese or Japanese , thus avoiding injury in case y late frosts prevail.

C. Thomas of Chico next spoke on avior of Persimmons at the Gov- ent Gardens." The first Japanese mmons to come to the United s were brought here by Commo Perry in 1856. There is a wide e in color of flesh and degree of ngency, also in number of seeds. toughest skin is that of the Tamo- and this quality makes it ideal ip. Its shape is also ideal for shipping and eating. As it is flat ed it may be turned upside down plate, a disk cut out and it is to eat with a spoon. The Fuyu yellow fleshed non astringent va- of ideal form that may be eaten, an apple, at any degree of hard- or ripeness. When hard it is of flavor but becomes sweeter as it s. In the opinion of Mr. Thomas Fuyu is the best of all for com- ial planting. The general public at eating hard persimmons, for have been used only to those that ot be eaten except when soft. But them one that may be eaten at degree of ripeness and it will ly become a favorite.

me Pertinent Persimmon Prob- was to have been treated by R. odgson, detained at home by ill- so a talk on the subject was by Mr. Ryerson. There are three tocks used for grafting upon: ese, American, Chinese. The lat- most commonly used, is also n as Manchurian, or Lotus. The Japanese is hard to grow and handle, but with a long tap root and general root system, it will grow a good tree but is the poorest of the three. There are orchards in China more than a century old budded on Lotus stock, that still are in good condition. The seeds of Lotus will keep much better if allowed to remain in the pulp until needed for planting. It is the best stock we have. In Florida it has been found to be very poor on low wet lands. But even there it is better than Japanese, and the native American is best for such soils. The latter is fairly good general stock and is not believed to be as short lived as has been reported. It is, however, slower in growth than Lotus. While root stocks are supposed to have an influence on scions nothing of the kind has been noticed in persimmons. Tamopan is always tall and slender and Hachiya always well balanced, as broad as high, no matter on what stock they are grafted. The eastern or American stock will sucker at every break of the roots. In some common varieties Hume of Florida has found trees that never bear pollen, but this is not believed to occur in California. We are not much troubled by lack of pollination, but as we have "off" years in bearing it is a matter that should be studied. The Gayley, so much used as a pollenizer, does not cover the full blooming season in California.

### Business

There was considerable discussion regarding organization, and Farm Adviser Wahlberg was made temporary chairman of a committee of five, and W. S. Rosecrans of Los Angeles, secretary. One member is to be appointed from each of the five most prominent persimmon districts: Santa Barbara, San Fernando, San Gabriel, Fullerton, Orange. This committee will meet in the near future and effect an organization of the persimmon growers in the south end of the state.

## STRAWBERRIES FOR IMPERIAL VALLEY

By J. C. Archias

The demand for early strawberries in the last few seasons has exceeded the supply and many a fortunate grower's returns from an acre of strawberries has been far more than the value of the land. Improved Klondikes are always in demand and as our season in the Imperial Valley is earlier than in practically any other part of the United States we have a very broad market with practically no competition.

Strawberries, as is commonly known, will stand many years in the original beds without replanting, and while there is some expense in thinning and cultivating it is not a crop commonly known as expensive to produce. It requires about 5000 plants to the acre.

Strawberries do well in medium to light soil and require but little fertilizing and a comparatively small expense for shook. One Japanese grower reported that he picked over 600 crates of Improved Klondike strawberries he grew the past spring, netting him an average price of $2.10 a crate, giving him $1,300 an acre returns.

A reasonable acreage up to five or ten acres should be a very safe investment for any grower. A conservative estimate would be about $75 an acre for preparing the soil, planting and the purchase price of the plants.

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Latest estimates show that the numbers of horses, sheep and swine in England and Wales have declined slightly in the last year while cattle have increased in numbers.

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The white race will continue dominant only as long as it acts white.—Pittsburgh Dispatch.

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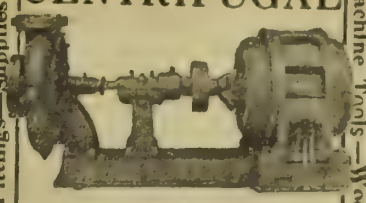
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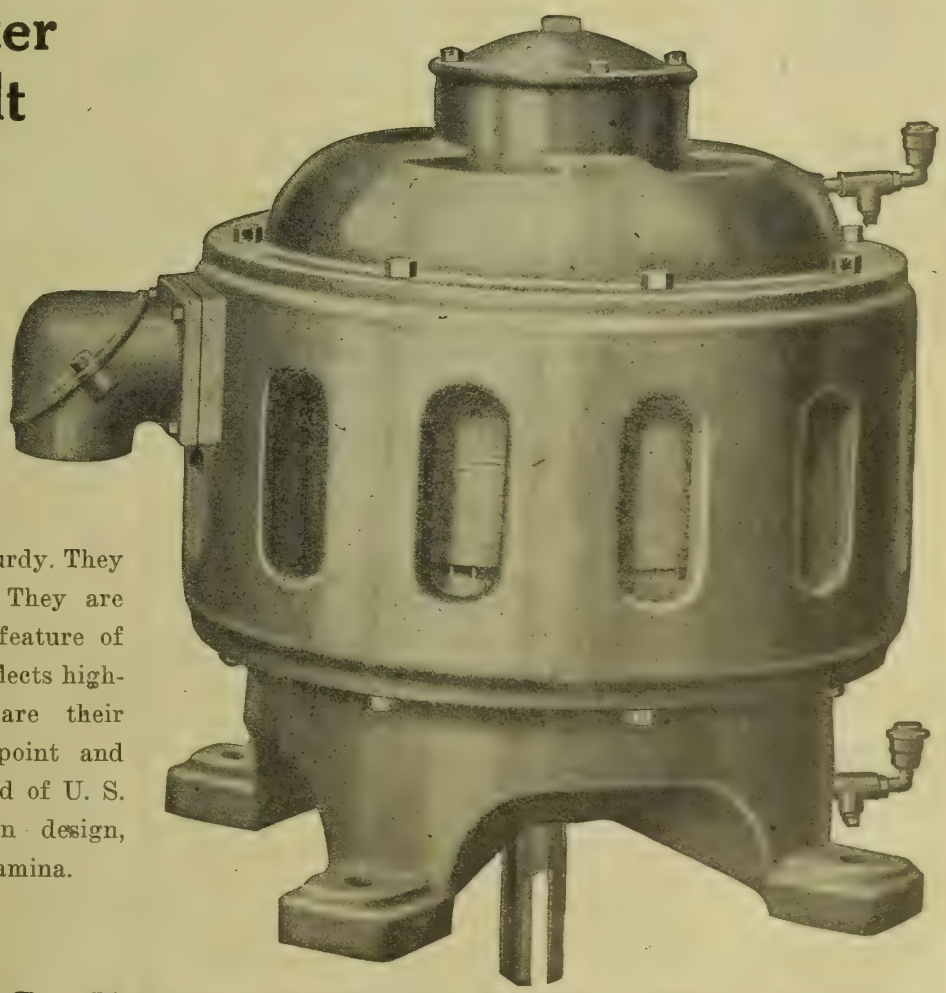
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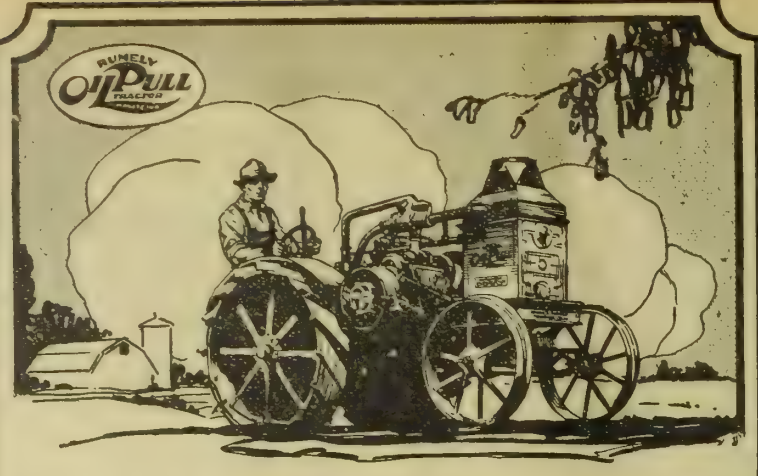


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# Peach Prices for Twenty Years

A STRIKING example of the benefits conferred upon California growers through cooperative marketing organization is shown in a recent report of the California Peach and Fig Growers. The report concerns itself with prices paid for dried fruit over a period of 20 years and shows conclusively that dried peach growers were greatly benefited by a stabilized market during the period of readjustment after the war.

Going back over the past 20 years, which covers a period having direct bearing on a large percentage of peach orchards figuring in California production, 1919 is the year in which growers received the maximum price for dried peaches. The price paid averaged 14⅞ cents per pound. That was the year when the war closed, when stocks were depleted and readjustment had not started.

From the year 1902 until the year 1915, inclusive, the average price paid to dried peach growers in California was 4¾ cents per pound. In 1915 the California Peach Growers was organized and functioned in 1916, controlling over 75 per cent of the crop. From 1916 to 1922, with the cooperative organization in command, under the same management and personnel as now features the California Peach and Fig Growers, the average price to the members has been .1011, a fraction over ten cents per pound, or an increase in average price paid of over 100 per cent. This high percentage of increase includes 1920, 21, 22, these three years featuring the most violent economic readjustments in the history of the country.

The only years in the 14 tabulated preceding the launching of the organization, when prices paid exceeded any year of the organization period, were 1906, 1907, 1911, when the shortest crops of dried peaches were harvested in the history of the past 20 years, with one exception, that of 1904.

The accompanying table shows that in only two years, the first of the organization, and the year 1921, when the violent price readjustment took place, did the price fall below the highest price paid in the 14 years preceding the establishment of the California Peach Growers. The year 1916 brought the growers a price of 6 cents per pound, as contrasted with the wholesale price quoted the trade by independent packers of that year of 5¾ cents per pound.

The showing is more remarkable when it is taken into consideration that the 1921 crop was larger than that of the two years, bringing the highest prices in pre-association days by 100 and 33 1/3 per cent respectively. Yet the price paid was only lower by approximately 12 and 18 per cent.

In addition to the strength accorded cooperative marketing by these comparative figures, the fact that each year the entire crop was sold, and often sold at a time when many other crops were allowed to spoil or went unharvested, is a big factor to be considered in favor of the cooperative organization.

In analyzing the prices paid in past years it may be pointed out that certain comparisons on tonnage and price can be made that are illuminating.

The year the association returned to the growers the highest price in the past 20 years was 1919, although it had the third largest crop harvested in that period and amounted to 35,000 tons. The only other year closely comparable was 1914 when 35,100 tons were harvested and only 4 cents per pound paid the growers by independents.

In 1917, the second year of the association, 39,000 tons were harvested and the growers paid 8¼ cents per pound. This was the largest crop in the history of the state, and the nearest approach in pre-association days to this crop was in 1913, when 37,500 tons were harvested and the growers received but 4 cents per pound.

In 1921, when business in this country was at its lowest ebb, the association marketed 21,000 tons for its members and paid them 7½ cents per pound. The only 20,000 ton year in pre-association days was in 1909 w the average price paid was 4 cents

| | Tons | Price P |
|---|---|---|
| 1902 | 22,000 | .042 |
| 1903 | 18,000 | .047 |
| 1904 | 11,500 | .062 |
| 1905 | 18,000 | .047 |
| 1906 | 10,000 | .085 |
| 1907 | 15,000 | .095 |
| 1908 | 23,000 | .045 |
| 1909 | 20,000 | .04 |
| 1910 | 25,000 | .037 |
| 1911 | 17,250 | .075 |
| 1912 | 29,000 | .045 |
| 1913 | 37,500 | .04 |
| 1914 | 35,100 | .04 |
| 1915 | 32,250 | .03 |
| *1916 | 28,000 | .06 |
| 1917 | 39,000 | .082 |
| 1918 | 20,000 | .11 |
| 1919 | 35,000 | .148 |
| 1920 | 27,000 | .122 |
| 1921 | 21,000 | .075 |
| x1922 | 27,000 | .10 |

* Year California Peach and Fig sociation assumed marketing of 75 per cent of dried peach crop.

x Estimated.

Average price paid growers 190 1916 .0475.

Average price paid growers 191 1922 .1011.

## FLORIDA CITRUS FARMS SH GOOD PROFIT

A net return of 12 per cent on average capital of $25,000 is shown a preliminary report of a survey incomes and profits of 100 fruit fa in Polk County, Florida, made by United States department of agri ture. Of the five years, 1917-21, first year was the poorest, return 4 per cent, and 1919 was the best, turning 20 per cent on the capital vested.

The average capital per farm bled during the five year period, partly to the general increase in p levels and partly to the fact that groves are comparatively young. average value of bearing gro ranged from $1,000 to about $3,000 acre, depending on age, location condition.

The farms averaged 41 acres in with 18 acres of fruit of bearing and 6 acres of non-bearing age. Of bearing acreage 10 acres were oran 7 were grapefruit, and 1 was tangeri About three-fourths of the fruit a age on these farms has been set since 1902 and most trees have yet reached maximum yield. Gr fruit was not set out extensively u 1907 and its popularity continued about 10 years. During the last years new plantings on these fa have been largely oranges and tan ines.

The average receipts per farm the five years amounted to al $6,400, of which 95 per cent was f the sale of citrus fruits. Very other crops were raised on t farms. The average cash expe and depreciation of buildings equipment amounted to about $2. Fertilizer constituted nearly one- of the total operating expense. soil and climate of Polk Cunty are adapted to the growing of citrus fr leading all other counties of the s in citrus fruit production. Numer lakes afford protection from f The groves studied are typical of cared for groves, and in the opi of department specialists making studies the returns represent what sonably could be expected from managed groves under the condit prevailing during the years cove The five year average yield per acr boxes was 148 for oranges, 165 grapefruit, and 172 for tangeri The yield in 1917 was one-third than the five year average, owin the damage caused by a high wind companied by cold weather.

The average price received per during the period studied was $2.62 oranges, $1.67 for grapefruit, and $ for tangerines. The highest price received in 1919 and the lowest 1917. The higher prices received oranges over those received for gr fruit has been an important facto the orange being favored in re plantings of new groves.

### SCALE PEST GAINS HEADWAY

The most serious outbreak of cot-ıy cushion or fluted scale (Icerya rchasi) reported in many years has en found in the Highgrove district ar Riverside. Many trees were lo-ted in which the bark on the young ·es is already splitting and bad cases gumming have started. Immedi-ely upon receiving this report Hor-ultural Commissioner A. E. Bottel Riverside County took the matter with Professor H. J. Quayle of the rus experiment station, Harry S. nith, chief of the bureau of pest ntrol, state department of agricul-re, and H. M. Armitage of the state ectary at Whittier, and an investi-tion was immediately made and en sent into the field for the pur-se of gathering natural enemies.

It is the opinion of the investigators at this dangerous outbreak is direct-traceable to the use of arsenical d other internal poison sprays. hen interviewed at the citrus ex-riment station Professor Quayle ated that the only serious outbreaks cottony cushion scale during the st several years were undoubtedly used by poison sprays killing off the mmon vedalia (Novius cardinalis) d other natural enemies of the cot-ny cushion scale, leaving the scale to ltiply without check.

The fully matured females are eas-distinguished by the large, white, ted, cottony egg masses at the pos-rior end of the red, yellow or dark own bodies, which together are from to ½ an inch long and three-fourths wide. The eggs are deposited with-the cottony mass, are oblong and of rich cardinal red. From 400 to 1000 y be laid by a single female. The ung are bright red with dusky legs d antennae and several long tail-e hairs at the posterior end. The les are small two winged red died insects with long antennae d white anal appendages.

This scale reproduces so rapidly that less checked the branches and foli-e often become so thickly infested at the plant may be greatly weak-ed or killed.

In the case reported from High-ove the trees are already showing s effect. In many instances the rk on the small twigs is badly cked and gumming already shows. Artificial control is not usually prac-ed because of the efficiency of nat-al enemies. However, in this case ere the natural enemies have been royed by the use of poison sprays, l while the cottony cushion scale is the younger stages, a fair control y be obtained by fumigation, leav-the older scale to be controlled by tural enemies.

### HEAVY YIELD OF THOMPSONS

We are having many calls asking at kind of land produces the best apes or the heaviest yield, and the ter will give the yield of an eight e vineyard grown by Walter Hout-near Fowler.

His crop of Thompsons this year on ht acres was 11,465 trays, that is ittle over 1433 trays per acre, and vines are nine years old this ing. It yielded three tons of rais-per acre the third year.

The land is very sandy, and was alfalfa before planted to vines. ere are other vineyards near this that have been manured very avily but they do not yield like the alfa land.

The vines should be planted to the ting as early in the spring as pos-le after the danger of frost is over, ich is generally in the latter part of bruary or early in March. They uld be set six feet apart in the w, the rows 12 feet apart. Rows uld run east and west so the sun n shine on the trays all day in dry-time, which it will if trays are t nearer the grape row on the north. Fowler Nursery.

### CALIFORNIA CHERIMOYAS

From reports of travels in tropical nerica it seems that cherimoyas rive as well in the warmer parts of lifornia as they do in the tropics. ilson Popenoe writes: "I found the ld forms of the fruits similar to those in cultivation in California. * * * one which I saw weighed over a pound, and specimens between three and four pounds in weight are said to have been found, though I do not have this on very good authority." A most excellent fruit of 3½ pounds weight grew in Hollywood, in the western part of Los Angeles, in 1921, on a tree receiving no care except summer irrigation.

### INTERNAL BROWNING OF YELLOW NEWTOWN APPLES

Internal browning of Yellow Newtown apples is not caused by a parasite, but seems to result from conditions within the fruit itself, according to a new bulletin issued by the United States department of agriculture and which sums up the result of four years work. The trouble is particularly serious in the Yellow Newtown apples grown in the Pajaro Valley.

This variety and some others develop a brown discoloration in the flesh of the fruit when kept in cold storage for a long season. The trouble is more prevalent following seasons of light production, and fruit from trees that produce small crops is more subject to it than fruit from heavy yielding trees. Heavy fertiliza-


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In orchards, the No. 31 is built low so that nothing will interfere with low hanging branches. It is possible to cultivate close up to the trees without damaging them.

For killing weeds and summer fallowing the additional work that can be accomplished with the five and six foot range of the No. 31 adds still further to the work that can be accomplished with the tractor.

The Oliver No.31 cultivator has a simple power lift. The power

lift as well as the screw device by which depth changes are made, are controlled entirely from the seat of the tractor. The shovels are adjustable for different width cuts. They are so spaced as to give thorough pulverization. Special irrigation shovels can be supplied for irrigation fields.

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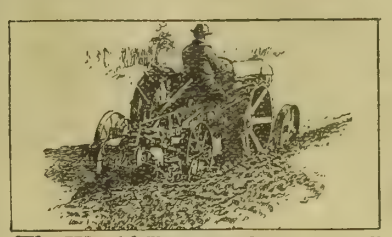

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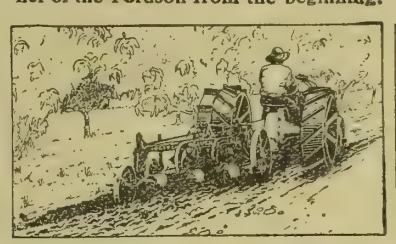

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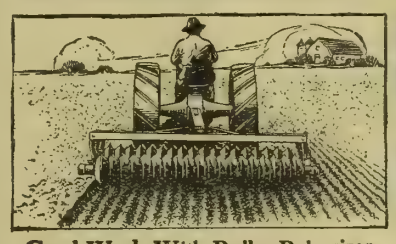

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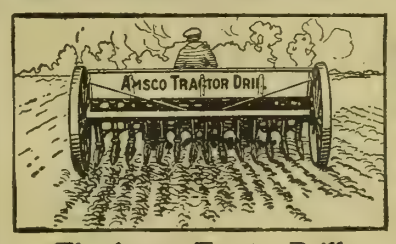


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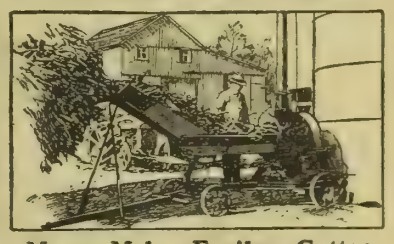

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tion with manure increases the percentage of browning, and heavy use of nitrogen fertilizer produces a marked increase in the fruit from all trees except those bearing a very heavy crop. The trouble, however, does not develop seriously if the storage temperatures are held at 36 degrees or above. It usually develops more rapidly just after the fruit is taken out of storage.

When there is a light crop of large apples serious losses may be prevented by holding at a temperature of 36 degrees or above. The danger is sl when the crop is large. In general trouble may be looked for in Ye Newtown orchards of high fertilit the California coastal fog belt wi the humidity is high and there is l sunshine.

Copies of Department Bulletin 1 entitled Internal Browning of the low Newtown Apple, may be without cost from the United St Department of Agriculture, Wash ton, D. C.

# Potato Growers Confer

By Ernest Braunton

POTATO growers from various parts of California met at the Pasadena city farm, in the San Gabriel Valley, November 28, to swap experiences and plan for the future. One paradoxical thing happened on that farm: fertilizers did not fertilize. Assistant Farm Adviser Holmes had more than 90 plots under trial in Los Angeles County and all of them gave affirmative results except those on this farm. As against the check plot where none was applied all fertilizers showed a marked decrease in yield of potatoes.

Experts from eastern points have of late been employed by Pasadena to plan for the $1,500,000 sewer plant that city is to build. These men are authorities whose word generally passes unquestioned. They stated that exhaustive studies and analyses have shown that sewage leaves but little additional food for plants in the soil. But E. D. McSweeny, who rented the sewer farm for several years, called attention to the fact that through the aid of sewage he had taken off two crops of potatoes in one year that totalled 700 sacks to the acre. Another year he obtained 40 tons of corn silage per acre. He contends, and with some reason, that so much plant food is now resident in the soil that the best fertilizers will show negative results so long as the use of sewage is continued. But one soil amendment is needed and that is a cover crop. And those who came and saw agree with Mr. McSweeny.

**Fertilizers Highly Profitable**

L. C. Holmes gave a report on the results obtained through use of commercial fertilizers on the other 90 plots, where every fertilized plot showed a marked increase in yield over the unfertilized check plots. His report had to do with such fertilizers and did not touch on the use of cover crops, straws, etc. All used carried to the soil 40 to 42 pounds of nitrogen to the acre. Those plots carrying the largest tops also yielded the heaviest crops. The average yield of the unfertilized plots was 6,381 pounds or 58 sacks of 110 pounds each to the acre. The average of all the fertilized plots was 9,699 pounds or 88 sacks to the acre, a difference of 30 sacks. It is not necessary to give the various fertilizing elements used or the results obtained. We are primarily interested in what produced the best yield. The biggest gain was had where 80 pounds of ammonia sulphate and 320 pounds of fish meal were applied. The increase over the check plots was 66 per cent. The second best results were obtained where the same amount of sulphate was used with 500 pounds of cottonseed meal. Potash and phosphoric acid were not very effective, especially on the heavier soils, though they are in eastern states. The cost of the fertilizers was from $15 to $17 an acre, for an increase of 30 sacks of potatoes. Always use deep rooted cover crops in connection with commercial fertilizers. On one local ranch there was a five acre plot of five year alfalfa to be turned under, so advantage was taken of this to show its comparative value. On the plot with no cover crop the yield was 70 sacks to the acre; on melilotus, 121 sacks; and on the alfalfa, 150 sacks.

Bert C. Bougher, superintendent of the "Crown City Farm," said he had found Melilotus Indica the best cover crop. He has arranged, for the benefit of his guests, a fine display showing the cost, in detail, of growing an acre of potatoes. On the big Bo potato grader was a placard readi "Grading, Sorting and Hauling, $7. Then came a range of 11 farm im ments, each with a big placard sh ing the cost of operating it per a for one crop. From these we re Furrowing for irrigations, four ti at 50 cents, $2; plowing under co crops, tractors, $5, teams, $3.50; d ing, two times, at $1, $2; harrowi 75 cents; smoothing, 70 cents; 1 pounds of seed at 3½ cents, $35; ping and poisoning, 60 cents; draggi 50 cents; cultivating five times, at $5; furrowing out twice, at 60 ce $1; walking cultivator, once, $1; ging, $2.75. All these operations, e cost $109.95. Then came: 100 sa at 12 cents, $12; irrigating, se times, at $1.50, $10.50; depreciati $10; picking, $10; certification, roguing, $3; interest, $42; taxes, This makes a grand total as the c of growing an acre of potatoes $182.

**The Barbecue**

Then came the barbecued steaks a all the good things that go with the washed down with hot coffee. The was damp and chilly and the "eats" generously provided by the fa manager were deeply appreciated all. The gastronomic feats acc plished, an audience gathered in commodious and well ventilated barn for a resumption of the progra

E. D. McSweeny, chairman of potato growers department, report on the last year's work and progre He said that eight varieties had be tried but that only two could be reco mended; White Rose and Great vide, and they are about equal as crop in all ways. One other w recommended, especially for the w ter crop, the British Queen. The p season was a poor one, general though there were some marked ceptions. Travis Mings, a novice potato growing, living one mile so of El Monte, had, with the aid of go culture and barnyard manure, gro over 300 sacks to the acre.

One man at Shafter, Kern County, J. Peters, grew 250 sacks to the ac over a tract of 40 acres. Use certifi seed only; it is a mark of quality. T spring crop was left too long in t soil by many growers. It should dug quickly, as soon as ripe, especia if the weather is hot. It is not alwa necessary to spray the spring crop, b the fall crop should always be spraye Bugs, worms and other pests injur the last fall crop considerably and was not sprayed soon enough. present, marketing troubles are t most serious problem, but comple organization, taking in all the gro ers, is the only solution.

### MORE CROP, MORE FOOD

Dr. Cyril G. Hopkins, one of t world's greatest recognized authoriti on soils, said: "Any method by whi larger crops are produced without t addition of plant food must result a larger removal of plant food a consequently in a more rapid depletio of the fertility of the soil, wheth it be accomplished by crop rotatio by better cultivation, or by the use better seed. While the adoption good crop rotations, and of improve methods of cultivation and of seed s lection is always to be encourage it should not be forgotten that large crops grown by these better metho remove larger amounts of plant foo and whenever any plant food elemen becomes so depleted as to limit th crop yields, even under these bett methods of farming, then that elemen should be returned if it can be don with profit."

## COLORADO RIVER COMPACT

(Continued from Page 603)

pportionment of the use of part ie water of the Colorado River m is made to each of them with provision that further equitable rtionment may be made.

ticle 2.—As used in this com- (a) the term "Colorado River m" means that portion of the rado River and its tributaries in the United States of America. ). The term "Colorado River r" means all of the drainage area ie Colorado River system and all erritory within the United States merica to which the waters of Colorado River system shall be ficially applied.

). The term "States of the upper ion" means the states of Colo- New Mexico, Utah and Wyo-.

). The term "States of the lower ion" means the states of Arizona, ornia and Nevada.

). The term "Lee Ferry" means oint in the main stream of the rado River one mile below the h of the Paria River.

). The term "upper basin" is those parts of the states of ona, Colorado, New Mexico, Utah Wyoming within and from which rs naturally drain into the Colo- River system above Lee Ferry also parts of said states located out the drainage area of the rado River system which are now shall hereafter be beneficially ed by waters diverted from the m above Lee Ferry.

). The term "lower basin" is those parts of the states of ona, California, Nevada, New ico and Utah within and from h waters naturally drain into Colorado river system below Lee y and also all parts of said states ed without the drainage area of Colorado River system below Lee and shall hereafter be beneficially ed by waters diverted from the m below Lee Ferry.

). The term "domestic use" include the use of the water household, stock, municipal, min- milling, industrial and other like oses, but shall exclude the gen- on of electrical power.

ticle 3.—(a). There is hereby rtioned from the Colorado River em in perpetuity to the upper i and to the lower basin, respec- y, the exclusive beneficial con- otive use of 7,500,000 acre-feet of r per annum, which shall include vater necessary for the supply of rights which may now exist.

). In addition to the apportion- t in paragraph (a), the lower n is hereby given the right to in- se its beneficial consumptive use uch waters by 1,000,000 acre-feet annum.

). If, as a matter of interna- al comity, the United States of rica shall hereafter recognize in United Sstates of Mexico any t to the use of any waters of the rado River system, such waters l be supplied, first from the waters h are surplus over and above the egate of the quantities specified aragraphs (a) and (b); and if surplus shall prove unsufficient this purpose, then the burden of deficiency shall be equally borne the upper basin and the lower n, and wherever necessary the es of the upper division shall de- at Lee Ferry water to supply half of the deficiency so recog- d in addition to that provided in graph (d).

). The states of the upper di- on will not cause the flow of the r at Lee Ferry to be depleted w an aggregate of 75,000,000 acre- for any period of ten consecu- years reckoned in continuing pro- sive series beginning with the first of October next, succeeding the ication of this compact.

). The states of the upper di- on shall not withhold water and states of the lower division shall require the delivery of water ch cannot reasonably be applied omestic and agricultural uses.

). Further equitable apportion- t of the beneficial uses of the ers of the Colorado River system pportioned by paragraphs (a), (b) and (c) may be made in the manner provided in paragraph (g) at any time after October 1, 1963, if and when either basin shall have reached its total beneficial consumptive use as set out in paragraphs (a) and (b).

(g). In the event of a desire for further apportionment as provided in paragraph (f), any two signatory states, acting through their governors, may give joint notice of such desire to the governors of the other signatory states and to the president of the United States of America, and it shall be the duty of the governors of the signatory states and the president of the United States of America forthwith to appoint representatives whose duty it shall be to divide and apportion equitably between the upper basin and the lower basin the beneficial use of the unapportioned water of the Colorado River system as mentioned in paragraph (f), subject to the legislative ratification of the signatory states and the congress of the United States of America.

**Article 4.**—(a). Inasmuch as the Colorado River has ceased to be navigable for commerce and the reservation of its waters for navigation seriously limit the developments of its basin, the use of its waters for purposes of navigation shall be subservient to the uses of such waters for domestic, agricultural and power purposes. If the congress shall not consent to this paragraph, the other provisions of this compact shall nevertheless remain binding.

(b). Subject to the provisions of this compact, water of the Colorado River system may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption for such water for agricultural and domestic purposes and shall not interfere with or prevent use for such dominant purposes.

(c). The provisions of this article shall not apply to or interfere with the regulation and control by any state within its boundaries of the appropriation, use and distribution of water.

**Article 5.**—The chief official of each signatory state charged with the administration of water rights, together with the director of the United States reclamation service and the director of the United States geological survey, shall cooperate ex-officio:

(a). To promote the systematic determination and coordination of the facts as to flow, appropriation, consumption and use of the water in the Colorado River basin and the interchange of available information in such matters.

(b). To secure the ascertainment and publication of the annual flow of the Colorado River at Lee Ferry.

(c). To perform such other duties as may be assigned by mutual consent of the signatories from time to time.

**Article 6.**—Should any claim or controversy arise between any two or more of the signatory states (a), with respcet to the waters of the Colorado River system not covered by the items of this compact;

(b). Over the meaning or performance of any of the terms of this compact;

(c). As to the allocation of the burdens incident to the performance of any article of this compact or the delivery of the waters as herein provided.

(d). As to the construction or operation of works within the Colorado River basin, to be situated in two or more states, or to be constructed in one state for the benefit of another state; or (e) as to the diversion of water in one state for the benefit of another state; the govern-

(Continued on Page 627)


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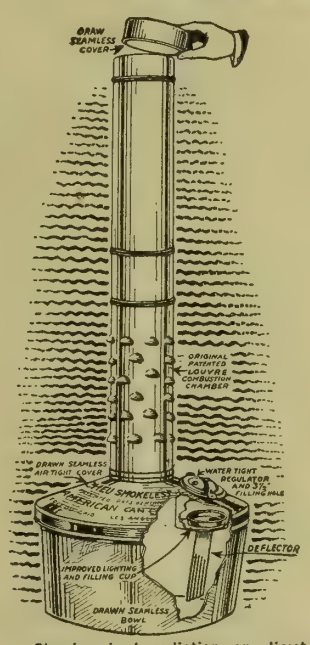


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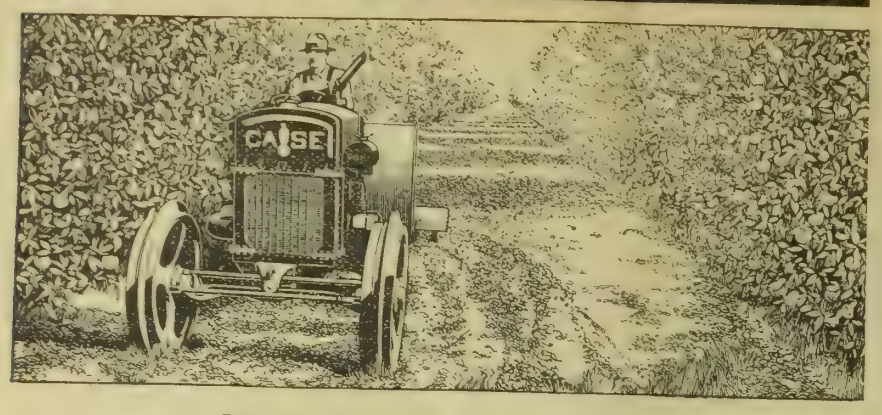


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# This Month in the Ornamental Gard

## Southern California

By Ernest Braunton

WHILE we may continue planting all kinds of bulbs, December may properly be called the rose month. In cold climates roses are planted in the spring, but here they grow throughout the winter and if planted now will bloom just as the "eastern" gardener is planting his. It is better now to plant bare root dormant bushes.

In all cultivated areas stable manures should be applied to keep the plants in the greatest possible vigor. With lawns the case is different. While the grass still grows its development is not so great as during warmer weather and much food is not needed, for grass will always grow and look well at this season of the year. When weather begins to warm up in the spring, any time after January, the grass will commence to grow and needs food. If fertilizer is applied now the winter's rains will carry it below the root zone if soil is light or wash it off if soil is hard and the whole nutrient value is gone from your lawn. Growing crops need food so put fertilizer in the garden proper now.

### Prune and Plant

December is the time nearly all Californians make an annual clean up and prune. Trees and plants with thick heavy tops become water laden in rainy weather and often are broken down. A judicious pruning of some shortening and much thinning will avoid breakage and improve the plants or trees. However, do not prune annual blooming roses such as Cherokee, Beauty of Glazenwood, Banksia, etc., or you will have no spring flowers. For same reason do not prune shrubs such as deutzia, lilac, philadelphus, etc. The time to prune these is just after they blossom.

Set out pansies, snapdragons, stocks, and all sorts of perennials. Sow out in beds seeds of acrolinium, alyssum, bartonia, calendula, candytuft, centaurea, clarkia, collinsia, coreopsis, eschscholtzia, godetia, larkspur, leptosyne, linum, lupine, mignonette, nemophila, poppies and sweetpeas. Examine closely all plants from time to time for aphis or green fly. Usually these may be kept in check by a fierce hosing once or more each day. But if they become too burdensome it will be better to dust tobacco powder on or spray with soap suds with some nicotine (tobacco) content. During cold weather all evergreen plants and trees are in somewhat dormant condition and sprays for killing insects may be applied in greater strength than during the growing season.

## Northern California

By A. R. Gould

HERE will be much to do in the ornamental department and considerable planting will be necessary as well as cleaning up the beds and borders. The shrubs will need digging around and manuring, and this may also apply to the roses. The dahlias should have ere this been dug up and carefully labled and stored for the winter. The violet beds will need cultivating and dressing with manure as this will encourage a long flowering season.

Many subjects to which we look for our winter and spring flowers must be planted and the successional sweet peas may be sown. The lawn should be weeded and rolled. The perennial borders will also require re-planting, and the liberal use of a good fertilizer will give good results.

### Early Flowering Gladiolus

Early display of gladiolus may be secured by planting soon about four inches apart in rows or groups. For the cut flower beds they are more convenient to handle if planted in rows 18 inches or more apart. The soil should be well prepared with manure.

### Violas and Myosotis

These make a perfect carpet bed of tulips and should be pla after the bulbs are in. No mor fective sight can be imagined th bed of blue violas with a bed of low Darwin tulips or a bed of myo and scarlet tulips. Plant these ou soon as possible in the beds 12 inches apart in well prepared so

### Bulbs

There is yet time to plant some jects such as the tulips and late ering daffodils, also hyacinths. sonias and Montbretias are useful especially for grouping in the bo and for the cut flower garden. Watsonias are white, lavender pink while the Montbretias are ora and yellow. When planting bulb ways manure the ground and p an inch or two deeper rather than the bulb too near the surface of ground as deep planting encour a vigorous rooting system and means good quality flowers.

### Sweet Peas—Early Flowering

Those who were anxious to choice blooms for Christmas of co sowed the seed very early in Au and September, and these should be showing bloom but will need a application of liquid manure from on twice a week, and if they are gr ing on wire supports should be in. If you failed to plant any of th popular flowers there is still time, if sown now they will bloom by Ma or April. They must be sown in well prepared. If the aphis are t blesome, which they usually are to young tender shoots, spray with bl leaf 40, an effective nicotine solut for these pests.

### Liliums

These comprise a very large gr of wonderful flowers and they sho be much more widely planted t they are as they flower for some t and come in some charming colors orange, yellow, pink and white a grouped in the border, are very ef tive indeed. They are of fairly e culture and if left undisturbed fr year to year will become much m numerous as they increase rapidly offsets. They should be planted ab 12 inches apart in groups of five six of each variety. Plant so bulbs at least six inches deep. So of the very best varieties are the lowing. Lilium longiflorum gigante L. candidum, L. Harrisii, L. Auratu L. Krameri, L. speciosum rubrum. speciosum Henryi, L. auratum pla phyllum, L. elegans (orange), L. m nificum, L. tigrinum (single and d ble) L. incomparable, the native li Humboditii, the leopard lily, par linum, and Washington lily, and la but not least, is the most beautiful L Regale, the flowers of which are wh suffused with pink and centered w canary yellow. This lily, introduc only a few years ago from China the noted collector, E. H. Wils should be in every garden as it is gem and fast gaining in popularity.

### Japanese Iris

These may be grown to perfection a moist situation and they should planted in low ground. A basin shou be formed and these planted in grou so that they can be supplied wi plenty of water. They come in a ve wide range of colors in which are so delicate blues and purples, also mau and white gray, crimson and lila They grow on long stems and ma excellent cut flowers. They need w manured ground and may be plant 16 to 18 inches apart as they eventu ly form large clumps and in a fe years may be subdivided for repla ing. This is the best month to pla and they may be secured in named v rieties or mixed.

### Subjects to Plant Now

No time should be lost in plantin the following for winter and sprin flowers; pansy, double daisy, primul (Veris, polyantha, Kewensis and Mal coides), dianthus, aubretia, wallflowe snapdragon, scabiosa, foxglove, holl hock, phlox, sweet William, pentst mon, campanula, delphinium, cann coreopsis, cineraria, geum, gaillardi

heuchera, stock, and aquilegia, or columbine. Most of the above mentioned are perennial and will continue in flower for some time. Before planting these prepare the soil with manure and water after planting.

**Gazania Splendens**

This plant is usually admired by all and has orange and yellow flowers with dark centers. They are a blaze of color when the sun shines hence they are especially adapted to an open situation. In our cities they are often used on parking strips along the sidewalks. They should be planted 12 to 16 inches apart in fairly good soil. They may be planted now.

## USE OF GYPSUM ON ALFALFA

**By Professor George A. Olson**

ORDINARILY 20 to 30 pounds of nitrogen added to each acre of soil annually may be considered a good gain. Dr. Lipman of New Jersey experiment station tells us of a three year experiment where alfalfa increased the nitrogen content of the soil 500 pounds per acre. In the 15 tons of alfalfa harvested there was 750 pounds of nitrogen. The total gain of nitrogen as a result of growing alfalfa three years was therefore 1250 pounds. This value is equivalent to the nitrogen in 8300 pounds of nitrate of soda.

The source of the nitrogen was the air, but it required a legume such as alfalfa and a suitable strain of bacteria to fix the air nitrogen. Usually large gains of nitrogen are obtained in soils low in nitrogen. In some cases as little as 10 per cent of the nitrogen may be secured from the air. Undoubtedly the biggest gains in nitrogen are obtained during periods of big crop yields.

In this connection the writer has made a study of the composition of alfalfa grown on fertilized and unfertilized fields. The following data should prove of value to the farmer who aims to maintain the fertility of the land. The results are calculated on basis of pounds of elements in one ton of alfalfa.

| | No treatment | Limestone | Agri. Gyp | Acid Phos. |
|---|---|---|---|---|
| Nitrogen | 35 | 36 | 37 | 37 |
| Potassium | 31 | 28 | 30 | 31 |
| Calcium | 19 | 30 | 26 | 27 |
| Phosphorus | 6 | 6 | 7 | 6 |
| Sulphur | 8 | 9 | 9 | 9 |

The nitrogen, phosphorus and sulphur were practically constant in the alfalfa from both the fertilized and unfertilized plots. The potassium content of the alfalfa from the limestone plot was slightly low compared with the other three but the calcium content was high. The lowest amount of calcium was found in sample taken from the untreated plot. It was also found that the sulphur content of the alfalfa exceeded the amount of phosphorus.

In this experiment the two year yield of alfalfa grown on the limestone treated plot was 4.9 tons campared with 4.7 tons for the untreated plot. The yield obtained on the agricultural gypsum treated plot was 8.1 tons compared with 7.7 tons for the acid phosphate treated plot. Thus it is seen that limestone in this experiment was favorable to a slight increase while agricultural gypsum and acid phosphate resulted in marked increases in yield.

It is obvious that limestone was not the limiting factor, otherwise marked increases would have occurred following the application of limestone. On the other hand agricultural gypsum and the gypsum in acid phosphate resulted in increases of 72 to 64 per cent respectively. The following data show the effect of increased yields on the removal of plant food from the soil.

| | No treatment | Limestone | Agri. Gyp | Acid Phos. |
|---|---|---|---|---|
| Nitrogen | 165 | 176 | 301 | 281 |
| Potassium | 147 | 139 | 241 | 241 |
| Calcium | 135 | 146 | 210 | 207 |
| Phosphorus | 26 | 28 | 58 | 48 |
| Sulphur | 37 | 40 | 69 | 70 |

It is doubtful if a better illustration could be given to show how enlarging the yields increases the removal of plant food from the soil. This view holds good regardless as to whether or not fertilizers are applied to the soil. It also shows that 37 to 40 pounds of sulphur was not sufficient and the increased yields were only possible where 69 to 70 pounds of sulphur were available.

As previously stated the nitrogen removed need not concern one since the alfalfa with a suitable strain of bacteria had the property of increasing the nitrogen content of the soil by fixing nitrogen taken from the air. Generally it is more than likely that the supply of potassium in the soil exceeds that of any other plant food with the possible exception of calcium in calcareous soils. Under such conditions there is no need of applying potassium to the soil as long as potassium continued to be available or could easily be made available to plants. In some cases applications of limestone are necessary in order to correct soil acidity.

The plant need for phosphorus and sulphur should be watched because these are the elements which are likely to be low in the soil. In the west applications of phosphorus fertilizers free from sulphate sulphur have not shown any appreciable benefit. On the other hand, applications of agricultural gypsum, sulphur or sulphuric acid result in increased yields because sulphur food is the most important food factor involved in increased production.

The above recorded yields were obtained with applications of limestone at the rate of 1000 pounds and agricultural gypsum and acid phosphate at the rate of 200 pounds each per acre. The amount of calcium applied in form of limestone was estimated as 380 pounds; in the form of agricultural gypsum as 48 pounds and in the form of acid phosphate as 48 pounds. The sulphur applied in the form of agricultural gypsum was 37 pounds and in acid phosphate which contains gypsum it was 16 pounds.

In the limestone treated plot 234 pounds more calcium was applied than removed by the crop and the calcium removed by the crop taken from the unfertilized plot was 11 pounds less than was removed from the limestone treated plot, which would indicate that the supply of calcium in the soil was ample for crop needs. This is more clearly shown in the agricultural gypsum treated plot where the calcium exceeded the amount applied by 162 pounds and in case of the acid phosphate treated plot by 159 pounds. These figures do not take into consideration the calcium removed by the alfalfa on the unfertilized plot. When the quantity of calcium removed by the unfertilized crop is deducted from the calcium removed by the agricultural gypsum crop there is a soil loss of calcium of 27 pounds, and for acid phosphate it is 24 pounds. Thus we see that the calcium in the agricultural gypsum has helped to conserve the supply of calcium in the soil.

The phosphorus removed in the agricultural gypsum treated plot exceeded that removed in the check plot by 32 pounds and in case of the acid phosphate treated plot by 22 pounds. Here again there is evidence that the supply of available phosphorus was ample, otherwise the crop grown on the agricultural gypsum treated plot would not have increased 74 per cent as

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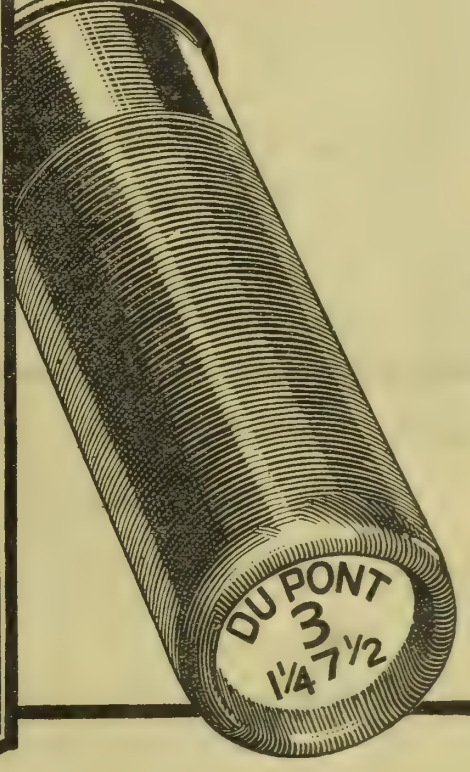


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compared with 62 per cent for the acid phosphate treated plot.

The removal of sulphur by the crop grown on the agricultural gypsum and acid phosphate treated plots exceeded that removed on the unfertilized plot by 32 pounds and 33 pounds respectively. The quantity of sulphur in the form of agricultural gypsum which was applied was 37 pounds and in case of acid phosphate it was 16 pounds. In other words applications of agricultural gypsum tended to conserve the sulphur content of the soil while acid phosphate tended to lower it. A loss of 17 pounds of sulphur due to acid phosphate tended to lower it. A loss of 17 pounds of sulphur due to acid phosphate is approximately equivalent to the sulphur contained in 100 pounds of agricultural gypsum.

Obviously agricultural gypsum is important plant food and when applied tends to conserve the supply of sulphur in the soil. In soils low in phosphorus and calcium an application of 100 pounds of finely ground rock phosphate would more than replenish the calcium and phosphorus removed in the increased yield following the use of agricultural gypsum and at the same time keep the soil in a state of fertility equal to at least what it was in the absence of fertilizer treatment. Or, if the alfalfa was fed on the farm these fertilizer elements would be nearly all returned and the need of buying rock phosphate or fearing that excessive yields would ultimately deplete the soil of its fertility would prove to be incorrect.

The increased nitrogen content of the soil as a result of growing alfalfa would more than pay for expenditures involved in purchase of agricultural gypsum and in special cases for rock phosphate since nitrogen is the most expensive plant food sold. The increased yields obtained would more than cover the cost of agricultural gypsum. As a matter of fact the cost of agricultural gypsum may be considered small as compared with the value of the increased crop. But equally as important is the fact that agricultural gypsum is plant food which supplements that contained in the soil and thereby increases the productive power of the soil. The indirect benefit of growing alfalfa with agricultural gypsum as compared with growing alfalfa alone is a very important subject in itself.

# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### A Miner's Inch

Can you tell me through your paper how much water one-fifth of a miner's inch would be for 30 days accumulation per acre? Could you tell how to measure it in an open ditch? Will it be enough to water a prune orchard in heavy ground? We water in June and August. What is the average amount allowed in the state per acre by water company? We are given one-fifth miner's inch, 30 days' accumulation, for one acre.—Subscriber, Los Molinos.

A miner's inch is variable and depends upon the section or state in which the computation is made. That is, in California the usual practice is to compute the miner's inch under a four inch pressure. However, legally in California, a miner's inch is the amount of water which will flow through a one inch aperture under a pressure of six inches. A miner's inch under four inch pressure is equal to nine gallons per minute. Nine gallons per minute means 388,800 gallons in 30 days. For one-fifth miner's inch it would be one-fifth of 388,800, or 77,760 gallons, and as there are 27,150 gallons per acre-inch your fifth of an inch would be nearly equivalent to 3 acre inches in 30 days, or to be exact, 2,864 acre-inches. Seepage and evaporation are not considered of course. As to whether this would be sufficient depends upon soil, sub-soil conditions, tillage and so many other factors that we can only generalize and say that if properly handled with some of it applied in winter months and conserved it should be abundant. The amount in this state varies greatly according to section. In the Imperial Valley four acre-feet is thought to be necessary. Expressed in miner's inches an inch to 10 acres, an inch to eight acres, an inch to four, or even as much as an inch to every acre of orchard is demanded. Yet there are thousands of acres of prunes in the state which are never irrigated at all. Under the conditions you mention we think one-fifth of a miner's inch should be sufficient for your use.

### Straw for Fertilizer

I have a four year old apricot orchard on southern slope, which is not doing very well. No chance to irrigate. Would like to put fertilizer straw in ditch above trees alongside hill and cover with dirt. I know of barley straw for sale. What is it worth compared to Lima bean straw by weight comparison?—Subscriber, Moorpark.

We doubt if either barley or bean straw will give the desired result in your case. Well rotted barnyard manure would in our opinion give best results but whatever you use apply it so that the winter rains will aid in converting it into plant food for use of the trees when they begin their spring growth. Outside of improving the physical condition of the soil, barley straw has very little fertilizing value. In nitrogen content it has less than half that of bean straw and only about one-third as much phosphoric acid. In potash there is very litttle difference although the bean straw is a little ahead.

### Mottle Leaf

What is the cause of mottle leaf on citrus trees? Will nitrate of lime, nitrate of soda or sulphate of ammonia cause mottle leaf? What is the best method for getting rid of it? —Subscriber, Bryn Mawr.

Mottle leaf in citrus trees may be caused by too much water, excessive applications of stable manure, improper drainage, or most any condition that disturbs the proper functioning of the root system. It is an indication that something is wrong but does not necessarily indicate what that condition is. Excessive applications of nitrate of lime, soda or sulphate of ammonia might cause the trouble. The only remedy is to determine the cause and attempt to rectify it. If we had a more complete report on your soil conditions we might be able to give you more definite advice on the subject.

### Why Blackberries Do Not Ripen

In the California Cultivator under date of November 18 on page 534 appears an inquiry stating that blackberries do not ripen. May I call your attention to the fact that this difficulty is quite prevalent in the Himalaya blackberries throughout the state. It is due to the presence and work of a small mite which we are calling the blackberry mite which works in the flowers and on the developing druplets, causing abortion and stunting. In some cases the fruit is stimulated to a large size but ripening is prevented. The mite may be controlled by spraying the vines in the spring just as the blossom buds begin to appear with four gallons of commercial lime-sulphur to 100 gallons of water or by spraying the plants any time during the summer with five pounds of wettable sulphur to 100 gallons of water.—E. O. Essig.

### New Plums

"President Blue" plum mentioned by your correspondent in issue of November 25 is probably "President." It is one of many others I imported from England years ago, at the same time I introduced Grand Duke, Diamond, Czar, etc. Like all domestica plums, it is more at home where winter climate is colder. The triloba or Japan-

ese plums and their hybrids succeed much better in the south, and there is an ever increasing assortment of these, some of the best coming from our friend Millard Sharpe of Vacaville, "Becky Smith," for instance, a magnificent shipper and of good quality.—Leonard Coates.

### Aphis—Red Spider

What are the best remedies for controlling melon aphis? What is the remedy for controlling red spider on fruit trees and at what time of year should remedy be applied?—Subscriber, Dos Palos.

At this time of the year the best work with melon aphis consists of carefully gathering and burning all weeds in field or along ditch banks. This will greatly reduce the first infestation. However, as soon as they begin to appear in the spring give thorough treatment with a dependable nicotine dust. As to red spider on fruit trees, note in account of the Berkeley meeting of fruit growers on page 555 of issue of November 25. Also write the University of California, Berkeley, and ask for Bulletin No. 347, "The Control of Red Spider in Deciduous Orchards." In a word the treatment consists of spraying with lime-sulphur solution about late June or early July, or if preferred, one may use sulphur as dust spray.

### Lime on Orchard

Kindly let me know as soon as possible how much quicklime should be used to the acre. I have a prune orchard. How should it be put on? Is this the best time of year to get results?—Subscriber, San Jose.

We are not entirely clear as to the need of the inquirer. If by adding quicklime the intent is simply to make application of lime to the soil only apply an exceedingly small quantity. Quicklime has the quality of reducing vegetable mold; it burns the soil if applied in a large quantity. The best form of lime to apply is either the ordinary crushed lime rock or that secured from deposits of the marine shells which are found in many parts of the state. Many think this decomposed shell is the best form of lime to apply. This may be applied in any quantity from a half ton to the acre and up according to the needs of the soil.

### English Bull Dog

Kindly tell me color of English bull dog. Is he white or brindle or are there some white and some brindle? I have been told there are two kinds.—Subscriber, Lindsay.

The English bull dog is the bench legged undershot dog, usually brindle but may be fawn, tan or white or a mixture of any of them. The English bull terrier is the tall, pure white dog with the pointed ears and long tail. These are the only two bull dogs. Boston and French terriers are not bulls though commonly called such.

### Chrysanthemums

What shall I do with my 'mums after they are through blooming? When is the best time to take up and divide clumps of gladioli?—Subscriber, Redlands.

It is not necessary to do anything with the 'mum clumps except you wish to use the ground for other plants. Allow them to remain until March, when you may either take cuttings from or divide into small bits and replant. Take up and divide gladioli at once. Keep bulbs in cool dry place for 60 days and replant.

### Vegetable Pointers

Please give care and cultivation of Brussels sprouts. Should I strip the plants of their leaves and when? Is it beneficial to cabbage and lettuce to feed them liquid manure? How close to rows of beets and turnips should one hoe? Should head lettuce be cultivated after it begins to head? Should cauliflower be cultivated till it begins to head or when?—Subscriber, Three Rivers.

Brussel sprouts is closely allied to kale and requires similar treatment. It requires a longer season than cabbage. The adjacent leaves are cut off as the tiny heads begin to grow, but leave a large tuft at top. Like kale and cauliflower it is a cool weather crop. All plants are benefited by liquid manure, but feed little and often; avoid strong doses. Hoe as close as you like to beets and turnips so long as it is shallow enough not to cut roots. If lettuce and cauliflower have been well watered and cultivated to beginning of heading and are free from weeds further cultivation will not be necessary.

### March Planted Gladioli

Can I safely plant gladioli bulbs as late as March and April and will they flower the first summer? Can I plant seeds of bellis, heliotrope, lobelia, phlox, pyrethrum and snapdragon in the garden or should they be planted in a hotbed first?—Subscriber, Durham.

Gladioli bulbs may safely be planted from January to June if well kept, though the first month is usually the better time. Mature bulbs always bloom the first year. None of the flowseeds you list need be planted on hot bed and all will grow in the open garden, but some, such as heliotrope and lobelia, need more care than the garden usually affords and should be planted in boxes or flats. Some good gardeners plant all these in boxes and later transplant to the garden.

### Spiders

There are so many spiders of all kinds around this place that I am afraid of them. Is there anything one can sprinkle around the room to drive them away? I never see anything in the paper about them.—Subscriber, Hynes.

Spider bites do not as a rule cause any serious results. Where one is bitten an application of a few drops of ammonia will probably suffice to counteract the poison. For controlling the pest we presume there could be nothing better than scattering about the place liberal quantities of buhach, tobacco dust, or, perhaps better, nicotine dust. In warm weather a liberal scattering of flowers of sulphur will probably prove so offensive to the spiders that they will leave.

### Manure for Garden

Is old or fresh fertilizer better for garden? Is there any advantage in leaving some fertilizer on top of soil instead of turning it all under?—Subscriber, Three Rivers.

Thoroughly rotten manure is of course quicker of action and carries much less danger in application. Besides its decay has caused the death of the greater portion of weed seeds. However, as a general proposition it may be said that there is less loss in the application of fresh manure, plowing under deeply and allowing to decay in the soil. There is less loss in applying all manure under the soil than allowing to remain on the surface and burn because of the sun's heat. Where one wants the effect of a mulch or protection of surface soil coarse strawy manure is fully as good as the more valuable, thoroughly decayed material.

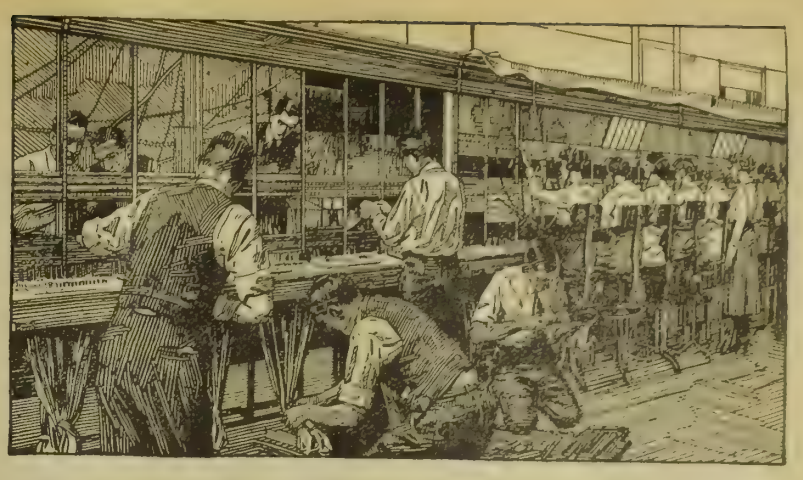
### Figs from Cuttings

Will you please tell me when is the best time to plant fig cuttings? What is the best way to sprout them?—Subscriber, Gridley.

Figs are readily grown from cuttings. The usual method is to select thoroughly ripened wood, cut from tree when entirely dormant (during this month or next), choosing wood the size of one's finger, make cuttings 12 or 14 inches long, tie in bundles of 100, dig trench about four inches deeper than the length of the cutting, place bundles in trench, bottoms of cuttings up, coyer with three or four inches of sand or sandy soil. Within a few weeks they will probably granulate and be ready for making little rootlets when they should be taken from the trench and planted in nursery row.

### LOS ANGELES POTATO GROWERS

The potato growers department of the Los Angeles County farm bureau has elected the following executive committee to serve for 1923: J. H. Aulenbrock, Los Angeles; B. C. Boughter, Alhambra; H. L. Boyer, Van Nuys; T. H. Lambert, El Monte; A. J. Muller, Van Nuys; J. G. Showalter, Van Nuys; W. V. Stahl, Zelzah.

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# Household Department

### IT ISN'T THE THING YOU DO

It isn't the thing you do, dear,
  It's the thing you leave undone
That gives you a bit of a heartache
  At the setting of the sun.
The tender word forgotten;
  The letter you did not write;
The flower you did not send, dear,
  Are your haunting ghosts tonight.

The stones you might have lifted
  Out of a brother's way;
The bit of a heartsome counsel
  You were hurried too much to say;
The loving touch of the hand, dear,
  The gentle, winning tone,
Which you had no time nor thought for
  With troubles of your own.

Those little acts of kindness
  So easily out of mind,
Those chances to be angels
  Which we poor mortals find,
They come in night and silence,
  Each sad reproachful wraith,
When hope is faint and flagging
  And the chill has fallen on faith.

For life is all too short, dear,
  And sorrow is all too great,
To suffer our slow compassion
  That tarries until too late;
And it isn't the thing you do, dear,
  It's the thing you leave undone
Which gives you a bit of heartache
  At the setting of the sun.—Margaret E. Sangster.

### PEGGY WEGGY'S MUFFFIN WISH

By Annette Squire

PEGGY WEGGY and Jerry Dumpling were sitting on their garden wall in the shade of an apple tree, wishing.

"I wish," said Peggy Weggy, "that I could taste one of those muffins that Mother Goose's Muffin Man sells."

"I wish that, too," said Jerry Dumpling.

"The muffins are fat," said Peggy Weggy, "and shaped just like Primrose Hill, with the tip-top of them all high in the middle. And Doctor Foster says they are good—all branny inside!"

And at that very minute they saw Doctor Foster coming up their lane from Gloster and Mother Goose coming down it from Primrose Hill, and the two met and stopped to talk in the shade of the apple tree, right in front of Peggy Weggy and Jerry Dumpling.

The children wanted to say "How do you do," but nice children never interrupt their elders, and little Doctor Foster had begun to talk to Mother Goose before he had reached their shade. He is fat and very jolly.

"Well! What has brought you out this fine day, Mother Goose?"

"That careless Humpty Dumpty," replied Mother Goose. "We need you badly, for all the king's horses and all the king's men could not put Humpty Dumpty together again!"

"Dear me!" exclaimed Doctor Foster, "what has happened to Humpty Dumpty this time?"

"He sat on his mother's garden wall again, and again was not careful. Of course he had another fall, and broke—just like an egg!"

"Dear me! And what did his mother, Mrs. Dumpty Egg say?"

"She said, 'Didn't I tell you to be careful?' Of course she has told him that ever so many times. Ever so many times she has told him to see that he does well whatever he does. But you see, Doctor Foster, the trouble with Humpty Dumpty is this, while he would like to do things well, he has never understood that, if anyone ever learns to do a thing well, he must very many times do it very carefully. Now I have heard," said Mother Goose, "that those dear children, Peggy Weggy and Jerry Dumpling know how to sit on a garden wall."

Peggy Weggy and Jerry Dumpling couldn't help smiling at this. Praised by Mother Goose! How jolly!

"And I thought," went on the nice old lady, "that if you could help Humpty Dumty, I might ask those two dear children to show him how to sit on a wall."

"Well," said Doctor Foster, "I'll see if I can fix him up. I remember that before I had learned how to walk in a shower of rain, I went to Gloster and fell in a puddle up to the middle——"

Jerry and Peggy laughed aloud at this, and the little doctor cried, "Aha! Here are those children on their garden wall now! Tell me, children, how should I have stepped in Gloster?"

"Carefully," laughed Peggy Weggy and Jerry Dumpling.

"Then you come down from the wall that way," said Mother Goose, smiling, "and we'll all go help poor Humpty Dumpty."

So they went up the lane, around Primrose Hill, inside a stone garden wall, and into the Dumpty house. And when Doctor Foster had fixed up Humpty Dumpty, Peggy Weggy and Jerry Dumpling took him out to the wall again and talked to him. And when they had made his see that if he did things carefully he would be a boy who knew how, his mother was so wonderfully pleased that she called,

"Polly, put the kettle on,
Molly call the Muffin Man,
Sally, blow the bellows strong!
And we'll all have tea!"

And the Muffin Man's muffins were fat, and were shaped like Primrose Hill, and were all branny inside! And Doctor Foster remarked that they were good! And they were!

### THE MUFFIN MAN'S WARES

By Annette Squire

**Primrose Branny Muffins**

Two eggs, well beaten; two cups milk, two tablespoons melted butter or cooking oil; one cup flour sifted with one level teaspoon salt and two rounded teaspoons baking powder, two cups graham flour, one cup krumbled bran, and four tablespoons of sugar. Beat well and bake in a moderate oven. Makes 12 fat muffins.

**Primrose Popovers**

One egg, well beaten, one tablespoon of melted butter or cooking oil, one cup milk, one tablespoon molasses, one cup flour sifted with one-half teaspoon salt and one rounding teaspoon baking powder, one-fourth cup krumbled bran, and one-fourth cup raisins with dash of cinnamon. Beat hard and bake in rather hot oven.

**Mother Goose Bran Cookies**

Cream with one cup sugar one-half cup butter. Add two tablespoons milk, one teaspoon vanilla, two eggs, two tablespoons shredded coconut, two and one-half cups any cooking bran, two teaspoons (rounded) baking powder, and flour to roll. Allow space in the pan for the cookies to spread and use a moderate oven. You can omit coconut, and still have cookies that kiddies will like.

### MANY LIKE HIM

"Poor Jones!" said Jones's neighbor to a friend, as a tired-looking man passed him on his way out of the trolley car. "He suffers terribly from from nerves."

"I never knew he had them," said his companion.

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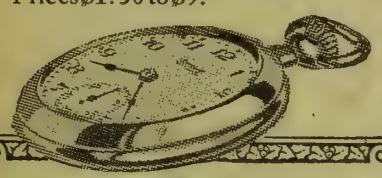

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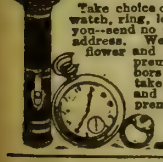

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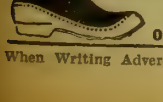

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## HINTS FROM HOUSEKEEPERS

### Salt Rising Bread

Answering query in a recent paper: Start the bread early in the morning. First scald the vessel in which you wish to make it. Take one-third quart of warm water, as warm as the finger can be held in. To this add teaspoon of salt, a pinch of sugar and cornmeal enough to make a batter the consistency of griddle cakes. Set the vessel containing this mixture in a closed vessel half full of moderately hot water, but not scalding. Keep temperature as nearly even as possible and add a teaspoon of flour once or twice during the fermentation. This ought to be very light in about five hours. Sift your flour into a pan, make an opening in the center and pour in your yeast or "rising." Have ready a pitcher of warm milk, salted and not too hot, or you will scald your yeast germs, and stir rapidly into a pulpy mass with a spoon. Cover this sponge closely and keep warm for an hour, then knead into loaves, adding flour to make the proper consistency. Place in warm, well greased pans, cover closely and leave till it is light. Bake in steady oven and when done let all the hot steam escape. Wrap closely in damp towels and keep in closed earthen jar until wanted. This is the recipe for salt rising bread given me by my dear old grandmother. —Mrs. Lilly Robertson, Kerman.

### His Right of Way

I am much interested in the poetry you have been printing from time to time. There are so many automobile accidents these days, I think it very appropriate if you would print the following verse:

There was a man named William Clay
Who died maintaining his right of way.
He was right, dead right, as he sped along,
But now he's as dead as if he'd been wrong.
—Subscriber, Niles.

### Real New England Beans and Brown Bread

I have enjoyed the recipes in the Cultivator very much but was sorry to see that recipe for Boston baked beans in the Cultivator of November 18 and want to send the real New England rule. I was brought up in Maine and Massachusetts and we always had beans and brown bread Saturday night.

Boston Baked Beans—Three large cups beans, soak all night in lots of water (2 quarts), in the morning bring to boil and add one-quarter teaspoon soda, boil five minutes, drain and add fresh water and boil until they feel soft when you pinch one, then drain and put in bean pot or deep dish, add 2 teaspoons salt, ¼ teaspoon pepper, 1 heaped tablespoon sugar, same of light New Orleans molasses, ½ pound salt pork. Nearly cover with water, put in oven and bake slowly all day, adding water as it boils away. If you do not want fire all day bake two forenoons as it is the long slow baking that gives the real flavor.

Boston Brown Bread—Two cups yellow corn meal, one cup flour, one cup light New Orleans molasses (scant), three cups sour or buttermilk, 1 teaspoon soda, 1 teaspoon salt. Steam about three hours.—A New Englander.

## HOUSEHOLD QUERIES

### Keeping Butter

Please print proper way to put down butter for future use.—Subscriber, Willits.

It will keep well if dry salt is worked into it or if packed in brine. Use fresh sweet butter, weigh carefullly and for each 10 pounds butter take 1 pound salt and work in thoroughly. Pack tightly in crocks and cover with salt. Store in cold place. When butter is to be used it may be freshened by working in cold water.

If brine is used: To each 10 pounds butter add ½ pound salt and work in thoroughly. Make brine of 3½ pounds salt per gallon water. Pack butter in this brine so that it will be well covered and store in cool place. It may be freshened as above.

One of our subscribers at Anaheim tells how her mother "puts down" butter, using sugar and saltpeter: "First of all, work butter and salt it and set away until the next day or even the next, then put in the sugar and saltpeter, about as much as will lie on the point of a knife, or a small pinch with your fingers to about three pounds of butter; work it well and pour off all the water that comes out when you work it. That is what keeps it. Then put a clean cloth over it and put a layer of salt on top.


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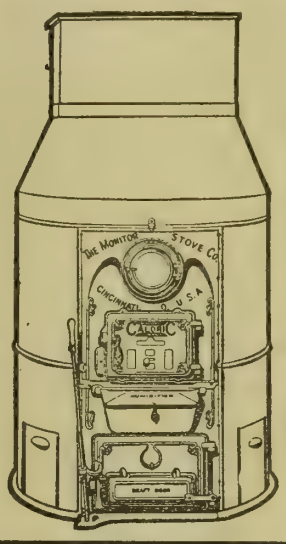


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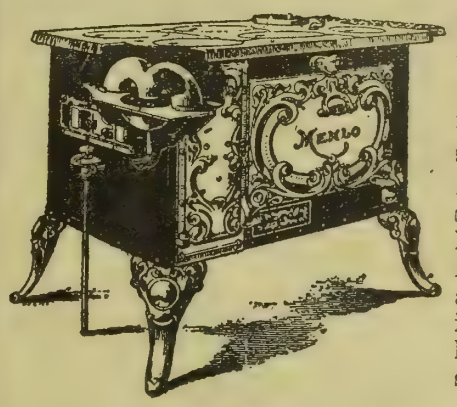


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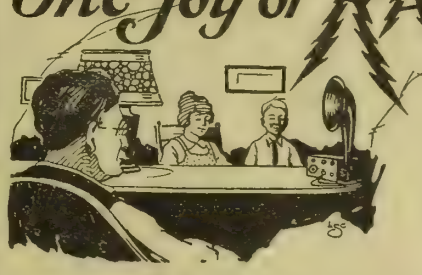

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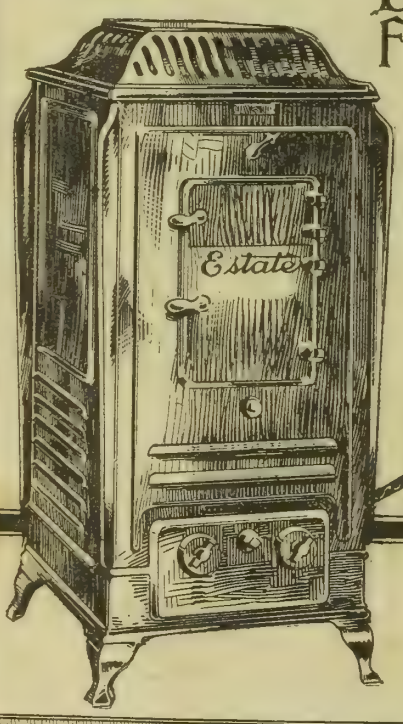


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## GETTING READY FOR CHRISTMAS

A BOX of good homemade candy is an attractive gift at any season of the year, and it is particularly timely at Christmas. But even the best of homemade candy loses its distinction when it is put into a more or less shelf worn box, bearing the name of some well known confectioner. If, however, the box itself is handmade also, there is harmony and satisfaction all around.

The covering of old candy boxes is a simple matter. Every wallpaper merchant generally has an out-of-date book of samples and will be glad to give away the whole book, or as many of its pages as may be required. These make excellent coverings for boxes, if they are selected carefully. The dresden papers with their tiny bunches of flowers, or the papers with small stripes, in the lighter, daintier colors, or just plain papers in these shades make ideal box coverings.

To do the actual covering, rip off the loose paper covering of the old box, using a knife or blade of scissors. Sometimes the paper is pasted tightly down, and then it may be simply let alone and the new cover applied over it.

The best boxes for covering are those having covers reaching down over and completely covering the sides of the box. It is not necessary to do anything to the inside half of this box, and it may be simply laid aside until the top is finished.

Cut a piece of wallpaper large enough to cover the entire outside, and leave a half-inch margin to paste down on the inside of the box. The bunch of flowers or principal stripe should be planned to come in the middle of the top.

The pasting may be done with library paste, or with flour paste made by mixing flour with cold water, and boiling, adding a wee bit of sugar. The white of an egg is fairly good. Mucilage or glue should not be used, as it is apt to show through the paper.

Placing the cover, top down, on the wrong side of the paper, hold the paper up against the sides of the cover, and with the scissors cut through the half-inch margin in a vertical line which meets the corners of the box. Moisten the edges of these side pieces, and paste them down against the inside of the cover. Then fold the ends of the paper against the ends of the box. This will leave a flap like that of an envelope at each end of the box, and one edge of this flap may have to be cut off to make its edges even, and to make the seam where the two edges are pasted down come under the flap. The end margin should then be pasted down, and the flap pasted over it. The matter is in reality very simple, as a little experimenting will show.

When the box has a cover which reaches only half way down its sides, a strip of paper must be pasted along the lower edge of the bottom part of the box, to meet the cover.

Following are some good recipes for sweets to put in these homemade boxes:

### Stuffed Dates

Carefully pick over a half pound of dates, selecting the most perfect ones, and split them with a knife, taking out the pit. In place of this pit insert one walnut or almond kernel. Roll the date in a saucer of granulated sugar, and place it in the box which has been lined with wax paper.

### Fudge

The trouble with most fudge failures is too much sugar and too rapid cooking. The surest recipe for fudge is the following: Two scant cups sugar, one full cup milk, one-half small square bitter chocolate, one level tablespoon butter, a pinch of salt.

Put the sugar, milk and salt on over a slow fire. Shave in the chocolate with a knife. Do not add the butter until the candy has boiled for some minutes. To test drop half teaspoon into a cup of cold water, and when it forms a soft ball that can be taken out of the water, it is done. A cup of chopped nuts may now be added if desired.

Lift the stewpan off the stove, and set it into a dishpan of cold water, being careful that the water is not so high in the pan as to splash into the fudge. Then stir until it begins to harden, scrape out on a buttered platter, and pat flat with your hands. Fudge that cooks slowly and cools quickly is sure to be creamy. Just before it is hard it should be cut into inch squares and put on a plate until quite cool. Then it may be put in the box.

### Divinity

Two cups sugar, one-half cup water, one-half cup corn syrup, one egg white, one-half teaspoon salt.

Put all the ingredients except the egg together and cook until it forms a soft ball in the water. Have the white of the egg beaten stiff on a platter, and pour the candy slowly into it, beating all the time. When well beaten up add, if desired, a cup of chopped nut meats. When it begins to harden spread it out on a sheet of clean brown wrapping paper. Cut into squares and let cool.

These dry candies are better for packing into boxes than the taffy or molasses candies, which are apt to grow sticky after a day or two.

### Candied Coconut

Boil a large cup of light brown sugar with a half cup of water, till a little dropped in cold water will harden at once. Pour in a cup of shredded coconut and half teaspoon of lemon extract. Beat slightly and turn quickly into a well buttered plate. Cut into sections as soon as it is set.

### Nut Brittle

Spread a large cup of broken English walnut meats and whole almonds and filberts on a buttered plate. Place two cups of granulated sugar in a pan to melt slowly without water. Let it bubble up till a golden brown color, and pour quickly and evenly over the nut meats. Break into irregular pieces when cold.

### Sugared Walnuts

Blanch a cup of English walnut meats by pouring over them boiling water, then throwing quickly into cold water and rubbing off the skins. Spread out the meats to dry. Boil half cup of sugar with a third of a cup of water till it threads well when dropped from a fork. Remove from the fire, beat till slightly milky, pour in the walnut meats and stir and toss till each meat is coated.

### Pecan Sugar Caramel

Melt without water over a slow fire quarter cup sugar till it bubbles up brown. Add two tablespoons water and let cook a while longer. Add this to a large cup of granulated sugar and a third of a cup of water. Boil till it threads well. Take from the fire and stir in a half cup pecan meats. Stir a very short time and pour quickly onto a buttered plate. Cut while still hot.

### Hickory Nut Ball

Run a cup of hickory nut meats through the food chopper. Mix with the whites of two eggs, a teaspoon of vanilla and enough powdered sugar

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(previously rolled, if lumpy) to make a very stiff paste. Make into small balls; roll in coarse sugar and dry on buttered plates.

### Taffy

Vanilla—Two cups sugar, 2 pound can white Karo or 2½ cups Karo, ¼ cup vinegar, 1 tablespoon butter, ⅛ teaspoon soda, 2 teaspoons vanilla.

Strawberry—Same as above—flavor with strawberry, color with liquid rose. Lemon—Same as above—flavor with lemon (oil) and color yellow. Chocolate—Bitter chocolate on slab. Molasses—Same, add ½ cup molasses. 240 degrees Fahrenheit.

Method: Mix sugar and syrup and boil until it commences to thicken, then add vinegar. When nearly done add butter and soda. Cook until brittle when dropped in water or 268. Pour on oiled slab. Flavor and color on slab. Pull.

### Peppermint Chews

Two cups sugar, 2 cups syrup, 4 tablespoons butter. Place sugar and syrup in kettle, when nearly done (hard ball or 258) add butter. Pour on oiled slab. When cool take out small portion for striping, add bitter chocolate to this. Flavor balance with peppermint. Use oils for flavoring whenever possible.

### Lemon Gum Drops

Three tablespoons Jell-O, ¾ cups sugar, ¼ cup corn syrup, 3 tablespoons lemon juice, ½ cup cold water. Soften the Jello-O in one-half cup of cold water. Add the corn syrup to the sugar in a saucepan, and boil until the mixture will form a soft ball when dropped in cold water. Add the softened Jello-O and lemon juice, cook for a moment longer, remove from fire, strain and let stand to cool for five minutes. Sift corn starch to the depth of one and a half inch into a pan and with the handle of a knife, or the molds which come for the purpose, make impressions in the cornstarch. Into these pour the Jello-O mixture and allow to harden. When firm shake off corn starch, and after softening drops slightly over a steaming-kettle, roll them in granulated sugar.

## CANDIED BERRIES AND PEEL FOR CHRISTMAS GIFT JARS

Unusual homemade confections are always an ideal Christmas remembrance when one does not wish to spend very much money. The little jars with screwed on lids in which salad dressing is often sold make admirable containers for gifts of this kind if they are decorated with bright-colored splashes of enamel paint or simple designs in black.

Candied cranberries are easily made. The United States department of agriculture recommends the following way of preparing them:

### Candied Cranberries

Three cups of large cranberries, two cups sugar, 2 cups water.

Select large, firm cranberries. Make three small slits, each one-eighth inch long, in each berry with the point of a penknife. Boil the sugar and water together until clear. Allow this syrup to cool, add the berries and bring very slowly to the boiling point. The saucepan should be large enough to permit all the berries to float at the top of the syrup during cooking. If the berries are heated too quickly, the skins will burst before the syrup soaks into the pulp. As soon as the syrup boils, take the dish off the stove and let it stand over night.

Next day drain the syrup from the berries and reduce it to about half its original volume by boiling. Cool the syrup, place the berries in it, heat again slowly; boil very gently for heat again slowly; boil very gently for three or four minutes, and allow to stand for two hours or more. Then boil gently a third time for five minutes. Allow the berries to stand in the thick syrup over night; warm once more, so that the syrup will be thin enough to pour easily, and drain the berries from the syrup. Spread them on a clean cloth or oiled paper to dry. When dry, the berries should be bright, firm, plump and semi-transparent.

Jellied peel is another delicious confection which can be made from materials available practically everywhere. Either grapefruit, orange, or lemon peel may be used.

### Jellied Peel

Five ounces peel cut in thin strips one-quarter inch wide (grapefruit, orange, or lemon).

One cup sugar for syrup, two-thirds cup water for syrup, one-quarter teaspoon salt, one-quarter cup sugar for rolling strips.

Use strips of thick soft peel free from blemishes from bright colored, heavy, smooth skinned grapefruit, lemons or oranges. Add one quart of cold water, boil for one-half hour. Repeat this process until the strips have been parboiled three times, discarding the water after each cooking. The strips should then be tender.

Dissolve the sugar in the water for the syrup, in a small saucepan, add the strips of grapefruit or orange peel, and cook rapidly for about 20 minutes, then place an asbestos mat under the pan, and continue the boiling about 20 minutes longer, or until the syrup is all absorbed by the peel. Great care must be taken at this point that the syrup does not scorch, and the strips of peel must be turned frequently. Use a fork in turning the strips and in removing them from the pan.

Place the peel on waxed paper until cool, and, using the flat side of a knife, roll the strips in granulated sugar. Let the strips dry out for an hour or two, then wrap in waxed paper, and keep in tightly covered tin containers until used. This confection should keep in good condition for two or three weeks, if stored in a moderately cool place.

When larger quantities of peel are jellied, the process is slightly changed as follows: If twice this quantity of jellied peel is made at one time, double the quantities of all ingredients used, and cook the strips about 20 minutes longer, in order that all the syrup may be absorbed; i. e., the time of cooking the strips in the syrup is 60 instead of 40 minutes.

If four times the original quantity is made, use four times as much peel and sugar, but in parboiling the peel use only enough water to cover it well. In making the syrup, use four cups of sugar but only 1¼ cups of water; it will then be necessary to cook the strips in the syrup for only about 60 minutes, just as when doubling the recipe. Thus the "boiling down" process becomes less tedious.

Candied cranberries and jellied peel may both be used effectively for decorating Christmas cakes and cookies in place of cherries, citron, angelica, etc. Those who have preserved watermelon rind on hand may like to tint it green with harmless vegetable coloring, flavor it with a few drops of peppermint, and use it in combination with the red of the cranberries and the yellow jellied peel. Or the jellied peel may be colored with harmless vegetable coloring by adding a small quantity of coloring to the last water in which the peel is parboiled.

Dates stuffed with strips of grapefruit peel instead of with peanuts or almonds are interesting and new. When the date pit has been replaced by a strip of the peel, the date is closed and rolled in granulated sugar.

## TRY IT

Weary Willie slouched into the pawn shop.

"How much will you give me for this overcoat?" he asked, producing a faded but neatly mended garment.

Isaac looked at it critically.

"Four dollars," he said.

"Why," cried Willie, "that coat's worth ten dollars if it's worth a penny!"

"I wouldn't give you ten dollars for two like that," sniffed Isaac. "Four dollars or nothing."

"Are you sure that's all it's worth?" asked Weary Willie.

"Four dollars," repeated Isaac.

"Well, here's your four dollars," said Weary Willie. "This overcoat was hangin' outside yer shop, and I was wonderin' how much it was really worth."—Los Angeles Times.

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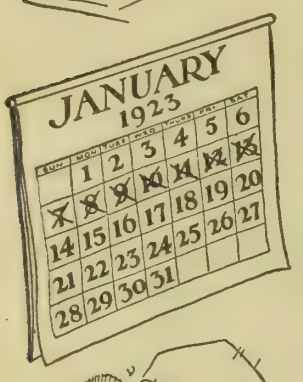


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# The Scrub Bull is Dead

By C. B. Messenger

THE scrub bull is dead. Unfortunately we cannot say: "All scrub bulls are dead." Also, unfortunately, we cannot say: "The worst of the scrub bulls are dead," for we take it that in some points at least the one whose funeral oration is given below was, as scrub bulls go, a fairly good animal. But his performance was not satisfactory so the question of his being really worth while in this world was passed up to a jury of 12 "good men and true." We are a bit afraid the jury, which was composed of farm bureau men, was a bit prejudiced against the defendant, but there is one satisfaction in that they reached a verdict.

It all happened at the recent dairy show at Fresno. The bull was not a purebred, in other words it was a "scrub." He had not succeeded in raising the producing quality of the dairy herds of Fresno and Kings Counties so he was brought to trial. He appeared in person on the great platform on the auditorium and looked with wondering eyes at the "court," "jury," "lawyers," and "spectators." He was prosecuted by Farm Adviser Hayes of Fresno and defended by Farm Adviser Sullivan of Kings County. The prosecutor charged that the bull was worthy of death because of his inability to produce efficiency in dairy herds, with various and sundry other charges. He proved his case by two witnesses. "Lawyer" Sullivan introduced no witnesses but trusted in his eloquence with the "jury." The strongest point he made in defense of the bull was that he was cheap. The farmer with small means could buy him, while if he borrowed money and purchased a purebred he would have so much invested that he could not afford to "beat up" the bull. "Dairymen are temperamental and occasionally have to relieve themselves by beating up somebody." "A high priced bull would make expensive beating, so naturally the dairyman would turn to his wife." This caused profuse weeping on the part of the jury. However, they soon retired and brought in a unanimous verdict: "Guilty as charged." The court pronounced death sentence and later Sam H. Greene of the Dairy Council pronounced the oration. His success was such that the populace with one acclaim did say: "If Shakespeare did not write his plays it was certainly not done by Francis Bacon but by Sam Greene."

THE BURIAL OF TAURUS, SCRUB BULL

By Sam H. Greene, Secretary-Manager, California Dairy Council

(With Apologies to the Shade of Wm. Shakespeare)

Friends, Farmers, Dairymen, lend me your Ears!
I come to bury this here scrub, Taurus.
Not to praise him.
The evil that men do lives after them:
The good is oft interred with their bones.
So it is with this miserable beast
Whose ignominious end
We here are congregated to celebrate.
The evil done by this poor, nameless scrub
Will live to the dying day of the last
Low producing daughter for whose existence
He is responsible.
The only good he can do is to die.
That his putrid carcass may be used as fertilizer,
Or to increase the general supply of soap grease!
For a short space of years he reigned as king.
But he was not ambitious. It was a grievous fault,
And grievously shall he answer for it.
He hath brought numerous progeny into the world
Whose lacteal product did the general want fill,
But only at great cost
And insufficient labor to their owners.
Time was when men did hold Taurus of great value
And of his qualities did tell with pride.
I speak not to disprove what those men spoke,
But here I am to speak what I know.
You all did love him once, though without cause.
What cause doth justify you now to mourn for him?
But yesterday the fame of Taurus
Might have stood against the world!
Now he lies here,
And none so poor to do him reverence
O masters! if I were disposed to stir
Your hearts and minds to mutiny and rage,
I should hold you here spellbound
With stories of his cursed wrongs!
Good friends, sweet friends, let me not stir you up
To such a sudden flood of mutiny.
They that have used such bulls are honorable men.
What private griefs they had,
I know not that made them do it;
But certain it is that those men,
Though honorable, yet were not wise.
If you have tears, prepare to shed them now,
The while I tell you of
His crimes and misdemeanors.
I am no orator;
But, as you know me all, a plain, blunt man;
And I have neither wit, nor words, nor worth;
Action, nor utterance, nor power
Of speech to stir men's blood.
I only speak right on!
I tell you that which you yourselves do know.
I show you Taurus' lack of points
(Poor, poor, dumb mouths),
And bid them speak for me:
Observe his sullen mien.
Take note his crooked back and broken rump;
Slab sided ribs and narrow chest:
His dull, dead eye, his rough and homely coat.
O my masters! can there be men
Who yet believe that such a beast
Is fit to raise up dairy herds
For good Americans!!
Away with him!
Let us look upon his like no more!
And here today make high resolve
That we will rid the fields and
The fair hills and valleys of California
Of his detested kind forever!
Here was a scrub,
Representative of a thousand others.
We'll burn his body in the market place.
And, with the brands, fire the funeral pyres
Of hundreds like him.
Now let it work.
Knowledge thou art afoot:
Take what course thou wilt!

# New High Producing Cow Again a Holstein

Kolrain Marion Finderne, a Holstein cow owned by Loeb Farms, Charlevoix, Michigan, is the new high record cow for the entire world outside of the state of Washington, having just completed her test with a record of 35,339.5 pounds milk containing 1,022.85 pounds butter fat equivalent to 1,278.56 pounds

New Champion East of the Rockies
Holstein-Friesian cow, Kolrain Marion Finderne, owned by Loeb Farms, Michigan, produced 35,339.5 pounds milk in one year.

butter in 365 days. She stands second only to the Washington Holstein, Segis Piertje Prospect who produced 37,381.4 pounds milk in one year. Previous to making her recent great record the Loeb cow at four years of age produced 1,036.3 pounds butter from 28,851.8 pounds milk. Following the making of this exceptional record she proceeded with but two weeks rest on the next yearly test which brought forth her recent 35,000 pound record. She is the champion cow of Michigan for all ages in both milk and butter production and is Michigan's second cow to produce over 30,000 pounds milk, as well as the second cow in that state with two year records above 1000 pounds butter.

### O'CONNOR OPENS NEW AUCTION PAVILION

C. H. O'Connor and Son of Los Angeles, who have built up a big business in that city and in the surrounding country in sales of real estate by auction, opened a new pavilion for livestock sales at Hynes on November 28, with a barbecue and a band concert as incidentals to a sale of dairy cows for William Thompson.

The new plant is the last word in equipment for dairy sales, having separate accommodations for clean cattle removed from the regular run of sales stock, up-to-date milking barns and extensive yard space. Roy Rule, a well known livestock auctioneer, does most of the selling with occasional help from the head of the firm.

A big crowd packed the grounds on the opening day and the offering of cattle was very excellent and sold quickly and well. The average for the sale was about $200.

This firm has been doing some selling of livestock while getting ready for their own plant and has had very good success. The main office is in the Pantages Theater Building in Los Angeles.

### STEER FEEDING COMBINATIONS

Feeding tests at the Colorado experiment station have shown up some good steer feeding combinations. These rations in order of their economic importance, are as follows:

No. 1—Wet pulp, 80-100 pounds; beet molasses, 2-4 pounds; cottonseed cake, 1-3 pounds; alfalfa, 8-12 pounds.

No. 2—Corn silage, 25 pounds; dried molasses beet pulp, 8-10 pounds; cottonseed cake, 1-3 pounds; alfalfa, 8-12 pounds.

No. 3—Corn silage, 25 pounds; beet molasses, 2-4 pounds; barley, 6-8 pounds; alfalfa, 10-14 pounds.

No. 4—Corn silage, 25 pounds; barley, 8-10 pounds; alfalfa, 10-14 pounds.

No. 5—Corn, 5 pounds; dried molasses beet pulp, 5 pounds; alfalfa, 12-14 pounds.

Where wet pulp is available the above combination with other feeds has proved most satisfactory. Cottonseed cake even at $55 per ton, will give better returns fed with wet pulp and molasses, than will corn or dried molasses beet pulp. Dried molasses beet pulp is equal to corn when fed with corn or corn silage, but when fed as the only grain in the ration has a lower feeding value than other grains and will not give satisfactory returns.

Beet molasses is, next to wet pulp, the cheapest cattle feed. It can be fed mixed with the grain or on the hay.

Rather than to feed straight corn and alfalfa, it is advisable to combine dried molasses beet pulp with the corn in a half and half mixture. The price of corn can be paid for the dried molasses beet pulp and better results will be secured than with straight corn.—E. J. Maynard, Colorado Experiment Station.

### FEEDING DAIRY COWS

A balanced ration for a dairy cow is entirely different from that of a fat steer because their requirements are different. There are three groups of compounds in all foodstuffs that must be considered in making a mixture of feeds. They are known as protein, carbohydrates and fat. Protein includes those compounds containing nitrogen which enter into the composition of muscle, hair, skin, blood, milk, etc. It is impossible to develop a young animal properly without a sufficient amount of protein. A cow cannot produce all the milk she is capable of producing unless she has a sufficient amount of protein. Alfalfa, clover, peas, oats and bran are especially valuable to the dairyman because they contain a large amount of protein. Cows that receive only timothy hay, corn fodder, beet pulp, roots, corn and barley do not produce to their capacity because they are not getting enough protein. No other substance can take the place of protein as a milk producer and a tissue builder. In addition to these uses, it also furnishes heat and energy to the body and may be changed into fat.

Carbohydrates include the fiber, the starch and the sugar of the feeds. They also, as well as protein, provide the body with fat, heat and energy. The fats in the food produce heat, energy and fat in the body. Linseed and cottonseed oils are examples of plant fats. One pound of fat produces about 2.2 times as much heat as 1 pound of protein or of carbohydrates. Only part of the protein, carbohydrates and fat given in the food can be digested and used by the body, the rest passing away in the excrement. Only the digested compounds benefit the animal. The non-digestible compounds that pass away in the excrement have no value. Non-digestible fiber has no value and an excess of it is an injury to a cow, as energy is required to get rid of it. This is particularly true of straw and shows why straw should not form a large part of the ration. If a cow eats 100 pounds of clover hay, she digests 7.1 pounds of protein, 37.8 pounds of carbohydrates and 1.8 pounds of fat; 53.3 pounds passes from the body and is of no value as food. A large portion of the nutritive compounds are soluble in water and when hay or other foods are wet by rains or improperly cured their food value is decreased.

Special attention should be given by the dairyman to the preparation and combination of his feeds and especially to the curing of his forage. When giving a large flow of milk on dry feed, cows generally require considerable grain to maintain the milk yield. The amount of grain given with the ration should be gauged by the milk flow. A good rule is to give 1 pound of grain per day to every 3 or 4 pounds of milk produced per day or give as many pounds of grain per day as pounds of butter fat produced per week.—Colorado Agricultural College.

### FAR, FAR AWAY

A Kentucky lad's enlistment in the navy expired. A friend gob asked him what he thought of the sea.

"Just this much," he said, "I'm going to put an oar over my shoulder and walk inland—and I'm going to keep walking and walking and walking until someone stops me and asks, 'What's that thing you've got over your shoulder?' then I'm going to settle right down there until I D-I-E."

When you stand up for yourself others may be prevented from sitting down on you.


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# Around the Ranges

By A. L. Spellmeyer

THIS is written in the first part of December, at the time of the lowest Southwestern feeder and stocker cattle prices for light catttle we have known in more than ten years. It is written during a month in which fat hogs locally declined from 11 cents to 9 cents, and when lambs have shown an advance from 12 cents to 13.75. It is written during a period of range clean up caused by short winter feed, high priced hay, or money need, and before California has the lush grass that makes men itch to get stock to graze it.

The range unrest, the farm unrest, and the entire national feeling in agricultural circles has been recently reflected in political developments at the nation's capital. The will to take and the lack of the will to give a little also is forcing through the nation a group agrarian solidity of caste action that may bring momentous changes in the methods of food marketing in this nation.

Right or wrong as it may be oil companies and others pay tremendous dividends that are subject to no income tax. The government is digging back four and five years to make some farmer or livestock man pay additional taxes for those periods. The war finance has helped some men through their banks but directly, as thousands of men will testify, it is a great disappointment and does not do more than stimulate the paper already held in the banks, for the bank has to back every loan, and the red tape is distasteful, especially to the range producer, who even prefers the 9 per cent and expense bond method or borrowing. The joint land stock banks advertised as a panacea are either inactive or creaming a few loans. No general wide effort exists to help actual production or small individual men who comprise the bulk production. Men in livestock production are hard up, with unpaid notes, and with drouth, low markets, a multiplicity of troubles and involvements that have come to them. They would pay all they can, but many for the first time in long hard working years have been unable to keep their written words. The court calendars are crowded with note suits, foreclosures and transfers, the lawyers are busy, and the banks are using in most instances a lenient policy where good intention exists.

In parts of New Mexico and Texas and a corner of Arizona drouth has added its burden. The calf crop of New Mexico was probably not over 10 per cent this year and the lamb crop small. The calf crop in Arizona was small. Last winter California lost many cattle, but this year a great promise of the best in seven years is with us and for the south here winter grass by Christmas is already certain, with lush green feed everywhere by January sure unless a freeze comes to the north.

Snows have tied things up in the cold range districts, and the car shortage which complicated things for the livestock men in the west has cleared up. The sacrifice run is almost over, with the California grass men in a vast majority not availing themselves of the cheapest cattle in feeders and stockers they have known for a long time.

Some 75,000 cattle are being partially fed around the Phoenix, Arizona, district but these are not altogether beef stock, and some 40,000, mostly beef stock, are being fed in the Imperial district. There is in the north a comparative shortage of heavy cattle on feed from all reports.

In the sheep line the conditions are exactly opposite, for lamb and ewe and wool prices have been high and steadily advancing. The bulk of the feeder 60 pound lambs were contracted f. o. b. on an average of ten with 11.50 for some and nine for a very few. A half million of these lambs are today being fed up around the Ft. Collins, Colorado, vicinity, that stand 12 cents or better delivered there. I am informed they can't be fed this year for less than a three cent spread so a 15 to 16 cent winter fed lamb price must arrive or many will lose a lot of money. I have heard bets that Los Angeles lambs will reach 15 cents before February and others say lambs are due for a decline. Wool is around the 50 cent mark and strong. A lamb pelt today is worth more than the lamb was during the sheep decline two years ago. Hides are up, and a good packer hide probably brings now $8. The offal and hide of a good steer will go from $12 to $15, yet I have seen many yearling steers net only a trifle more than that price which were sold in the last month.

Within 700 miles of Los Angeles in various directions a probable total of 200,000 lambs are being fed, part of which are in Imperial Valley, a few elsewhere in California, some in Arizona and some in Utah.

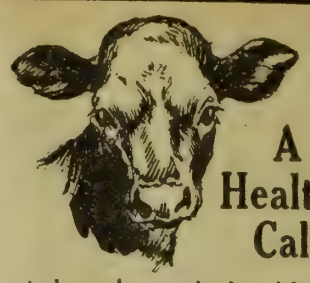
These fed lambs must start moving soon and keep it up to complete absorption by the time the early California, Arizona and Tennessee lambs start coming from the grass in May and June. A number of old ewes are being fed, but the bulk of the ewe lambs have been held to fill up depleted flocks. Range price for a good ewe figure today $12 per head with an extra $3 to $5 for the grazing right in leased land or permits. There are some who say 3,000,000 lambs are being fed in the United States and others put it at 5,000,000.

The yearly national slaughter in total sheep exceeds 18,000,000 usually, but this year may show a decline when we secure the figures. However the census number shows an inadequate sheep supply, hence a virtual state of real or fancied shortage exists that has boomed the sheep business almost to war time prices. As the fed lambs virtually supply lamb needs for a four months period only there is cause for question as to the permanence of prices based upon a 15 to 16 cent lamb, which price will mean 32 cent carcass lamb as against the present low price of 10 to 14 cent carcass beef. The packers are reputed heavy backers of lamb feeding, so there will be that also to consider.

In cattle one can hear almost anything. The demand and premium has been locally paid for heavy northern cattle. Contracts are rumored offered at 8.50 and even higher for winter beef that will fat out at 1100 to 1200 pounds good quality steers. At the same time feed is so high there is nothing in feeding a light steer at 5.50, though there is every prospect of a big profit from California grass this year on that 5.50 to 6 cent thin feeder. No feed on earth equals in quick weight gain the alfilaria, bur clover, etc. of California. In a short season flesh to start is necessary or the steer doesn't finish, but not in the kind of a year promised to us by the conditions of rain and growth we have had this fall. In six weeks of good green feed a strong steer will equal many a fleshy feeder, and if that animal gets three months more of lush green feed and one of dry, our grass product can't be beat for fat beef. It's seven years since California has had the right kind of a year, so many of the newcomers don't know, and many of the old timers are either too hard up or depressed or pessimistic as to prices to fill up the depleted ranges.

A great many cattle have been coming into Utah to the market, and these have been forwarded to Los Angeles packers or to the stockyards. There are 4,000 head today in a local feed yard almost entirely from that north district, besides those reshipped to Imperial. Denver has shipped cattle south while drawing upon Arizona for young cattle to ship north. The Los Angeles County needs are about 7000 cattle and calves weekly for slaughter. The stockyards have received something over 3000 cattle weekly, part of which have been feeders. The killers have drawn a third to a half of Los Angeles County needs through the stockyards, with increasing patronage showing.

With a national kill that exceeds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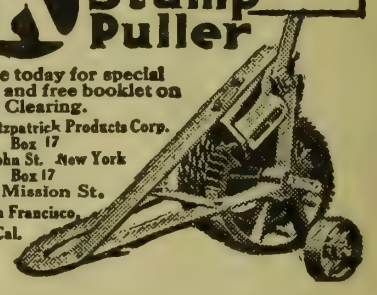
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greatly the national calf crop for several years, beef needs have been supplied at the expense of breeding not yet in sight.

## Livestock News Notes

The Kern County cow testing association for the past month tested 900 cows with an average of 665 pounds milk and 28 pounds fat per cow. The best cow was owned by J. L. Sebastian of Wasco and produced 1947 pounds milk and 74 pounds fat. She is a registered Holstein. H. D. Grundt of Wasco had the high herd of over 15 and A. V. Bennett of Wasco was first with herd under 15.

Farmers Bulletin 1263 of the U. S. department of agriculture written by E. Z. Russell is a complete classification of the different breeds of swine with illustrations of typical animals of the leading breeds. It is very instructive and should be in the hands of all hog men. Write to the department at Washington for your copy.

The Southern Los Angeles County Testing Association turned out some good records last month. J. Van Ruiten owns the two high cows which made 100 and 79 pounds of fat respectively. The herd belonging to P. Dykzuel made the high average, which was 50.2 pounds.

Queen Carlotta De Kol, a Holstein-Friesian cow, owned by Brock and Jenks of Geneva, New York ,has just completed a yearly test with a new high record for the Eastern states. In 365 days she produced 34,430.3 pounds milk containing 1,012.42 pounds butter fat. This new record is exceeded only by the world's champion milk producer, Segis Pietertje Prospect and by Kolrain Marion Finderne. The day following the completion of this test period, her dam, Juna Price De Kol, finished her yearly test with well over 27,000 pounds milk. This record with that of her daughter averages close to 31,000 pounds milk, which has been beaten only once by a combination of daughter and mother. Kolrain Marion Finderne and her dam hold the world's record in this class. Their combined production is 31,167 pounds milk in one year.

With a total yearly production of 33,368.1 pounds milk containing 1,119.95 pounds butter fat equivalent to 1,399.93 pounds butter, Poplar Jewess De Kol, a Holstein owned by Wheatfield Farms Association, Inc. of La Salle, New York, is the second New York Holstein cow during the past month to produce over 33,000 pounds milk under semi-official test for 365 days. With this extraordinary record to her credit the Wheatfield cow ranks sixth among the world's leading cows of all breeds and ages for both milk and butterfat production.

## Veterinary

**Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.**

### Drying Up Cow

Please tell me how to dry cow up. She has been milking ten months and will be fresh about February 1. She has been giving two gallons of milk per day until now. She is staked out in green barley during the day and given one flake of alfalfa at night with no concentrates.—Subscriber, San Gabriel.

Our best answer to this question is don't do it. If you have a good cow that will give a good flow of milk right up to the time she comes fresh don't risk spoiling her by forcing her to go dry. When the milk starts again the milk that was left in the udder may not have all absorbed and it may cause milk fever or inflammation of the udder and cause you all kinds of trouble and may ruin the cow. If the milk does not taste right just before she comes fresh throw it out and continue to do so for three or four days after she is fresh. Maybe she will not start off with such a rush of milk for the first week after calving as she would if she were dry, but she will more than make it up before the year is passed. Read what we tell the others also.

### Bloody Milk

I have a milch goat that gives bloody milk. The blood is well mixed with the milk so it is not noticeable before it settles most of the time. However at times the milk looks pink when drawn from the goat. Is there any remedy?—Subscriber, Selma.

Bloody milk is caused by so many different things that it is hard to prescribe for it without knowing the cause. It may be a bruise or inflamed udder or a microbe that gets in the milk. It would be safe to give salts in the feed. Mix one pound of epsom salts with half a pound of common salt and two ounces of ginger. Give a tablespoon of the mixture in the feed twice a day. Also get one ounce of the tincture of iron and give 10 or 15 drops in a little water once a day as a drench.

### Lumps in Udder

Our eight year old cow came fresh three weeks ago. At first the calf did not suck so I milked the cow. Later the calf started to suck the cow and I left it with the cow. After a few days I noticed lumps forming in the udder. They have grown until now they are the size of a turkey's egg and are in the hind quarter. The milk has been reduced about one-half. I have taken the calf away and am milking the cow. I massage the udder several times a day and use hot water and rub on a salve with no results. The cow is on good alfalfa pasture and gets good alfalfa hay and grain hay. Will she ever be as good as she was? What would you advise doing for her and what to feed her in the way of grain?—Subscriber, Orland.

Probably the calf did not take all the milk out of the udder. When the milk is started it should be all drawn out. We can only advise giving the old reliable remedy. Mix three pounds of epsom salts, two pounds of common salt and four ounces of ground ginger. Give a handful in the feed twice a day. It will thin the blood and help to carry off the refuse. Feed very little grain and be sure she gets plenty of water. When using hot water to bathe the udder it should be dried thoroughly. If allowed to dry by itself the evaporation will chill the parts and do more harm than the heat did good. If any benefit is derived by applying salve or ointment it is from the rubbing and not from the salve. The skin is too thick for anything to penetrate. Less salve and more rubbing is better. If you would wrap the udder with soft cotton and support it with strips of cloth over the back the warmth from it would do some good. When a calf is allowed to suck the cow it should be at regular intervals and when the calf has enough the cow should be milked out clean at that time. Twice or at most three times a day is enough for a calf to feed.


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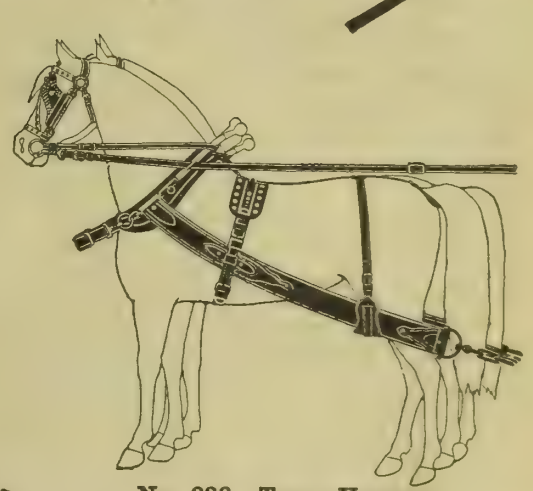

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# 4000 Barley

By R. A. Condee

DURING the summer of 1920 Professor G. W. Hendry of the division of agronomy at Davis university farm, sent the California Junior Republic vocational high school a small sample of Mariout and Four Thousand seed barley.

In the fall of that year the students in the farm group of the Republic planted these samples under the row method in small beds. The following summer this grain was harvested by hand, the number of berries counted and the heads showing the largest number of berries of the best texture saved for seed.

During the summer of 1921 the Republic was able to secure through Professor Hendry enough seed barley of the Four Thousand variety to plant eight acres under field conditions. They also planted 20 acres of Mariout. During that season we were able to compare the production from the two varieties on the same type of soil and under the same conditions with the regular common coast barley.

This experiment seemed to show that the Mariout was not adapted to the condition prevailing in the Chino Valley but the Four Thousand proved a great success on the California Junior Republic farm.

History

The production of the Four Thousand barley dates back to an experiment which has been conducted for a number of years at the farm school at Davis under the supervision of members of the staff of the division of agronomy.

This barley is a pure line selection of common barley, and Professor Hendry reports the experiments at the farm showing that this improved selected seed would give a production of about 10 per cent over the common barley. Not much publicity has been given to this work as yet, and the results given here are simply the results obtained from one year's experiment in planting and harvesting this improved seed barley.

The experiments made by the college of agriculture seem to indicate that Four Thousand barley is more prolific than common or Beldi, but not as drouth resistant as the Mariout nor as suitable for sections where cold and wet soil prevail as the Tennessee Winter.

During October 1921 a ten acre tract was plowed to the depth of seven inches and left without further work until November 10 of that year. This field had that summer grown a crop of Indian corn which had been cut for silage.

During 1919 this field had been planted to alfalfa, and this was plowed under previous to the time the corn had been planted. In this respect the field was in better condition than is found in most cases where the dry farming method is used in raising barley.

In November, after a very light rain, this field was disked, harrowed both ways, re-disked and re-harrowed, thus leaving a very satisfactory seed bed. On December 2 eight acres of this field was planted to Four Thousand barley seed and two acres to common grown the previous year on the Republic farm.

The seed was planted by the broadcast method, 60 pounds to the acre being used of the Four Thousand and 75 of the common. After broadcasting the field was harrowed both ways and no further work done until after the rain early in January, when the young barley was harrowed over once.

The soil in which this barley was planted is what is known in the Chino Valley as "black adobe," a very heavy loamy soil.

Previous to the alfalfa planting this same field had grown barley under the dry farming method for some 15 years. After the last harrowing this field was left without further work until the time of binding. During this season the rainfall in the Chino Valley was about normal, namely about 12 inches.

With the growing of this barley was 40 acres of common barley on similar soil, but mostly on hillsides, or in sandy loamy soil so it could hardly be used as a check on the production for the experiment. However, two acres of common barley on the ten acre piece (on eight of which was planted Four Thousand) gave a very good check for the season. The results were as follows:

Four Thousand barley, eight acres, total production 250 sacks; average sacks per acre, 31¼; average weight per sack, 106 pounds.

Common coast barley, two acres, total production, 27 sacks; average sacks per acre, 13½; average weight per sack, 83 pounds.

The above figures go to show that Professor Hendry is very conservative in his statement that Four Thousand barley will yield 10 per cent more grain than the common, as our experiment on the Republic farm shows a yield of 50 per cent more than the common. We are willing to concede that this was made under rather favorable conditions but feel that even at a conservative estimate Four Thousand improved seed barley will yield 20 per cent more under regular farm practice in this locality. If this is true farmers will add on a basis to the normal production of ten sacks to the acre two additional sacks to their harvest, which will easily pay for the seed and harvesting of the grain.

The barley fields on the California Junior Republic school farm are typical of those throughout this section, having been a part of a large ranch which had been "dry farmed" to common for the past 15 or 20 years. This barley has been produced under very crude farming methods, the adobe soil simply being scratched by disking and the seed planted in a harrow seed bed with one harrowing.

This has caused continual lowering of the amount of barley produced per acre in this valley, therefore we believe that not only this valley but other interior sections of California will profit by using this improved seed made available through the agronomy division of the university of agriculture.

## LIMA RETURNS ON 1922 CROP

This has been a favorable year for growers of Lima and Baby Lima beans. Members of the California Lima Bean Growers Association received by December nearly $1,750,000 in early payments on their 1922 crop.

Such a large and early distribution to association growers is chiefly the result of the active sale and movement of beans at good prices, and is also partly due to a special financial arrangement which the association succeeded in making with several large banks.

Until this season, one of the biggest problems of the bean grower was to get enough money early in the fall, to pay his harvesting expenses and taxes, and the matter of getting quick returns has been the chief reason why many reanchers for years followed the practice of selling their crop to speculators shortly after the harvest, instead of marketing through the growers' cooperative association. The problem of early payments for the growers appears to have been satisfactorily solved by the association through its new advance payment plan.

In the late summer and early fall Manager Churchill worked out a plan which enables the association to secure about the middle of November short time loans by using warehouse receipts as collateral security. The association may secure up to about 70 per cent for the average season's crop value and not exceeding 4 cents per pound on actual or estimated recleaned weights. When required in excess of funds received from proceeds of sales, such money is secured at an interest rate of 6 per cent.

After an unsuccessful effort upon the part of certain speculative interests who sold "short" to "bear" the market in August and September, the bean market opened up favorably

early in October. Since then it has shown considerable activity and substantial price advances.

Growers affiliated with the California Lima Bean Growers Association received payments about October 15 on account of their September deliveries, amounting to approximately $730,000. and about November 15, on account of their October deliveries, they were paid a little more than $1,000,000. A portion of this last payment was to meet the request of growers for an additional payment of 1 cent per pound, but the greater part applied to bringing the total payment up to 3 cents per pound on both varieties, funds for which were secured from the proceeds of sales and shipments.

The 1922 production of regular Limas in Southern California was about 1,100,000 bags. There were about 170,000 bags of Baby Limas. It is estimated that more than half the crop of regular Limas and nearly 75 per cent of the Baby Limas were sold before November 15.

Because a large proportion of growers who are not members of the association sold their beans as soon as harvested and before prices advanced materially it seems reasonable to assume that members of the California Lima Bean Growers Association will fare better than the average of the outside growers this season.

## BEAN GROWERS WAREHOUSE

The California Bean Growers' Association is the latest of the California cooperatives to handle its products direct from the field to the distributors. Last week it put into operation the first unit of its Pittsburg plant.

This warehouse and proceessing plant is probably the most modern in the country and in it the beans of its members are cleaned, processed and stored. The warehouse is 300 by 80, with a six story cleaning, processing and sacking department; a 1000 sack capacity fumigator and warehouse with a capacity which will enable it to handle a half million sacks during the season.

It is situated on the San Joaquin River and has railroad connections with three trans-continental lines, making it possible to receive beans from all sections of the state and ship all over the world by rail and water.

The ultimate aim of the association is to pack and distribute its product under its own brand.

## CERTIFIED SEED POTATO GROWERS MEETING

The California Certified Seed Potato Growers will hold their annual meeting in Sacramento in the afternoon of December 13. There will be a very important address on the marketing of seed potatoes by E. G. Swift who has had large experience with marketing problems. A history of the development of certified seed work and of standards will be given by the potato specialist of the department. E. D. McSweeney will talk on the further improvement of certified seed. An election of officers will also take place.

This meeting will be held during the week of the Fruit Growers Convention and it is hoped that everyone interested in certified seed potatoes will arrange to be present.—W. V. Shear, Potato Specialist.

## LOWERED FREIGHT RATES FOR NEVADA

Reductions in freight rates are announced by the Southern Pacific on all commodities now moving under class rates from San Francisco and Sacramento to points in western Utah and in Nevada, as well as locally within Nevada, ranging as high as 50 per cent and averaging about 25 per cent. These became effective on November 25 on intrastate shipments and will become effective December 31 on interstate movements.

This will establish relatively the same scale of rates to branch as to main line points, however, observing the principle followed in California of somewhat higher rates for branch line hauls than for main line hauls. The installation of these new rates will form a more equitable basis for all freight moving under class rates from San Francisco into Nevada and western Utah as well as from Salt Lake City and Ogden into Nevada.

Book Review

## CYCLOPEDIA OF HARDY FRUITS

"Cyclopedia of Hardy Fruits" by U. P. Hedrick, vice-director and horticulturist of the New York agricultural experiment station, published by the Macmillan Company, New York.

This book was written "for fruit growers, nurserymen, students, agricultural agents, buyers of fruits," in fact everybody interested in fruits, and that includes the whole world. It is a cyclopedia of "hardy" fruits, and California is a grower of hundreds of thousands of acres of hardy fruits so all her growers will have keenest interest in Dr. Hedrick's book. Even the grower of subtropicals will find it almost a necessary addition to his library. Dr. Hedrick's life has been spent with fruit trees, and he has brought together facts in this book which will "aid in identification of varieties," "guide in choice of varieties," "sort the names now in use," "state in what regions varieties originated," etc. Dr. Hedrick says in his preface:

"The purpose of this manual is to describe the varieties of hardy fruits grown in North America. A new book describing hardy fruits needs no justification. Downing's "Fruits and Fruit Trees" and Thomas' "American Fruit Culturist," in their many editions, have served two generations of fruit growers. Both are worn out tools. Most of the varieties described by these authors are not now found in American orchards or nurseries. Many of the kinds they discuss have never been grown in this county, the descriptions published having come from European fruit books. On the other hand, none of the varieties of this century is described in Downing or Thomas. Moreover, the descriptions of these old workers are too scant and fragmentary to have great value in modern pomology. A new manual of fruits is needed to take the place of Downing and Thomas, valuable as these books were for their day.

"The plan of the book is simple. A brief glance through its pages should suffice to reveal even to the beginner in the study of pomological literature the arrangement of fruits and their varieties and the presentation of names and synonyms. Clearness and simplicity have been sought that the reader may with the least trouble obtain a perfect mental picture of the variety described."

The volume is about the same size as the voulme of Bailey's Cyclopedia of Horticulture and is magnificently printed and bound. There are many drawings and half tone illustrations. The frontispiece is a plate of especially fine color work showing a Baldwin apple. There are also other color plates showing Bartlett pear, Concord grape, and Good Luck strawberry. Although it is a cyclopedia it is arranged in parts and chapters. The fruits are divided into pome fruits, drupe fruits, grapes, brambles, currants and gooseberries, heath fruits, strawberries, and then a chapter given up to miscellaneous fruits such as persimmons, mulberries, pawpaws, elders, highbush cranberries, Buffalo berries, etc.

There are 26 chapters touching upon these various types of fruits. For instance, under part II, which deals with drupe fruits, there is one chapter given to "botany of the drupe fruits," then a chapter each given to apricots, cherries, nectarines, peaches, plums, etc.

## SUGAR CANE BUD SELECTION

A. D. Shamel, in charge of horticultural and pomological investigations in California, writes from Riverside:

"I find the articles you sent on sugar cane diseases very interesting, particularly as the authors recommend in each case stool selection as control measure. This fits in with our plan of bud selection, in Hawaii, based upon superior parent stools. Our extensive progeny fields on 39 of the 43 plantations are for the purpose of finding inherently superior stools for propagation."

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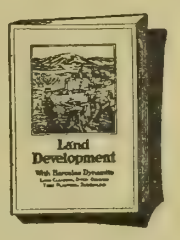


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**Mr. and Mrs. Poultry Farmer:** 200,000 baby chicks for 1923 delivery from Hoganized flocks of fully matured breeders. No pullet eggs used. White and Brown Leghorns, Anconas, Minorcas, R. I. Reds, Barred Plymouth Rocks. Send your orders now. Will deliver when you want. Ansel W. Robison, 1196 Market St., San Francisco. Oakland Branch, 1737-39 Broadway, Oakland.

**Baby Chix Electric Hatched**—Booking orders for 1923 delivery. R. I. Reds, Barred Rocks. Our S. C. White Leghorns are from hens of George England strain mated to cockerels from the A-1 matings of the trap-nested stock of the Bonnie Brae Farm at Burbank. Write for price list. RED LOCK HATCHERY, 305 North Main Street, Artesia, Calif.

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The fine art of earning a comfortable living on one acre in California. For those who desire to dwell in sunny California without living up hard earned capital. For 18 years proprietor of the most intensive Egg Farm in the world and Founder of the Famous Charles Weeks Poultry Colony at Palo Alto, California. The Charles Weeks Poultry Colony No. 2 is now being established at Owensmouth, California, 26 miles from Los Angeles. Write for literature. Charles Weeks, Owensmouth, Calif.

IN SAN FERNANDO VALLEY

**For Sale**—30 acres, special bargain. 10 acres alfalfa, 8 acres of lemons, 8 acres oranges, 2 acres grapefruit, all 7 years old and in fine condition and crop. Family orchards of apricots, peaches, pears and plums. Cheap water for irrigating, with 10-inch cement pipe. Can irrigate in one day. California house and bath. Chicken houses. Price $1350 per acre. This is a safe investment as four or five crops will pay for it and will double in value. Come to Glendale and see this. H. S. Parker, 1801 S. Brand Boulevard, Glendale.

**For Sale—A Money Maker.** Can be leased for oil. Fifteen (15) acres nine year old lemon orchard in perfect condition. Splendid crop on trees at present. This grove is 23 miles from the Court House in Los Angeles with two boulevards running to it. The very best of soil. Los Angeles Aqueduct Water. In the strictly frostless foothills of San Fernando Valley. Frost is unknown in this section. Ideal spot for country home and a good income. See OWNER, 1203 Loew State Building, Phone 15118, Los Angeles, California.

BUY DIRECT FROM THE OWNER
**Irrigated river bottom lands in Sutter County. Rich, deep soil with a complete irrigation and drainage system. Southern Pacific Railroad and Sacramento River Transportation. Liberal terms, six per cent interest.**
Sutter Basin Company,
California Fruit Building,
Sacramento, California.

**To Close Estate**—200 acres of the best land in California. Situated 1 mile from Chico, on paved road—rich soil 20 feet deep. In 10 acre tracts at $400 per acre. 10 per cent down, small payment each year on principal. 6 per cent interest. J. F. Morehead, Box 611, Chico, California.

**Going Dairy and Alfalfa Ranch,** electrically equipped. 312 acres; 100 head Guernseys, headed by good bull. New $8,000 home, $3,000 tank house, barns, etc. Implements, milking machines, etc. Want to sell immediately with or without stock. Ras Nielson, Hollister, Calif.

**For Sale—180 Acres** in famous San Joaquin Valley. Fenced, cross-fenced, good buildings, plenty of water for alfalfa and rice. Two crops grain, wheat or barley followed by corn. Fine grape land. Will divide to suit. Write owner, C. L. Bartlett, Wasco, California.

**A Post Card will bring you a list of little** farms and chicken ranches in the famous San Gabriel Valley near Los Angeles. Fred W. Kelsey, 209 So. Rosemead Avenue, El Monte, California.

**For Sale or Trade**—10 acre improved ranch near Indio. Grapes, figs, dates. What have you? Owner, Box 7, Indio, California.

**Cash Buyers**—Want Western farms and ranches. Describe, state lowest price. R. A. McNown, 370 Wilkinson Bldg., Omaha, Neb.

**For Sale**—50 acre bearing orchard on highway near Chico; prunes and pears; easy subdivision. A good home. Levi H. Maxwell, RD. 1, Chico.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**For Sale**—160 acres rolling vineyard land; one mile south of Vista. $50.00 per acre. Terms. H. R. Hanna, San Marcos, Calif.

**For Sale**—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.

## TURKEYS

### GIANT BRONZE TURKEYS

**Large turkeys can be raised at practically same cost as small ones. It is in the strain. One of our toms will give you five more pounds of meat to market in all his get the first year; besides vitality and beauty.**

GOLD NUGGET STRAIN
J. Will Blackman, Originator

**Again prove their superiority by winning at California State Fair, September, 1922. Gold Special Sweepstakes for best turkeys in the show. All breeds competing. In open class they won 1st old tom, 1st and 2d yearling tom, 1st and 3rd yearling hen. This, along with practically every Gold Special Sweepstake at the West's greatest shows since 1915, prove that they have**

AN UNEQUALED RECORD

**Toms and hens for sale. Book orders now for December delivery as each year we are sold out early.**

BLACKMAN & MUMFORD
609 East Third St., Los Angeles, Cal

**Mammoth Bronze Toms and Hens,** also eggs in season. Our stock are California State Fair Winners and graded from the best Eastern blood procurable. Twenty years of practical experience with turkeys. We offer good opportunity for turkey raising on this thirty thousand acre range. John G. Mee, breeder of turkeys and herding Collie dogs, San Miguel, Calif.

**White Holland Turkeys**—Toms, $13.50; hens, $7.50. Bronze toms, $12.00-$18.00; hens, $8.00-$10.00. Bourbon Red toms, $16.00; hens, $8.00. White guineas, either sex, $3.00 each, $8.00 trio (male and 2 females). Pea fowl, $40.00 pair in full plumage. Houdan eggs, $2.50 for 13. B. Hocking, 541 E. 33rd, Los Angeles, Calif.

**For Sale—Mammoth Bronze Turkeys, Gold Bank strain. Winners for 16 years at** Madison Square Gardens, N. Y. Our toms won 1st and 2nd at Hanford Poultry Show, December, 1921, and two firsts at Antelope Valley Poultry Show, January, 1922. Selected toms, $20.00; hens, $10.00. R .H. Corum, Muroc, Calif.

**For Sale**—The Goldbank Strain Turkeys are heaviest layers. Mountain bred with unequalled record. 123 chicks from 3 hens raised 98 fine hardy birds. Toms $10.00; hens, $6.00. Three $16.00. Order early. E. H. McCain, Big Pine, Inyo County.

**For Sale—Mammoth Bronze Turkeys,** premium stock. Toms weighing from eighteen to forty pounds—hens fourteen to twenty-two, according to age. Mrs. T. D. Marshall, Laton, Calif.

**Berry's Giant Bourbon Red Turkeys. A** real Western Strain—Giants in size and wonderful color. Sweepstakes winners last two California State Fairs. Write for circulars. J. J. Berry, Oakdale, Calif.

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

**For Sale**—Fine turkeys for breeders. Toms and hens. Gold Nugget stock. C. W. Young, Route 2, box 106, Whittier, California. Telephone 7694.

**For Sale—Wild Turkeys**—Best, cheapest, most certain and indispensable producers. Cash deposit secures stock. Blanche Dresser, Route C, Box 194, Tulare, Calif.

**For Sale**—Purebred Bourbon Red Toms from prize winning stock. The best in Arizona. Mrs. L. S. Grosse, Scottsdale, Arizona.

**For Sale**—Bourbon Red Turkeys of large size and good markings. Young toms and pullets, also a few yearling hens. Henry E. Hill, Route C, Box 132, Hanford, Calif.

**Bourbon Red Turkeys** from prize winners. Pairs or trios not related. Mrs. John Bernstein. R. A. Box 109. Hanford, Calif.

**21 Years a Specialty Breeder** of Mammoth Bronze Turkeys. Prize winning stock. Mrs. Frank Browning, Nampa, Idaho.

**Turkeys**—Purebred Mammoth Bronze Goldbank Sanders Strain, toms and hens. Mrs. R. M. Osburn, Newman, Calif.

**Turkeys**—Purebred Goldbank Boy Strain. Toms $15.00 and $20.00. Gambonini Ranch, Marshall, Calif.

**Goldbank Strain**—Giant Bronze turkeys. Young toms and hens for sale. J. E. Mintun, R. F. D., Livingston, Calif.

**Bourbon Red Turkeys,** Red Carnauex pigeons. Mrs. George T. Smith, Hardwick, Calif.

**For Sale—Bourbon Red Turkeys**—order before holidays. Mrs. R. E. Stevenson. Visalia, Calif.

## WANTED

**Wanted—Men with cars in each California County to represent established farm paper selling and collecting. Turn your spare time into money working part or all time. To responsible persons liberal guarantee, good territory and promotion. Write California Cultivator, 317 Central Avenue, Los Angeles.**

**Wanted**—Man and wife to raise 2000 turkeys on shares. Have 300 acres, forty acres turkey fenced. Electric incubators. Horses, implements and cows. H. R. Hanna, San Marcos, Calif.

**Wanted**—Ragged Robin Rose cuttings. F. G. Sheffer, 515½ W. 3rd Street, Los Angeles, California.

**Wanted**—Walnut Meats and cull walnuts. Fred L. Mitchell & Son, 214 French St., Santa Ana, California.

## GEESE

**For Sale—Mammoth Geese $5.00 each—** will not last long at the price. An early order gets the bird. Chas. McNeely, Alpaugh, California.

## SEEDS AND PLANTS

**Strawberry Plants—The Progressive Everbearing** will yield more than 40,000 boxes to the acre when properly handled, the first year they are set. Price $1.50 per 100; 500, $7.00; 1000, $10.00. Also a mixed lot of plants that will yield a record bearing crop. 40 feet square gave me 1200 boxes this year from these mixed plants. Nothing better for big crops. Price 75c per 100, $5.00 per 1000. All plants postpaid. W. R. Wyatt, Summit, Calif.

**Gladiolus**—Halleys, Kings, Americas, Pendletons, Primilinus Hybrids. Direct from the growers. These bulbs were grown under the best possible conditions which insures our buyers strictly No. 1 stock. State how many you want. Our prices will please you. PACIFIC BULB CO., 137 Pacific Ave., Santa Cruz, California.

BUY YOUR SEEDS NOW
Sweet Clover. White Blossom Per lb. 14c
Red Clover. Fancy, Per lb. 25c
Alsike Clover. Fancy, Per lb. 23c
Alfalfa. Fancy, Per lb. 23c
Prices Subject to change without notice.
NORWALK SEED COMPANY
Norwalk—Box 203—California

HAIRY PERUVIAN ALFALFA SEED Recommended by the U. S. Department of Agriculture and Successful Farmers. Apply for Samples and Prices.
E. F. SANGUINETTI
Yuma, Arizona
THE HOME OF HAIRY PERUVIAN

**Hulless Barley**—You buy pedigree stock because it pays, why not give your grain field the same chance The odds are even greater than in stock. McNeely's Hulless Barley will prove it to you. Chas McNeely, Alpaugh, California.

**Strawberry Plants**—Passed thorough inspection. Gold Dollars, Magoons, Oregons, 5.00 per 1000 f. o. b. Special offer 200 for $1.75, prepaid. Progressive Everbearing $1.50 per 100, prepaid. J. W. Vinacke, Aurora, Oregon, R. 1.

**Write For Prices** on fourteen different samples of alfalfa seed for your trial plot and free circular telling how each kind behaves under California conditions BOMBERGER SEED COMPANY, P. O. Box 986, Modesto, California.

**Raspberry Snell Has It.** The wonderful Giant everbearing Red Raspberry LaFrance. Many of the berries are one inch in diameter, delicious flavor. Order your plants now from Ralph L. Snell, Mountain View, California.

**Rooted Vines**—700,000 Alicante Bouchet Rooted Vines; hardy and well rooted. These vines have been inspected, certified and guaranteed true to name. They do not require dipping. Direct from Grower to You. F. C. Chapman & Son, Box 906, Modesto, or phone 1372 or 663.

**Cory's Thornless Blackberries**—One year strong transplants from heavy producing vines. 12—$2.00 postpaid. Wm. Mortenson, Route 4, box 20, Lodi, California.

**Best D. Lotus seed for Japanese Persimmon stock, also choice budded Japanese persimmon trees. It will pay you to write me today. Fred W. Kelsey, El Monte, Cal.**

**Ranaree Raspberry Plants**—Selected high grade plants from our own acreage. Twenty per cent off regular prices on all orders prior January 1. Lloyd O. Mayer, R. F. D. Box 160, Palo Alto, Calif.

**Northern California Black Walnut Seed** $8.00 100 pounds. Crop short. Order early. Grafted walnut, chestnut, filbert trees. Catalog. Felix Gillet Nursery, Nevada City, California.

**Cory Thornless Blackberry**—Extra large plants, 12, $2.25 postpaid. Satisfaction guaranteed or your money returned. Illustrated folder. Chas. E. Mortenson, Lodi, California.

**Carolina Strawberry Plants for fall planting. The most prolific and best berry. Gives crop the first year. For sale in large quantities.** Write for prices. G. M. Hawley, El Cajon, Route No. 2.

**Berry Plants Direct from Grower**—Blackberry (Cory Thornless) Loganberry, Raspberry, Strawberry, etc. Special December prices. Pure Berry Products Co., A. L. Emery, Mgr. Palo Alto, California.

**Hubam Clover**—Certified seed. Booking order for future delivery. Get our prices. Order early. W. A. Holmberg, Denair, Stanislaus County, California.

**Strawberry Plants**—Brandywine, Gibson, Carolina, $5 per M. From new planting, all stock inspected. E. A. King, 1158 W. 4th St., Riverside.

**Giant Everbearing LaFrance Raspberry** plants. Any amount. Write for particulars and prices. A. W. Gunn, Ontario, California. Box 2-157.

**100,000 Inspected Marshall** and Kellogg's Thorobred Gibson Strawberry plants $5.00 per M. Over 10,000 special price. A. Cooley, Delano, California.

**For Sale—Giant Argenteuil Asparagus Crowns.** Mather's Avocado Nursery, 160 Ventura Street, Pasadena. P. O. Box 585, Phone Colorado 6044.

**500,000 Carolina Strawberry Plants, guaranteed true to name $5.00 per 1,000.** Address, I. Asbeck, Route 2, El Cajon, California.

**For Sale**—Black Monukka cuttings forty dollars per thousand. Q. C. Webster, Brawley.

**Inspected Strawberry,** Asparagus and Rhubarb plants. G. H. Mitchell, Canby, Ore.

**We Carry a Complete Stock of Vegetable,** Flower and Field Seed. Turlock Seed Company, Turlock, California.

**For Sale—50,000 Black Monukka grape cuttings $50 per thousand. Chris Westgard, Brawley, California.**

**Giant Wonder Strawberry Plants $10 per thousand.** M. C. Diffenbacher, San Fernando, California.

**For Sale—About a million cabbage plants.** L. C. Johnson, Pomona, Cal.

## SEEDS AND PLANTS

**800 Strong Roseplants**—Ragged Robin, cheap, must move. 1310 W. 40th Place, Los Angeles, California. Vermont 7053.

**For Sale**—Tamarix cuttings $1.50 per hundred. J. Hampel, Box 7, Indio, Calif.

**Strawberry Plants**—All kinds. Price reasonable. R. T. Brown, Rd 2, Burbank.

## TREES

**For Sale**—Clean Grown Thrifty Nursery Stock. 50 Cotoneaster balled 3 feet; 100 Feijoa balled 4-5 feet; 100 Feijoa balled 3 feet; 100 Strawberry Guava balled 18 inches to 2 feet; 50 Laurustinus balled 2 feet; 50 Loquats balled; 100 Caprosma, gallon and quart cans; 100 Geum, Mrs. Bradshaw 3 inch pot. Enterprise Nursery, 1197 North Fair Oaks Avenue, Pasadena, Fair Oaks 3218.

**Get My Prices on Japanese persimmons, Kadota and Black San Pedro figs, Concord grapes, Muscats, Malagas and Thompson Seedless, rooted and Black Monukka cuttings. Nursery stock growing at El Monte, and Vista near San Diego. Easily accessible to Southern planters. Good stock at right prices. Fred W. Kelsey, El Monte, Cal.**

**Order Your Trees Now.** We have a large stock of fruit trees of all varieties including Philips and Tuscan cling peaches, Bartlett pears, cherries, plums and prunes, etc. Also all kind of grape vines, ornamental trees and berry bushes. Burke's Nursery, 100 East Lodi Avenue, Lodi, California.

**Grafted Walnut Trees on Northern California Black Roots. Placentia Perfection, Eureka and Payne. Tuscon, Phillips and Lovell Peach Trees. Stock first-class. Prices reasonable. Los Nietos Valley Nursery, Downey, California Phone 692.**

**Fruit Trees and Grapevines—Still have unsold few varieties grapes grafted on resistant root. We ship all stock on approval, if not entirely satisfactory return at our expense. Write for our special prices. J. F. Miller & Sons, Healdsburg, California.**

**Fruit Trees**—Large stock of all kinds of fruit and ornamental trees, roses, shrubs and vines, etc. Order direct from growers. Most complete line offered in Southwest. Free catalogue, express paid. CONSOLIDATED NURSERIES, Houston, Texas.

**For Sale—Citrus Trees**—1200 Marsh Seedless Grapefruit; 1500 Washington Navels; 3000 Valencia; 500 Eureka Lemons. "Fruit Growers Supply Co." buds used. F. A. Tetley & Son, Riverside, California.

**For Sale—Florida Sour Orange Seed Bed Stock** from fruit growers seed. All leading varieties Avocados, grafted Placentia Walnuts. Mathers' Avocado Nursery, 160 Ventura Street, Pasadena. P. O. Box 585, Phone Colorado 6044.

**Nursery Stock**—All kinds, prune, apple, pears, peaches, filberts (The Greatest Money Maker), berries, etc., at a saving to you in prices. Send right now for prices, etc. 32 years in business. Carlton Nursery Co., Carlton, Oregon.

**Figs for the Fresh and Canning Market—** Best kinds to plant. Get the benefit of our thirty years experience with figs and all other California fruits. W. T. Kirkman, Sr., Pasadena, Calif.

**For Sale—Wonderful Pomegranite Trees.** Rooted grape vines, all varieties of mixed fruit trees and ornamental trees. Write, W. M. Burton Nursery, Box 43, Porterville, California.

**For Sale Grafted Walnut Trees for searus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E 4th Street, Santa Ana, California. Phone 572-W.**

**Walnut Trees**—2000 Placentia Perfection; 1000 Eureka. The scions used came from the celebrated "Fay" grove of Anaheim, California. F. A. Tetley & Son, Riverside, California.

**For Sale—Grafted Walnut Trees for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.**

**For Sale**—Kadota Fig Trees. Grown from original "Taft Kadota" trees. Write for prices. W. A. Bartley, San Fernando, Calif.

**For Sale—Hachiya Persimmon Trees, grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E. 4th Street, Santa Ana, California. Phone 572-W.**

**Hachiya Persimmons**—Wonderful Pomegranates. Circular. Sherwood Persimmon Nursery, Fullerton.

**Hachiya Persimmon Trees** on lotus roots. Select buds, free from disease. Alcorns Nursery, Fullerton, California.

**Trees of Quality** on 3 year roots. Cash Nursery, Sebastopol, California.

## MACHINERY

FOR SALE — TANKS, TANKS, TANKS
Rebuilt WINDMILLS, all sizes, save half.
50 PUMP CYLINDERS
Few bargains this month: Brand new 4x22 in. $13, 5x30 in. $22, 6x30 in. $28; also double acting 8x84 in., cost $225, never in water, $95.
LISTEN!
We make TANKS in 10 sizes, 175 to 2000 gal. Better made for less.
A LITTLE ADVICE
Iron, pipe and solder sure going up. Order now and save several dollars. We will be compelled to raise our prices soon. DEMMITT CO., upstairs, 120 N. Main, Yard 816 Yale, L. A.

**For Sale**—One Samson Tractor, Model 30. Used two seasons. Would exchange for stock cattle. Durham or Hereford. Murdo G. McIver, Del Sur, L. A. County, Calif.

**For Sale - Exchange** — Auto, 8 cylinder Touring car, good shape throughout. Want surface irrigating pipe, pumping plant, tanks, what? Demmitt Co., 120 N. Main, L. A.

## CATTLE

**Guernsey Bull**—On Tuesday, December 12, offer for sale. Registered Guernsey bull, Douit King of Hollow Hill Farm. Sire, Cora's Glen. Dam, Imp. Rose IV du Douit. Herd passed second consecutive tuberculin test October 23, 1922. No abortion. Price $200.00. Location-Reche Canyon, 4 miles above Hollow Hill Farm. W. S. Chase, R 1, Colton, California.

**Holsteins—For Sale—Jane Garden Ner Abbekirk, a son of Sir Aaggie de Kol Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.**

**Guernseys—Grape Wild Farms—Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon California. A. B. Humphrey, Proprietor

**Shorthorns bred for range purposes and of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given T. T. Miller, Hollister, California.**

**For Sale**—1000 head Hereford Durham cattle, yearlings, twos, threes. 10,000 head young California bred ewes. Laughlin, 702 Pacific Street, East Bakersfield, California.

**Yearly Record Holsteins—Bulls from 50 to 1000 pound dams and by World Record sires. A. W. Morris & Sons, Woodland, California.**

**Aberdeen-Angus Cattle—Registered bulls heifers always on hand. Everything priced to please buyer. Brook Hollow Farm, Hollister, California.**

**For Sale**—One yearling Ayrshire bull, $125. One bull calf, $50. Eligible registration. J. A. Chaffin, Route 2, Box 94, Bakersfield, Calif.

**Shorthorns**—Straloch Farm 2½ miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

**Breeders of Registered Shorthorns—Mills strain; choice young stock for sale John Lynch Ranch, Box 321, Petaluma.**

**Registered Holstein Bulls of various ages for sale. Millbrae Dairy, Millbrae California.**

**Herefords—"Veramont Stock Farm," H M. Barngrover, Prop., Stockton, California.**

**Registered Herefords—Anxiety 4th strain Breeding stock for sale. Chas. Rule, Duncans Mills, California.**

**High Class Jersey Bull Calves for sale,** from R of M Dams. Grant A. Brown, El Monte, California.

## MISCELLANEOUS

**Special Christmas Offer**—Beautiful floral design stamped with two or more initials on good material, for tie rack or flower basket design for serving tray. Ten cents each. Pine cone design stamped for round or square pillow 20 cents. Postpaid. Home Stamping, 51 Montana Street, San Francisco, Calif.

**New Combination Cement Anchor Post.** Light, strong, durable, simple, attractive and inexpensive. Write for circulars and free offer. S. W. Hinckley, Patentee Lincoln, California.

**Tobacco**—Select 3 year old Kentucky Leaf. Pay for tobacco and postage when received. Five pounds smoking, $1.25; 5 pounds chewing, $1.50. FARMERS' UNION, Hawesville, Ky.

**Canco Spray Material.** Absolute control for mealy bug, Black Scale, San Jose Scale, etc. Write for circular. Aurora Seed Mill, Stockton, California, distributors.

**Hemstitching and Picoting Attachment fits all sewing machines. Price $2.00 Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.**

**4 Lbs. Salmon Bellies and 3 lbs. absolutely** boneless Codfish delivered by mail, prepaid, $2.00. Sixth zone and beyond, $2.25. Coffin Fish Co., Seattle, Wash.

**Studebaker Roadster,** new top, new tires, car in fine condition. $325 cash. 164 North Los Angeles Street, Los Angeles.

**Tobacco—5 lbs best smoking $1.90. Low** grade (mild) $1.25 Postpaid. Aden Francis, Dresden, Tenn.

## LIVESTOCK

**For Sale—Registered Percheron Stallion, "Avelene 11" Kentucky bred saddle stallion "Jack Rogers" and three saddle horses (two geldings and one mare). Also three registered Jersey bulls by "Merry King Pogis" and five young Hereford bulls (Repeater strain) all ready for use. These can be seen at the ranch which is seventeen miles north of Santa Barbara on the main highway or particulars can be had through the mail on application to the Secretary. DOS PUEBLOS RANCHO, Naples, Santa Barbara County, California**

## FOR RENT

**For Rent**—Modern dairy, equipment complete. Barn for sixty cows together with herd of tuberculin tested cows and 250 tons silage for sale. Will give terms. Box R. A. N., Cultivator, Los Angeles, or phone Burbank 52.

## PIGEONS

**White King Pigeons unmated pairs $3.00 mated pairs, $5.00, and Pearl Guineas $5.00. Paradise Valley Poultry Ranch, National City, Cal.**

**White King Pigeons**—Selected and mated for breeding at $5.00 per pair. Orchard Lofts, Box 306, M. V. R., Oxnard, California.

## PATENT ATTORNEYS

**WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.**

## HORTICULTURAL PRINTING

**Catalogues and Booklets, office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 230 Court St. Los Angeles.**

## GOVERNMENT LAND

**Attention:** Million acres Government land for farming, grazing, timber. Near R. R. Plenty water. Send for folder. Rally 941 So. Union Avenue, Los Angeles, California.

## HOGS

**Poland Chinas, Big Type—Straloch Farm 2½ miles of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.**

## SHEEP

**Hampshire Sheep—Straloch Farm 2½ miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodlands, Calif.**

## DUROC-JERSEYS

**Greenwood Farm Durocs—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.**

## COLORADO RIVER COMPACT

(Continued from Page 611)

ors of the states affected, upon the request of one of them, shall forthwith appoint commissioners with power to consider and adjust such claim or controversy, subject to ratification by the legislatures of the states so affected.

Nothing herein contained shall prevent the adjustment of any such claim or controversy by any present method or by direct future legislative action of the interested states.

Article 7.—Nothing in this compact shall be construed as affecting the obligations of the United States of America to Indian tribes.

Article 8.—Present perfected rights to the beneficial use of waters of the Colorado River system are unimpaired by the compact whenever storage capacity of 5,000,000 acre-feet shall have been provided in main Colorado River within or for the benefit of the lower basin. Then claims of such rights, if any, by appropriators or users of water in the upper basin shall attach to and be satisfied. All other rights to beneficial use of waters of the Colorado River system shall be satisfied solely from the water apportioned to that basin in which they are situated.

Article 9.—Nothing in this compact shall be construed to limit or prevent any state from instituting or maintaining any action or proceeding, legal or equitable for the protection of any rights under this compact or the enforcement of any of its provisions.

Article 10.—This compact may be terminated at any time by the unanimous agreement of the signatory states. In the event of such a termination, all righs esablished under it shall continue unimpaired.

Article 11.—This compact shall become binding and obligatory when it shall have been approved by the legislatures of each of the signatory states and by the congress of the United States. Notice of approval by the governor of each signatory state to the governors of the other signatory states and to the president of the United States. And, the president of the United States is requested to give notice to the governors of the signatory states of approval by the congress of the United States.

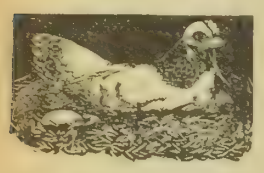
In witness hereof, the commissioners have signed this compact in a single original which shall be deposited in the archives of the department of state of the United States of America and of which a duly certified copy shall be forwarded to the governor of each of the signatory states.

## NATIVE CALIFORNIA STRAWBERRY

The Pacific Coast wild strawberry grows along the ocean from Alaska to southern Chile and in South America is cultivated in field and garden, yet nowhere in North America is it accorded such generous treatment. Its botanical name, Fragaria Chiloensis, indicates the country in which botanists first found it. It has entered more largely into the parentage of cultivated named varieties than any other species. The contributing species of secondary importance is from the Atlantic Coast and known as Fragaria Virginiana. These two are the progenitors of all cultivated sorts, not only in this country, but in Europe.

# A New Discovery Makes Hens Lay

Any poultry raiser can easily and quickly double his profits by doubling his egg yield through the remarkable discovery of M. B. Smith, a Kansas City chemist.



Working along entirely original lines, Mr. Smith discovered why hens lay less in winter than in summer and perfected a formula that turns loafers into layers and profit makers.

Within five or six days this discovery, which is called Ditto Egg Tablets, will rejuvenate your flock. Your hens will go strutting and cackling about with red combs and full of life and pep. Every nest will yield an egg nearly every day in the week, which means a lot, since eggs are certain to sell for 60 cents or more. This is not guess work as over 100,000 successful poultry raisers testify to the value of Mr. Smith's products.

Although different from anything you ever heard of, Ditto Egg Tablets are easily administered by simply dropping in drinking water.

So confident is Mr. Smith you can double or triple your egg yield, that he offers to send two large $1 packages of Ditto Egg Tablets (enough for a season) to any reader who will write for them. If you are satisfied they cost only $1 on this introductory offer, otherwise, nothing.

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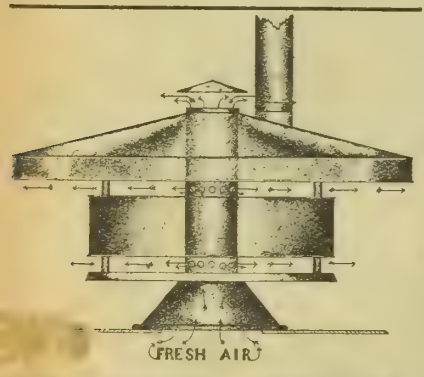


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# Poultry Queries

(Conducted by Jean A. Koethen)

### Intensive Turkey Raising

I have been greatly interested in what you have had to say about turkey raising and would suggest that you visit Mrs. Margaret C. Seelye at her ranch in Ontario if you want to see real turkey raising. She and her son have over 600 healthy birds. They have no alfalfa range and the turkeys are all in a three acre orchard run. She feeds loose alfalfa hay and corn. She has lost a remarkably small percentage of her hatch. It has seemed to me that you have discouraged a good many people by saying that large ranging space was imperative.—Subscriber, Ontario.

Since writing the article to which this subscriber refers I have seen 400 birds kept in remarkably vigorous condition on two acres, and I know some breeders have been successful in raising turkeys under intensive conditions. I know, too, that the number of poults lost every year by even successful breeders is very large and that where one succeeds in raising practically all the hatch a dozen fail. I shall certainly visit Mrs. Seelye's ranch at the first opportunity, for I am most anxious to learn the secret, if secret it is, of raising turkeys without range.

### Dry Mash Formula

Will you please tell me what you think of this mash formula which a friend of mine is feeding his hens: 750 pounds each bran, middlings and ground barley; 150 pounds each linseed and cottonseed meal; 350 pounds meat scraps; 250 pounds dry buttermilk; 50 pounds charcoal; 15 pounds salt; 35 pounds condition powder?—Subscriber, Redlands.

This formula is evidently based on one recommended a year or so ago by the poultry division of the state college of agriculture. Had your friend followed it exactly he would have used 450 pounds meat or fish scrap instead of 350 pounds meat scrap and 250 pounds buttermilk. As it is, he has 150 pounds more of high protein feed in addition to the 35 pounds of condition powder Some people think that because some protein is good more is better, but it does not follow. More hens die from too much protein than ever fail to lay because they get too little. I am satisfied of that. The mash used last year at the Santa Cruz laying contest consisted of 240 pounds bran, 160 pounds middlings, 100 pounds each ground oats and corn meal, 40 pounds each soybean and linseed meal and 60 pounds each fish scrap and meat scrap, and this is probably the last word in formulas as far as the poultry division is concerned.

### Bumblefoot

Kindly tell me what to do for a rough, fleshy growth on the ball of my turkeys feet. One duck also had it.—Subscriber, Orland.

This is apparently what is called bumblefoot and comes from a bruise. Are your turkeys roosting where they have to jump down onto a very hard or rough surface? Turkeys are not so susceptible to this trouble as chickens becaus they use their wings more, but if they are roosting in a house where they have not room to use their wings they might easily bruise their feet dropping with their heavy weight onto a hard floor. If the growth is hot and inflamed, as if it contained pus, you will have to open it and cleanse with peroxide of hydrogen or boric acid solution. Then anoint with carbolated vaseline or some other antiseptic ointment and bandage, if you can, to keep out the dirt. If the growth does not seem inflamed removing the cause will probably cure it without treatment, but daily bathing with witchhazel is always good for bumblefoot.

### Pendulous Crop

A tom turkey has large bag, apparently filled with water, hanging the length of the breastbone. Can it be cured?—Subscriber, Orland.

Pendulous or enlarged crop is believed to be due to irregular feeding. The tissues have gradually become stretched and the only remedy, outside of an operation, is bandaging firmly so that they may relax and return to their normal condition.

### Grain Mixture

We have had excellent success following your advice with both chickens and turkeys. Out of 150 young chicks last spring we lost but one, and our turkeys, every one, grew and developed splendidly. We have birds hatched April 28 that weigh 24 pounds. At what age should our pullets be put on a laying mash, and how may we combine wheat, which can be bought at a reasonable price, with corn and milo maize which we can readily raise? Is it all right to feed milo and corn exclusively to cockerels as hard grain with wet bran mash in the morning?—Subscriber, Fallbrook.

The time at which pullets are given a laying mash depends somewhat on their maturity. Some poultrymen put it before them as early as 3½ or 4 months and thereafter use nothing else. Others let them have it at 3½ months, but if they find the pullets beginning to lay before they have the requisite weight drop the laying mash and put the birds on a maintenance mash of bran and ground bone to delay laying till they are thoroughly mature. Others keep them on the growing mash till the age of 4½ to 5 months then give the laying mash and bring them into full laying as soon as possible. The age of the pullets when they lay their first eggs has always to be taken into consideration. Early hatched birds are more likely to lay prematurely than those that break the shell in April and May, and are therefore the pullets that will need to be held back. The best combination you can make with wheat, corn and milo is to make the mixture ½ wheat, ¼ cracked corn and ¼ milo. A better combination would be ⅓ wheat, ⅓ cracked corn and ⅓ whole or rolled barley. Corn and milo are too much alike to use together. Perhaps you could have the milo ground and add it to the mash. If you are fattening the cockerels make your morning mash half bran and half corn meal and moisten with sour milk or with cooked

**POULTRYMAN'S CALENDAR:—DECEMBER, RING OUT THE OLD, RING IN THE NEW**

December ends the poultryman's year. It is a time for taking stock, striking the balance for the preceding 12 months, and for preparing for the hatching season, which begins the first of January. Has the year 1922 been a satisfactory year? If not, why not? Were the causes beyond our control or have there been avoidable mistakes that must be avoided another year? Did we try to raise too many chicks or too few? Did we use every care in selecting breeding stock? Was our housing sufficient and comfortable? Was every precaution taken to select and ship only marketable eggs or did we slip in "dirties" and "cracks" and eggs we knew were not perfectly fresh?

Have we ample brooding facilities for next season's hatch? If not, now is the time to make provision. Is our supply of greens adequate? If not, now is the time to plant. Do we resolve to raise our chicks with less loss next season? Now is the time to break up our fallow ground, in other words, the hard, filthy soil of the chicken yards, and plant to rape or mustard or some other rank grower that will purify the soil. Now is the time to disinfect brooders, brooder houses and laying houses so carefully that not one germ or mite is left. Nineteen hundred twenty-three must not find us unprepared in any respect.


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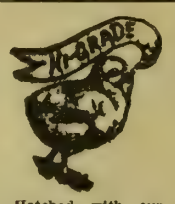


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table scraps, vegetable parings, etc. Milo and corn will do nicely for their grain feed. Cockerels intended for the breeding yard should have the same grain mixture as the pullets.

### Overfeeding

My 200 White Leghorn pullets are troubled with small thick headed worms. Please tell me what to do and how to feed. I feed a wet mash of soaked rolled barley, laying mash and greens early in the morning, a gallon of mixed dry feed at 9 o'clock, grass at noon, wet mash with a pound of cracklings mixed in at 4 o'clock, mixed dry feed before roosting time and dry mash before them all the time. They have a large run but half of them sit around moping all day.—Subscriber, Auburn.

No wonder they sit around moping when you keep their crops so full. Moist mash is used only as an appetizer, once a day at the most, but you are giving two meals of moist mash and two of hard grain in addition to the dry mash. Your work will be far lighter and the hens will lay more eggs if you cut down the ration to mash in the hoppers all day and one liberal feeding of hard grain an hour before roosting time, in addition to the green feed, of which you cannot feed too much. Make the hard grain mixture one-third wheat, one-third barley and one-third cracked corn, and allow about 14 quarts per day for the 200 hens. It would be a good plan to sprout part of the barley. Feed the greens as early as 9 o'clock in a receptacle where they will keep fresh all day. If you are anxious to use a moist mash in addition to the above feed it about 2 o'clock and moisten with sour milk if you can, but I suspect your hens are already too fat and will do better without it until they are trained down. I do not know just the character of the cracklings you have been feeding, but they are probably too fattening and should be eliminated. For the worms try tobacco dust in the dry mash, allowing 1 pound of tobacco to 50 of mash. Do not use this more than three weeks at a time.

### Sex in Geese

May I offer a correction to your reply to the query regarding sex in geese? The female has the coarser voice and the gander a shrill, high pitched voice. I find the easiest way to distinguish them is to take them out of the flock, one at a time, and confine a short distance away. Within five minutes or less they will send out a call to the rest of the flock, and the sex is then easily discernible by the voice. The gander has a longer neck and longer legs but this is not readily noticed at first.—Subscriber, Tujunga.

### East Front for Laying House

Last week you advised fronting hen house to the east. In this section we are obliged to build all our houses fronting the west, because of the prevailing cold easterly winds. One poultryman whose house fronts east lost his entire flock just recently, I think from roup.—Subscriber, Tujunga.

We live and learn. After spending nearly 40 years in California I thought I knew to a certainty that our prevailing winds are northerly and westerly, but it seems there are exceptions. I should have said, face houses away from the direction of prevailing winds, whatever it may be.

### Balanced Ration

I am feeding the following ration: Scratch mixture, equal parts wheat, cracked corn and barley; mash, 500 pounds each of bran, shorts and corn meal, 300 pounds meat scraps, 200 pounds linseed meal (O. P.) If equal parts of mash and grain are fed, will this make a balanced ration?—Subscriber, Ontario.

It would be better to use less corn meal in the mash and more bran and shorts. If you make the formula 700 pounds bran, 500 pounds shorts and 300 pounds corn meal, leaving the amounts of linseed meal and meat scrap just as they are, you will have a better balance, since you have a good deal of cracked corn in the grain mixture.

## THE TURKEY MARKET

From the most reliable information obtainable it is safe to assume that there is a slight increase in the production of turkeys in most sections of the state over last year. Although some growers are of the opinion that there is little or no increase in their immediate localities, many report an increased production ranging from 5 to 10 per cent over last year.

As an offset to this probable increase many turkey producers state that only a small per cent of their turkeys will be in a marketable condition for the Christmas trade.

Information as to prices being offered by wholesalers is very meager, according to Fred N. Bigelow, chief of the division of markets. From some sections comes the report that buyers are offering 38 cents per pound, on fat, live turkeys and a delivered price of 45 on well conditioned dressed turkeys. It seems reasonable to believe that prices on both live and dressed turkeys will not vary greatly from prices paid last year during the holiday season.

If early receipts prove light, prices may soar above 45 cents on dressed turkeys, while heavy shipments may act to the advantage of the buyer and consumer and bring lower prices. In most sections feed appears to be plentiful, while in a few localities growers plan to market their turkeys early because of a scarcity of feed. It is considered a very poor policy to ship turkeys not well conditioned, and farmers might advantageously hold back their shipments where food is plentiful.

Local cold storage holdings are well cleaned up and total approximately 27,000 pounds of dressed turkeys. There were close to 100,000 pounds of dressed turkeys in cold storages on this date one year ago.

Farmers should be cautious in shipping only to reliable dealers and might well insist on a contract in writing and a reasonable deposit where turkeys are bought outright. Growers should not forget that the general appearance of the turkey is of very much importance and the usual instructions of dealers on the preparation of the birds for market should be closely followed.

## BABY CHICK ASSOCIATION

The latest along poultry lines is the formation of the International Baby Chick Association. Its object is to foster, promote, improve and protect the baby chick industry and all allied branches of poultry husbandry. Harry R. Lewis of Davisville, Rhode Island, is the president and G. R. Spitzer of Harrisonburg, Virginia, is secretary-treasurer.


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Lice-Go is added to the drinking water. The medicine taken into the system of the bird comes out through the oil glands of the skin and every louse or mite quickly leaves the body. Keeps the birds always free without the poultry raiser doing any work. If you would rather have two $1.00 packages of Egg-Lay Tablets or two $1.00 packages of Lice-Go instead of one of each, say so on your order. Send $1.00 today (currency, money order, check, etc.) to Chas. M. Hick & Company, Dept. 929, 1018 So. Wabash Ave., Chicago, Illinois. If you prefer, send no money. Just your name and address and pay postman $1.00 and postage on delivery. If, after thirty days' trial, you are not absolutely satisfied, write Mr. Hick and your money will be refunded. This offer is absolutely guaranteed, so don't hesitate to make the test.

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Tell your dealer how many hens you have. There's a right-size package for every flock.
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HATCHING EGGS—From Nov. 1st to April 1st, 15 for $2.00. In 100 lots, 12c each. In 500 lots, 11c each. In 1000 lots, 10c each. BABY CHICKS—January, February, March. In lots of 100, 25c each. In lots of 500, 24c each. In lots of 1000 or over, 23c each.

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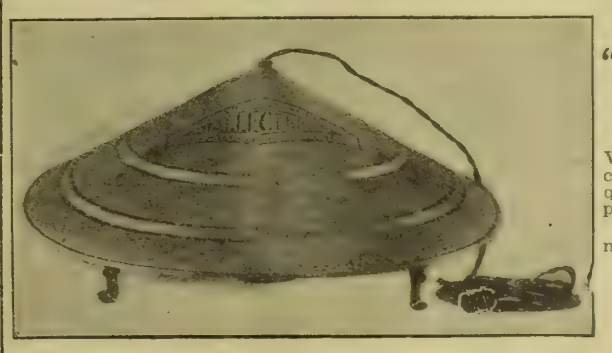

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# Los Angeles Markets

Los Angeles, December 6, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 49 cents.

Prices extra past week:

| December | 1 | 2 | 4 | 5 |
|---|---|---|---|---|
| '22 | 50 | 50 | 49 | 49 |

### CHEESE

Brokers' prices:
California flats, 23.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 52; case count, 49; pullets, 47; pewee pullets, 38.

Prices extras past week:

| December | 1 | 2 | 4 | 5 |
|---|---|---|---|---|
| '22 | 57 | 57 | 54 | 52 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 22; colored, 30; broilers, 32; roasters, 26; old roosters, 14; fryers, 26; ducks, old, 20; ducklings, Pekin, 3½ up, 26; others, 22; geese, 25; turkeys, live, young toms, 35; dr., 40; old, live, 31; dr., 36; hens, live, 34; dr., 39; small hen and tom, 15; squabs, 25@50; capons, 30@35.

Belgian hares, 12@18; old, 8.

### LIVESTOCK

Weekly summary, Saturday, December 2, 1922, furnished by Federal-State Livestock Market News Service, 1028 Pacific Finance Building, Los Angeles.

Cattle: Market improved opening of weak, better grades active. 8.00 reached on five loads steers, three Colorado, two Wyoming. Steers strictly good, 1153 to 1193 pounds. Numerous shipments northern steers cleared 7.00 to 7.50, with fleshy Northern steers, suitable for a short turn in the feedlot, 6.50. Common southern quoted 5.50 to 6.50. Some light Arizona stock steers sold on country account 4.25 and 4.35. Beef cows scarce, 4.00 to 5.25 taking majority, fat northern cows 5.50 or better. Canners and cutters 1.50 to 3.25. Bologna bulls 3.00 to 4.00. Fairly constant inquiry for feeder steers and good northern feeders were picked up at 6.00 to 6.50. Cattle from Arizona and Texas ranged from 4.25 to 5.50.

Calves: Receipts, liberal, demand was narrow. Most from Arizona and Texas, plain quality, 250 to 300 pounds. These sold largely from 6.00 to 7.25, choice 200 pound vealers 7.75 and better. Culls around 5.00.

Hogs: Market dull, local packers oversupplied. Last week end the crop of 160 to 200 pound hogs was cleaned up at 8.75 to 9.00, packing sows 7.00. Opening this week choice 190 pound hogs topped at 9.50, 300 pound rough sows at 7.25.

Sheep and Lambs: No receipts. Market firm, good and choice light lambs easily quotable 13.25 to 13.75, or better.—Nelson R. Crow, local representative.

### POTATOES AND ONIONS

These are the actual prices obtained Tuesday, December 5, 1922, furnished by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Demand and movement moderate, market steady. Northerns: Rivers, 1.50@1.70; poor, low as 1.40 cwt. Idahos: Russets, 1.40@1.60. Sweet Potatoes: Locals: Nancy Halls, 2; Jerseys, 2@2½ lb. Northerns: Nancy Halls, 2½@3 lb.

Onions: Demand and movement moderate, market firm. Stocktons: Yellows and Browns, 2.25@2.50; Whites, best, 3@3.25; poorer, 2.75 cwt. Locals: Whites and Yellows, 75; Spanish, 1.00 per lug; 3.00 per cwt.

Garlic: Mex. and Northern, best, 8; poorer, 7.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, December 5, by wholesalers in their sales to retailers, pedders, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Beans: Kentucky Wonders, 11@13. Limas, 6@7.

Weekly livestock market summary, Tuesday, December 6:

Bunched Vegetables: Per dozen bunches: Turnips, beets, 30@35; carrots and spinach, 25; parsley, 15; onions and radishes, 10@15; parsnips, 40.

Cabbage: Local and Northern, best, 2.

Cauliflower: Per doz., 1.50@1.75; poorer, 1.25 doz.

Celery: Wide range in quality and prices. Locals: best, 3.25@3.50; poorer, 2@2.50. Northerns: 3.25@4 per crate according to quality.

Cucumbers: Southern, 1.85@2.00 per flat; 3.00@3.25 per lug.

Eggplant: Local, 6@7 lb.

Lettuce: Market steady. Locals: Ordinary, 1.00; best, 1.35@1.50 field cr.

Peas: Orange County and Carlsbad, best, 14@16.

Peppers: Locals: Bells, mostly, 7@8; Chilis, 4½@6; pimentos, 4@6; Cherry Chili, 12@13.

Sacked Vegetables: Per sack. Beets and Carrots, 90@1.00; Turnips, 1.25@1.50.

Squash: Market steady. Locals: Summer, lugs, 1.50; Hubbard and Banana, 2½; Cream, 3@3½.

Tomatoes: Demand moderate, movement slow, market dull. Local: lugs, ripe best, 1.25@1.50; poorer, 80@1.00.

### FRESH FRUIT

These are actual prices obtained December 5, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Demand and movement moderate, market steady. Northerns: Bellefiowers, fancy, 3½ tier 1.30@1.40; 4 tier, 1.35@1.45. Utahs: Jonathans, loose, 3½@4½; poorer, 3 lb. Idahos: Jonathans, loose, 3½@4. Washingtons: Jonathans packed, extra fancy, 2@2.15; fancy, 1.75@1.90; overripe, soft, 1.50@1.75; Delicious, extra fancy, 2.40@2.65; Yellow Newtowns, fancy, 1.65@1.75 per box. Oregons: Spitzenburgs, extra fancy, 2.15@2.25 per box.

Casabas: Northern, 1.00@2.00 cwt.; local, 1.50@1.75 cwt; mostly, 1.50 cwt.

Cranberries: Cape Cods: Late Howes, 18.50@19.50 per barrel; 9@9.75 per half barrel crate. New Jerseys: Late Howes, 18@19 per barrel, crates 9@9.50.

Grapes: Locals and Northerns: Muscats, 3½@4; poorer, 2@3; Malagas, best, 4@4½; poorer, 2@3; Red Emperors, 4@4½; poorer, 3 lb.

Pears: Northerns and Locals: Bartletts, best, 7@8; poorer, 5@6.

Persimmons: Lb., 9@11; poorer, 7@8.

Pomegranates: Lb., 6@8.

### CITRUS FRUIT

Grapefruit: Arizonas: 64-96 sizes, seedless, 5@6 pr box. Imperial Valley, 6.50 per box. Northern, 5@5.25 per box.

Lemons: Special brands, fancy 8.00@9.50; choice, 6.00@8.00; market pack,, 3.50.

Oranges: Valencias, special brands, 6.00@7.00 according to size. New crops Northern Navels, 6.50@7.25 box; Market pack, 4.50@4.75.

### HONEY

Southern California: Bees will generally go into the winter season with plenty of stores. Next year's crop outlook considered good. Demand good and market shows firmer tendency, especially for better grades, although no great activity looked for until the first of the year. Several carlot shipments made recently to East Coast by boat via Panama Canal. Carlots for outside shipments quoted on usual terms basis, per pound, White Orange, 10½@11; White Sage, 9½@10; Light Amber Sage, 7½@7¾; Light Amber Alfalfa, 6¾@7. Recent local less than carlot sales reported of White Orange at 9@10, and Light Amber Sage at 6½, and Light Amber Sage at 7, while some beekeepers have sold White Sage at 8 per pound in carlots, beekeepers receiving 22@25 per pound. Cash for beeswax.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

A slightly weakened condition obtains because of increased receipts, but it is thought to be only temporary.

| | |
|---|---|
| Tame Oat | 24.00@26.00 |
| Barley Hay | 18.00@20.00 |
| Rabbit Alfalfa | 26.00@28.00 |
| No. 1 Dairy | 24.00@26.00 |
| Standard Alfalfa | 18.00@20.00 |
| Wheat Straw | 10.00@12.00 |
| Barley Straw | 9.00@11.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around 24.00@26.00 as a fair average. No. 1 dairy is varying from 15.00@18.00 with 16 as a mean or average price. Standard, 10.00@12.00.

### GRAIN

Prices L. A. Grain Exchange, December 5:

Milo, 100 ton lots, December del., 2.05.

Barley, 100 ton lots January del., 1.60.

Cal. Farm Bureau Marketing Exchange reports December 5:

Some declines last week. Growers inclined to sell milo immediately, due to the comparatively high price, and this heavy offering has pushed the market down. It is only worth about 2.10 to 2.12½ Los Angeles for December delivery. Another thing that has made a slow market is the damaged milo coming in from San Joaquin Valley. Rains in that section have increased the moisture contained so that several cars have been arriving hot and musty. This must be sold at a cheaper price and consequently affect the good milo unfavorably.

Barley: In active demand. After first of the year a better market will probably be available for barley. Present values from 1.60 to 1.65, Los Angeles.

Wheat: Feed wheats are in a state of decline. It is hard to fix a market price; possibly 2.15 to 2.20 would be about right. Good milling is bringing good prices from 2.35 to 2.42½.

Eastern Corn: This has declined, selling at from 1.75 to 1.80, according to date of delivery.

The San Francisco markets look somewhat easier than Los Angeles. Barley is quoted at from 10 to 15 cents less than Los Angeles and wheat at from 5 to 10 cents less.—E. W. T.

# San Francisco Markets

San Francisco, December 5, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras | 47½ |

Extras past week:

| December | 1 | 2 | 4 | 5 |
|---|---|---|---|---|
| | 48 | .... | 48 | 47½ |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats (Dec. 6) | 22½ |
| Oregon Trips | 26½ |
| Oregon Young America | 28 |
| Cal. Y. A. fy (Dec. 6) | 28 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras | 56½ |
| Extra Pullets | 49½ |
| Undersized | 43 |

Extras past week:

| December | 1 | 2 | 4 | 5 |
|---|---|---|---|---|
| | 59 | .... | 58 | 56½ |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of December 4, by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers: 1 to 1¼ lbs., 33@35 per lb. 1½ to 1¾ lbs., 30@32 per lb. Colored, 26@28 per lb.

Fryers: Leghorn, 2 lbs., 28@30 per lb. Colored, 2 to 3¼ lbs., 26@28 per lb.

Young Roosters: Colored, 3½ lbs. and up 26@28 per lb. Staggy, showing spurs, 21@23 per lb.

Colored Old Roosters: 17@18 per lb. Leghorn old roosters: 14@15 per lb. Leghorn hens, 2½ to 3 lbs., 18@20 per lb. 3 lbs. and over, 24@27 per lb. Large colored hens, 28@30 per lb. Off stock, 26@27 per lb.

Ducks: Young, 18@20 per lb. Off stock, 15@18 per lb.

Geese: Young, 28@30 per lb. according to quality.

Turkeys: Live, nominal; dressed fy., 30@32; off stock, 20@25.

Belgian Hare: Live, 15@18 per lb. Dressed, 18@23 lb.

Jack Rabbits: 2@2.50 per doz.

Squabs: Live, fancy, 55@60 per lb. Common, 3.00@3.50 per doz. Old pigeons, 2.50@3.50 per doz.

Guinea Fowls: Young, 8.00@10.00 per doz.

### LIVESTOCK

In reviewing conditions governing the local livestock market during the past week the Federal-State Livestock Market News Service says:

Cattle prices, per cwt. (delivered off cars from San Francisco)—Beef steers, good grades, 7.75@8; medium grade, 7@7.50; common grade, 6@6.50; beef cows, good grade, 5.75@6; medium grade, 5.25@5.50; common grade, 4@5; canners and cutters, 2@3.50; bologna bulls, 2.50@4.

Calves—150 to 200 pounds, good and choice, 7.50@7.75; 200 to 250 pounds, 7.25@7.50; 250 to 300 pounds, good and choice, 7@7.25; over 300 pounds, 5.50@6.50.

Hogs—Good and choice, grain fed, Californias, 150 to 200 pounds, 10.25@10.50; 200 to 250 pounds, 9.50@10; 250 to 300 pounds, 8.50@9; 300 pounds up, 7.59@8; smooth sows, 250 to 300 pounds, 6.50@7; rough sows, 250 to 300 pounds, 5.50@6; rough sows, over 300 pounds, 4.50@5.50.

Sheep and Lambs—Lambs, good and choice grades, 13.50@14; medium grades, 13@13.50; ewes, medium and good, 5.50@6.50; wethers, medium and good, 8.50@10.

### FAT HOG AUCTIONS

California Farm Bureau Marketing Association reports:

| No. Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| Modesto, November 28 | | | |
| 95 | 174 | .... | 9.70 |
| 51 | 180 | .... | 9.25 |
| 16 | 222 | .... | 8.75 |
| 13 | 368 | 140 | 6.25 |
| 175 hogs | | | |
| 2 cars, 17 consignors, $3,060.70. | | | |
| Chowchilla, November 29 | | | |
| 102 | 155 | .... | 9.65 |
| 39 | 196 | .... | 9.00 |
| 67 | 170 | .... | 9.00 |
| 9 | 121 | feeders | 9.00 |
| 32 | 220 | .... | 8.50 |
| 249 hogs | | | |
| 3 cars, 19 consignors, $3,814.36. | | | |
| Wasco, December 2 | | | |
| 94 | 185 | .... | 9.30 |
| 45 | 174 | .... | 9.30 |
| 100 | 154 | .... | 9.00 |
| 24 | 212 | 20 | 9.00 |
| 1 | 270 | .... | 8.00 |
| 4 | 365 | 90 | 6.25 |
| 268 hogs | | | |

3 cars, 17 consignors, $4,300.17.

Total: 692 hogs, 53 consignors, $11,275.29. be held at Merced, December 12; Turlock, 13; Madera, 14; Fresno, 15; Bakersfield, 16.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained December 4 between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Rivers, 75@1 at wharf; Salinas, 1.75@2 cwt.; Idaho Russet, 1.35@1.50 cwt.; Washington Gems, 1.30@1.40 cwt. Jobbing: Rivers, 1.15@1.30; Merced, 1¾@2 lb. Nancy Halls, 2½ lb.

Onions: Green onions, 1.25@1.50 box. Stockton Browns and Yellows, 1.50@1.75 cwt. at wharf, jobbing price, 25@35 higher. Garlic: 4@5.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, December 4, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: Per lug, 24.00@25.00.

Beans: Kentucky Wonder and Wax, 12@15 per lb.; French, 16@20; Limas, 6@8 per lb.

Brussels Sprouts: 7@7½ lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 55@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: 1@1¾ per lb.

Cauliflower: Doz., 1.00@1.25.

Celery: Local, 2.00@3.00 cr.; 15@25 per half doz. bunches.

Cucumbers: Southern, 1.75@2.00 small box; English, 1.00@2.00 doz.

Eggplant: Southern, lb. 6@7.

Endive: Lb., 25@35.

Lettuce: Local, best, 1.25@1.75 cr.; Sacramento fy., 2.50@2.75; So., 2.50@2.75 cr.

Mushrooms: Lb., 20@50.

Peas: Imp. Valley, 12@16 lb.

Peppers: Bells, Southern, 7@8; Chili, 6@8.

Rhubarb: So., 1.50@1.75 box.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 1.25@1.75; beets, 1.00@1.25; pumpkin and squash, 1.25@1.75 sk.; lb. 2.

Spinach: 6@7.

Squash: Summer, 1.75@2.25 L. A. lug; Italian, nominal; Cream lug, 1.50@2.00.

Tomatoes: Bay and Peninsula, 50@2.00 lug; basket, 1.00; San Diego best, 1.25@1.75 cwt.; 1.75@2.25 L. A. lug. Los Angeles, 1.75@2 per lug.

### FRESH FRUIT

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, December 4, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Apples: Gravensteins, fancy, 3½@4 tier; 1.50@2; smaller, 1@1.50 box. Bellflowers, best, 1.10@1.50 box. Winter Pearmains, 1.25@1.50 box. Newtowns, 3½@4 tier; 1.25@1.50 box. Spitzenburg, fancy, 1.25@1.50 box. Jonathans, 3½@4 tier, 1.50@1.75. Spitzenburg, 1.50@2.00 box. Choice, 1.50@1.75. Winter Banana, 2.25@2.75 box. Lady apples, 2.50@3.75; Delicious, 2.25@2.75; Rome Beauty, 1.75@2.25.

Avocados: Cal. small, 1.50@2.50 doz.

Bananas: Best Eastern, 8@8½ lb.; Hawaiian, 7½@8.

Blackberries: 75@1.25 double layer.

Casabas, 50@85 crate, or 75@1.50 doz.

Cranberries: Eastern, Late Howe, 19.00@20.00 bbl.; Oregon, 5.50@5.75 box.

Figs: Black, 1.00@1.50 double layer box.

Grapes: All varieties, 50@1.25 cr.; 75@1.75 lug.

Huckleberries: Lb., 25.

Olives: Ripe, 8 lb.

Peaches: 85@1.25 crate.

Pears: Anjou, 2.50@3 box. Comice, 2@2.25 box. Glout Morcau, 1@1.25 box. Winter Nellis, fancy, 2@2.25 box.

Persian Melons: 75@1.25 crate.

Persimmons: 75@1.75 flat cr.

Quinces: 75@1.50 box.

Raspberries: poor, 50@1.00 dr.

Strawberries: 1.50@2.25 cr.

### CITRUS FRUIT

Grapefruit: Southern California and Arizona, 4.00@5.50 box; Imp., 6.00@6.50.

Lemons: Special pack, 8.50@9.50 box. Choice, 6.50@8.50. Lemonettes, 2@4.00 box.

Oranges: Valencias, fancy, all sizes, nominal; Navels, 4.00@5.00 box; Tangerines, 2.00@4.00 lug.

### DRIED FRUITS

Apricots, 1922, Packers' prices f. o. b. Cal.:

| | —In 25s— |
|---|---|
| Standard | 19@20 |
| Slabs | @20 |
| Choice | 23@24 |
| Extra choice | 24½@25½ |
| Fancy | 29@30 |

Star thistle nectar secretion over for season, with plants in good condition for next year. Car lots and less of No. 1 grade in 5 gallon cans reported sold at 8 cents per pound, No. 2 at 6 cents.

California Prune and Apricot Growers Association's prices, in 25-lb boxes:

| | Growers | Sunsweet |
|---|---|---|
| Standard | 20@20½ | @ |
| Choice | @24 | 25 @26½ |
| Extra choice | @25½ | 26½@28½ |

Apples, 1922, Packers' Quotations f. o. b. Cal.:

| | In 50s |
|---|---|
| Choice | @9½ |
| Extra choice | @9½ |
| Fancy | 10¾@11 |

Figs, 1922, Packers' prices f. o. b. Cal.:

| White Adriatic: | |
|---|---|
| Standard (in 25s) | 7½@7¾ |
| Choice (in 25s) | 9½@10 |
| Fancy (in 25s) | 13½@14 |
| Extra fancy (in 25s) | 15 @15½ |
| Bricks, 12 No. 10s | 1.20@1.25 |
| Bricks, 24 No. 8s | 1.90@2.00 |
| Bricks, 50 No. 6s | 3.00@3.10 |
| Bricks 70 No. 4s | 3.10@3.20 |
| Layers, 10-lb., 4 row | 1.70@1.80 |
| Layers, 10-lb., 5 row | @1.60 |
| Calimyrna | |
| Standard (in 25s) | 14 |
| Choice (in 25s) | 16 |
| Extra choice (in 25s) | 19 |
| Fancy (in 25s) | 23 |

Few black figs left for sale; those commanding high prices.

Figs, 1922, Cal. Peach and Fig Growers Assoc. prices:

California Peach and Fig Growers has withdrawn prices on all figs.

Prunes, 1922, Packers' prices f. o. b. Cal.:

| Size | Basis Price | Per lb. in 25-lb. Boxes |
|---|---|---|
| 30-40s | @11¼ | @15 |
| 40-50s | @ 9 | @12½ |
| 50-60s | @ 8¼ | @11 |
| 60-70s | @ 8 | @10¼ |
| 70-80s | 7½@ 7¾ | 9¼ @ 9½ |
| 80-90s | 7½@ 7¾ | 8¾ @ 9 |
| 90-100s | 7½@ 7¾ | 8¼ @ 8½ |
| 100-120s, in 50-lb. boxes | | 7¼ @7½ per lb. |
| 120-up, in 50-lb. boxes | | 6¾ @7 per lb. |

Peaches, 1922. Packers' prices f. o. b. Cal.:

| | —In 25s— Yellow | Muir |
|---|---|---|
| Standard | @11¼ | @11½ |
| Choice | @12 | @12¼ |
| Extra choice | 13 | @13½ |
| Fancy | @14¾ | @15¾ |
| Extra fancy | @16¼ | @17¼ |

Peaches, 1922, California Peach and Fig Growers' Assoc. new price list:

| | —In 25s— Yellow | Muir |
|---|---|---|
| Choice | @12¼ | @12½ |
| Extra choice | @13½ | @ |
| Fancy | @15¾ | @16¾ |
| Extra fancy | @17¼ | @18¼ |

Practically Peeled—

| | | |
|---|---|---|
| Choice | @13¼ | @13½ |
| Extra choice | @14½ | @ |
| Fancy | @16¾ | @17¾ |
| Extra fancy | @18¼ | @19¼ |
| 11-oz Cartons, 60 per case | 7.00 case | |
| 2-lb Cartons, 24 per case | 8.25 case | |
| 5-lb Cartons, 10 per case | 8.50 case | |

**Pears, 1922, Packers' prices f. o. b. Cal.:**

| | —In 25s— |
|---|---|
| Standard | @ 9½ |
| Choice | @12 |
| Extra choice | @13 |
| Fancy | @15 |

**Raisins, Sun-Maid Raisin Growers' Prices:**

| | |
|---|---|
| Seeded | |
| Sun-Maid, 15 oz | 11¼ |
| Sun-Maid 11 oz | 8¾ |
| Bakers (in 30s) | 9½ |
| 1-crown (in 30s) | 9¾ |
| Loose Muscatels | |
| 4-crown (in 25s) | 11 |
| 3-crown (in 25s) | 10 |
| 2-crown (in 25s) | 9½ |
| 1-crown, rceleaned (in 25s) | 9 |
| Seedless | |
| Thompsons, 15-oz | 10½ |
| Thompsons 11-oz | 8 |
| Thompsons bulk (in 25s) | 10 |
| Sultanas bulk (in 25s) | 9 |
| Bleached Thompsons, Northern: | |
| Fancy (in 25s) | 13¼ |
| Extra fancy (in 25s) | 15 |
| Bleached Thompsons, Southern | |
| Fancy (in 25s) | 14 |
| Extra fancy (in 25s) | 15½ |
| Bleached Thompsons, California Brand | |
| Fancy (in 25s) | 13 |
| Extra fancy (in 25s) | 14½ |
| Little Sun-Maids, 5c pkgs, six 24s, case, f. o. b. obbing points | 3.65 |
| Layers | |
| 8-crown, 5-lb | .80 |
| 3-crown 10-lb | 1.50 |
| 3-crown 20-lb | 2.90 |
| 4-crown, 20-1s | 3.15 |
| 4-crown 12-2s | 3.75 |
| 6-crown, 5-lb | 1.40 |
| 6-crown, 4-5s | 5.30 |
| Vineyard Run, 80-lb | 9.00 |

### BEANS

Shipping prices for 100 pounds. Quotations from California Bean Growers' Association, C. R. C., 1922 beans:

Laarge whites, 6.25; small whites, 6.35; pinks, 6.50; Mexican reds, 5.75; red kidneys, 7.40; Henderson Bush, 9.50; cranberry, 7.55; bayos, 7.50; blackeye, 5.50.

### HONEY

Colonies in good condition with plenty of stores for winter. Very little activity reported in shipping areas as supplies are rapidly becoming exhausted, especially of comb. Car lot sale of Star Thistle reported at 9 per lb. Car comb reported sold in Inyo County, 50 per cent fancy, at 2.75 per case.

### HAY AND FEEDSTUFF

Receipts past week 1916 tons as compared with 797 previous week. Arrivals have been heavier because of 1000 tons shipped to the U. S. government transports for Panama and brought in direct from country storage. General business has been good. Export and coast shipping have improved, with prospects excellent. Interior trading has been quiet; excellent weather conditions have called all hands to field work and marketing has been neglected. Alfalfa has been unchanged but in better demand and several sizable sales have been reported from Bay counties for shipment to the south. The serious effect of the dairy situation upon alfalfa has been a source of concern. An active movement of interior dairymen and the report today of the close of the retail dairy fight and a return to former milk prices in San Francisco is a most encouraging sign to the alfalfa producer. It would seem as though a cooperative connection between producing and distributing dairies with prices fixed based upon cost of production is a vital necessity now and requires the thought and attention of all interested in dairy or alfalfa industries.

**We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges for switching, cartage, commission and handling expenses must be added according to conditions.) Transportation bad, scarcity and high prices for spot.**

| | |
|---|---|
| Wheat Hay, No. 1 | 17.00@20.00 |
| Wheat Hay, Fair grade | 15.00@17.00 |
| Tame Oat Hay | 17.00@21.00 |
| Wild Oat and Barley Hay | 14.00@16.00 |
| Alfalfa Hay | 19.00@21.00 |
| Stock Hay | 12.00@15.00 |
| Straw | 11.00@12.00 |
| Barley, Ground | 35.00@37.00 |
| Rolled | 33.00@35.00 |
| Oats, Rolled Feed | 45.00@48.00 |
| Bran | 37.00@39.00 |
| Millrun | 39.00@41.00 |
| Middlings | 47.00@50.00 |
| Linseed Meal | 58.00@60.00 |
| Coco Meal | 34.00@36.00 |
| Alfalfa Meal | 30.00@31.00 |
| Cottonseed Meal | 51.00@53.00 |
| Molasses Beet Pulp | 44.00@46.00 |
| Milo | 45.00@46.00 |
| Corn Meal or Cr. Corn | 46.00@48.00 |
| Whole Corn | 41.00@43.00 |
| Scratch Feed | 50.00@52.00 |

### GRAIN

Prices S. F. Grain Exchange, December 4, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 2.20@2.30; feed, 2.20@2.25.

Barley Feed, 1.45@1.47½; shipping 1.50@1.52½.

Oats: 1.60@1.75.

Corn: Colored Milo, 1.80@1.90; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.80@1.82.

## Citrus Markets

Los Angeles, December 6, 1922.

Car shortage is holding back shipments. Central California has shipped little more than half of last year's output to same date. Sizes are running large. Sales delivered are around 5.50 to 7.50 for Navels. Most of fruit meets "8-1 test."

Lemon market is easier but still remarkably good.

### Shipments

Shipments of citrus fruit to date since November 1, 1922:

Southern California, oranges, 762 cars; lemons, 391; total 1,153. To same date last season, oranges, 479; lemons, 412; total, 891.

Central California, oranges, 1,450; lemons, 39; total, 1,489. To same date last season, oranges, 1,792; lemons, 12; total, 1,804.

Northern California, oranges, 137; lemons, 11; total, 148. To same date last season, oranges, 172, lemons, 2; total, 174.

### AT THE AUCTIONS

**December 1**

New York: 5 Val., 1 Ariz. Nav. 2.50@7.25. Ariz. Nav. 5.80.

Boston: 7 Val., 1 lem. Val. 1.30@3.80, lem. 6.65@7.75.

**December 4**

New York: 8 Val., 2 Nav., 1 lem. Val. 1.80@10.90, Nav. 4.25@7.75, lem. 5.40@10.70.

Boston: 9 Val., 1 Nav., 2 lem. Val. 2.00@5.60, Nav. 3.40@4.75, lem. 6.75@10.05.

Cleveland: 2 lem., 1 mixed. Nav. 4.55@6.60, lem. 3.80@7.00.

Pittsburg: 1 Nav., 2 lem. Nav. 4.05@5.30, lem. 5.70@7.90.

St. Louis: 3 lem. 2.30@4.90.

**December 5**

New York: 6 Val., 1 Ariz. Nav., 3 lem. Val. 2.45@10.30, Ariz. Nav 3.50@5.35, lem. 4.50@9.10.

Boston: 7 Val., 1 Nav., 2 lem. Val. 1.05@2.45, Nav. 3.40@3.65, lem. 6.45@7.25.

Pittsburg: 1 Val., 1 lem. Val. 2.65@3.70, lem. 3.45@6.55.

Philadelphia: 2 lem. 3.10@6.90.

## Snappy Notes on Livestock

**By A. L. Spellmeyer**

All that I can do is to convey to the Cultivator readers my impression of market prices. I am a registered bonded commission man operating on a stockyard under national control and limited in giving market prices that might affect tendencies. All I could do in that line would be to repeat the federal-state report, but nothing prevents me from interpreting them in language you can understand.

If you want to buy or sell a bunch of thin northern Arizona feeder steers you can figure them on a basis of 5 cents for the south stuff and 5.50 for the north. 3½ for fair cows. If you are dealing in half fat northern steers you can figure them on a 6.50 basis. Contracts are offered in 60 days on a 8.50 basis for top cattle, steers 1200 pounds deep and good loins. We have either the rottenest market in the U. S. A. or the best in prospect for everything goes here, from yards sales of three head to future contracting.

California has now sure shot grass and an established beef price around 8 cents for steers fat and around 6 for fat cows. The Bliss interests have entered the local field and things are going to hum, for this party is reported to prefer a half carcass customer to a ten carcass regular, and he is a go-getter who will make the peddler killers whip up. With his advent in both ordinary and quality markets something is doing, and one can with fair safety bid farewell to some of this 8 cent carcass stuff that has been bleeding the market and preventing a fair price to producers because the packers couldn't stand a raise and meet the market on the dressed beef.

The shortest sighted men in this world ar e the men who have range and who can borrow money and are keeping off of these 5.50 grass steers that won't cost them over $42 and will turn this year at over $70 in all probability. The feeders of high priced ration have a different problem and they can't crack these light cattle like the grass men, for unless a steer weighs 900 pounds and is in fair flesh to start, the feed price, even with two cents spread, puts them beyond the pale.

Hogs declined during the last week or so from 11 cents to around 9 cents and it's a bad drop. The stockyards prices don't interest sheep men for the expense and they sell f. o. b. range, except for the few that straggle in. The feeder market as a definite established fact doesn't yet exist. Bus service doesn't exist either, hence many buyers can't find the stockyards unless they hire a taxi, and that bars many of them. It's up to the stockyards company.

Every prospect shows things will better soon, for they can't get much worse for the ordinary southwest producer. Comparison shows Los Angeles in the van on prices as reported and California has today green grass in the winter.—A. L. S.

## PEDIGREED COCKEREL SALE AT TULARE

Thinking that your readers would be interested in the results of our pedigreed cockerel sale held at Tulare, this county, November 22, I am sending you the following report which I trust you will find space to use. The consignments were from some of the most prominent breeders all over the Pacific Coast, among them the agricultural college of Oregon.

There were 45 pedigreed birds sold for a total of $1217, making an average of $27.044 per bird. Forty of these birds were White Leghorns and the sale average was $26.112. Five were Barred Rocks and averaged $43.50. The highest price paid was $92.50 for a White Leghorn and the lowest, $7.50, also for a White Leghorn. The highest price paid for a Rock was $70 and the lowest $30. A peculiar feature of the Rock sale was that Mrs. Kleinsmith's bird, Catalogue No. 17, outsold the son of K-24, the world's record hen from Oregon agricultural college. Frank Penn of the Golden Rule Poultry Farm, which specializes in show birds, figured this bird good enough to mate with his blue ribbon winners and he would have paid a long price rather than lose him.

With the exception of a few birds everything went to small poultry men of the valley and mostly of Tulare County.

As an example of the interest shown in high egg record birds as compared with birds without actual egg records we give you this. After the pedigreed birds were sold 17 of the best non-record birds which could be obtained were sold under the same conditions and brought an average of only $5.94. —Poultry Department Tulare County Farm Bureau, W. B. Roby, chairman.

## GREATER QUARANTINE EFFICIENCY OR REDUCTION IN FRUIT QUALITY AND QUANTITY

(Continued from Page 603.)

coast I determined during a trip to the Atlantic coast, made a few months ago, to observe methods of control there. My first stop was in Boston. Boston is the greatest cotton receiving port in the world. And contrary to the belief of some of us Americans, thousands of tons of foreign cotton are received at that port every month. This comes from Egypt, India and a number of South American ports. The awful losses to the cotton industry of the South because of the introduction of the pink worm and cotton boll weevil have been so great that while there has been no cotton produced in the neighborhood of Boston the most rigid regulations are enforced in order to prevent introduction of any pests of the cotton plant. To that end every bale of cotton that comes from a foreign country has thorough treatment in a vacuum fumigator. This is done under direction of an agent of the department of agriculture, but the actual work is performed by a private corporation, and the cost is borne by the importer. These fumigation costs are in the neighborhood of $3 per bale and the importer naturally rebels.

In appealing for greater efficiency I would not be understood as making suggestion that present methods are inefficient, but I do feel that present methods should be extended and every possible avenue open to pest introduction should be guarded by a larger force than is possible with the present lack of understanding on the part of taxpayers.

The next most important receiving port is New York. The same method of vacuum fumigation is followed, and every bale of cotton goes through the fumigator. On the other hand, a day spent along the water front where the fruit laden ships discharge their cargos gave me the impression that fruits of all kinds from all lands were given freest admittance without any adequate effort at inspection. Quarantine Official Shaw felt at that time that more efficient quarantine would not be possible under present conditions. A campaign of education would be necessary before the greater trade interests would consent to any radical control measures. It seemed to me that the interests of millions of food producers and ultimately of food consumers were being jeopardized in order that a very few hundreds of importers might reap immediate benefit. The West, or rather, all producers of foods, should unite in demanding more drastic regulations and efficiency in their enforcement.

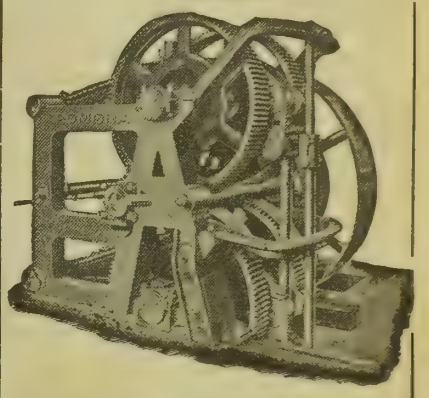
At both Boston and New York the work is entirely in the hands of federal officials. In Florida there is cooperation of federal and state officials all under the direction of Wilmon Newell of Gainsville. Mr. Benton, in charge of the work in New Orleans, is bending his greater energies toward the interception of the black fly which is feared because of its existence in the West Indies and other tropical fruit producing districts. Mr. Willis is engaged in a wonderfully interesting work of watching imports of cotton, or rather, watching to prevent the crossing of the line of cars which have been used in transporting cotton or cottonseed in Mexico. He has charge of the biggest fumigating plant in the world. It has a capacity of 15 large size freight cars at one fumigation. His work and that of Mr. Benton have sufficient interest for a story in the Cultivator another week.

BUY CHRISTMAS SEALS

Buy liberally of Christmas Seals. They cost a penny each. The fund raised will prevent much of disease and save many lives.

The Tuberculosis Association writes:

The money raised is spent exclusively in this territory for combating this most dreaded disease and the organization is recognized as run on a high businesslike basis with the maximum amount of money raised going directly into relief work.



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# "ALL My 250 Stark Trees Planted in 1920 Bore 20 to 80 Big Apples Each in 1922!"

THE big photo below shows Mr. Chas. Riedenbaker of Burlington Co., **NEW JERSEY,** and one of those 250 Stark's Golden Delicious trees planted in 1920.

This man bought several acres of poor stump land that wasn't "worth a nickel an acre," so everyone said. Planted to Stark Trees it is yielding him riches, has helped him raise his big family in comfort and fatten his bank account year by year.

Speaking of his Stark's Golden Delicious, he declares: "The trees are very hardy and rapid growers. I never knew of any other apple that bore so young and had such heavy crops. It is the best apple grown—very large, fine color, exquisite flavor."

In **CALIFORNIA,** especially, this variety has astonished all who planted it. Frank Wingard, Orange Cove., **CALIF.,** reports: "My 2-year-old Stark's Golden Delicious has 128 apples on it!"

And L. A. Klein, Stent, **CALIF.,** declares:—"My Stark's Golden Delicious bore 18 apples this year, when only 2 years old. It has made simply marvelous growth, also."

## "The BIG apple with the glowing golden skin"

—that is the title the big growers and buyers are giving it. It is unquestionably the most radiantly beautiful golden apple ever produced. Even Silas Wilson, the big **IDAHO** grower, declares:—"**All the Big** Eastern fruit buyers say it is the finest, showiest apple they ever saw!"

It averages about **50 per cent larger than Grimes Golden**—immeasurably better than Grimes in flavor and far superior to it in **keeping quality—keeps 4 months longer.** Its crisp, tender, creamy-yellow flesh is blessed with a spicy, aromatic flavor savoring of a particularly fine, perfectly ripe pear—completely **saturated** with exquisite, spicy-honey juice. Firm. Very Late Keeper.

The trees that bear this remarkable fruit are amazing fruit growers everywhere—all up and down the Pacific Slope.

J. P. Leaf, the well-known Kirkland, **WASH.,** fruit grower, says:—"Stark's Golden Delicious is far ahead of any other variety I have—in young bearing, heavy bearing, healthfulness and thriftiness. It is really **a wonder apple!** They bore at 3 yrs. One has 42 pounds of apples on it. Also a "regular sticker"—**the apples don't blow off."**

Beyond all doubt, it is now fair and just to declare—

# Stark's Golden Delicious

"Both Stark's Golden Delicious and Stark Delicious are free from all tree diseases and cankers."—E. RAY, No. Adams, Mass.

**—$— Salesmen Wanted** Good Pay Weekly Write us TO-DAY

The tree below is one of 250 Stark's Golden Delicious trees planted in 1920 in Chas. Riedenbaker's orchard, Burlington Co., N. J. **All bore big crops in 1922!**

## "The Wealth-Maker for America's New Fruit Grower Kings!"

Reports from every section of the states of California, Washington and Oregon indicate this to be a fact! R. K. McCobban, McCay, Oregon, reports:—"I find Stark's Golden Delicious trees very hardy and vigorous growing. Last year when trees were 2 years old, one bore 12 apples and the other 8 apples. This year, same trees: one bore 163 fine Stark's Golden Delicious and the other 142."

As an **EXTRA LONG KEEPER,** the Stark's Golden Delicious apple has proved itsel to Californians, the late Prof. J. C. Whitten, **California University,** Professor of Horticulture, wrote us last year:—"I have never eaten an apple out of storage this late (July 15th) which retained so fully its normal crisp, juicy condition."

**SEND COUPON for FREE COPY of BIG, 8 PAGE, 4-COLOR "PRIZE-FRUITS" BOOK** Shows all the Best Apples, Peaches, Pears, Plums, Cherries, Grapes, Berries in Nature's own colors. Also Ornamental Trees, Shrubs, Hedges and Roses.

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**BEAR MONEY CROPS IN 44 OUT OF 48 STATES.** The **ORIGINAL TREE** Strain of **STARK DELICIOUS** apple trees has achieved a record for sure, heavy-bearing and big money crops never before equaled by any other red apple tree. Get the **PROOF!** Send **COUPON for BIG "PRIZE-FRUITS" BOOK**—at once!

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**"Defies 50-Day Drought"**

—says U. Southeimer, **Bucks Co., CALIF.,** and W. H. Lyons, Long Beach, **CALIF.,** writes:—"All my Stark Seeds proved wonderfully satisfactory." **Send COUPON for Stark Seed Catalog and 5 Seeds Free.**

THIS TREE PLANTED in 1920 BORE 80 APPLES IN 1922
All apples do not show in this photo. Other side of tree also loaded.
STARK TREES BEAR FRUIT

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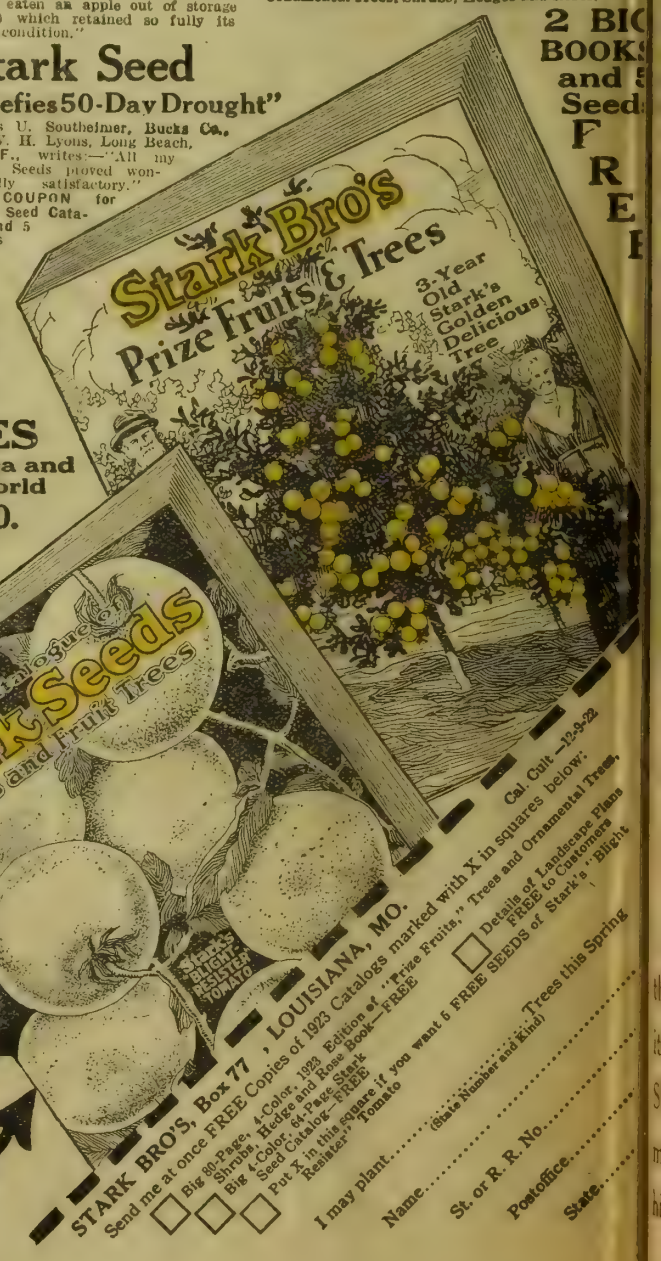
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I may plant.....Trees this Spring
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Name.....

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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — December 16, 1922 — No. 25


AGRICULTURAL LIBRARY

# Shasta Already Storing Wealth for Next Summer

**Photo taken by Cultivator camera last day of October, 1922. In addition to the snows shown covering the summit the glacier which is on the opposite side of the mountain gives up during the summer months of its water for filling several of the streams which ultimately flow into the Sacramento. The height of Shasta, which is the peak farthest to the right, is 13,380 feet. It is thought that the peak to the left was formerly much the higher of the two, but in a heated argument with the forces in the interior of the earth it is hinted that at one time the entire summit of the mountain was blown off.**

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR
and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian. Established 1877. Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, Dec. 16, 1922

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## EDITORIALETTES

The photo on the cover shows old Shasta after the first fall rain. It tells its own story both on the cover and in the fields of the upper Sacramento Valley where the waters from these snows will be delivered all of the summer.

* * *

This is the week of the cooperators' gathering at Washington. Representatives of all the cooperative marketing associations in the United States are invited to meet and discuss "Cooperative Financing and Rural Credits Legislation." "Common Problems of Cooperative Marketing Associations and How to Handle Them." "Common Problems of Each Commodity Group." "Cooperative Education of the Farmers and the Public." The hope is expressed that this convention will bring together the greatest number of cooperative associations yet secured. Californians on the organization committee are: H. G. Coykendall of the Prune and Apricot Growers; Aaron Sapiro, attorney councilor of several of California's cooperative organizations, and J. H. Barber, manager California Poultry Producers.

* * *

Regarding the aid to be given to agriculture by more complete cooperation Secretary Morgan of the organization committee writes: "We believe that the future of agriculture—and that means the future of the country—is bound up in the success of commodity marketing of farm products, and that this meeting of men and minds to hear the leaders, to exchange experiences and ideas, to discuss common problems with the representatives of other groups, will be the most constructive forward step in the history of cooperation."

* * *

With the installation of more powerful broadcasting stations and more efficient receivers there is perhaps greater interest than ever in radio. We will not say that there are as many claims for the impossible things which it was thought radio might do for us as there were, but there is more real and intelligent interest in the invention. Especial interest will doubtess be shown by farmers in the announcements made by the bureau of markets of the United States department of agriculture of the broadcasting of market reports. This will naturally increase as improvements of receiving sets are made. Fullest information as to market conditions is demanded by the farmer who would secure fullest return.

* * *

San Fernando Valley growers have in common with all other growers various weed pests to combat. This is serious enough in regard to those which grow within the boundaries of their own places. As part of the valley is within the city of Los Angeles the farmers are appealing to the city to "control weeds on city streets." As Los Angeles is about the last city on earth to admit weeds are growing on its streets we take it the request of the San Fernando Valley growers will be quickly granted.

## BE REASONABLE

Since the recent mine disaster there has been insistent demand for regulation and improvement of conditions to make impossible repetition of that horror in the mines of California. Some suggestions have been made which are so extreme that they would greatly cripple, if not entirely end, mining operations in the state. The Metal and Mineral Producers Association refers to the serious situation which will face the mining industry if hysteria is allowed to take the place of sane mining practices. It reviews the fatalities which have occurred in California by calling attention to the fact that "Gold mining in California is not hazardous. The records of fatalities in which fire figured show that in 1867 two were killed in the Ione mine at Grass Valley; in 1880 four were killed at the Goodshow mine at Bodie; in 1907 11 were killed in the Fremont mine at Dry Town and 47 were killed at the Argonaut mine this year. A total of 64 miners killed by fire since 1849."

## FARMERS CONVENTION

Wire from Sacramento: The largest state farmers convention ever held in California is in session in Sacramento. The first days dicussions deal excusively with transportation. High railway officials are attending from Chicago, Los Angeles and San Francisco. A score of delegates have come, appointed by governors of Oregon, Washington, Idaho, Utah, Colorado and Nevada; also Interstate Commerce Commissioner Campbell and others of Washington City.

State Director of Agriculture Hecke in his annual report said:

* * *

I want to say at the outset that this meeting was not called in order to criticize the carriers serving the Pacific Coast, or their representatives who may be in attendance at this meeting; as a matter of fact, we have cordially and earnestly invited the carriers to be present at these meetings in the hope that together we may be able to work out some satisfactory solution of a problem which seems to be growing more serious and acute each year. The transportation companies we believe are as vitally concerned in developing a method of relief as we are in proposing it.

Now take freight cars. In the five years ending with June 30, 1907, the number in service increased over 480,000. In the next five years it increased less than 230,000; in the 4½ years ending December 31, 1916, it increased only 114,000; and the five years ending with 1921 the number of freight cars in service actually declined 13,621.

While it is true that new locomotives were more powerful than those replaced, and while the new freight cars were of larger capacity than the old ones, nevertheless the increase in the total tractive power of locomotives was almost 60 per cent less in the five years ending in 1921 than in the five years ending with 1907, and the increase in the total capacity of freight cars was 85 per cent less with the five years ending 1921 than in the five years ending in 1907. On top of all this we have had a lack of construction of new lines and a corresponding decline in other facilities provided by the carriers little short of alarming. As President Markham said so aptly, "I have given these statistics not to show that there has been a decline, but to make it clear how much greater it has been than most people realize."

The Car Service Division of the American Railway Association reported the biggest car shortage in the history of the United States for the week ending October 15 when the railroads were unable to furnish some 156,000 freight cars for which shippers had made requisition. We all know that California and other Pacific Coast states by reason of their distance from the larger transportation centers of the country suffered proportionately greater than any other part of the country. As early as June and July the shippers recognized the imminence of a serious car shortage. During August and September the shortage became the real thing and it was during the latter part of the summer that the shippers meeting in San Francisco requested a committee to be sent to Washington, D. C., for the purpose of conferring with the Interstate Commerce Commission and the Car Service Division of the American Railway Association in order if possible to sesure some measure of relief. This committee was sent and I was selected to be the chairman. Mr. Cole of the California Fruit Exchange, Mr. McClymonds of the Western Pacific, and the secretaries of the Western Fruit Jobbers, International Apple Shippers and American Fruit and Vegetable Associations, also acted as members of this committee.

* * *

Railway officials ask forebearance of shippers and charge car shortage responsibility on Eastern roads. Thousands of apple and potato growers in Washington, Idaho and Colorado have been ruined because no cars are available for shipping. Crops now rotting. They demand something more satisfying than forebearance.

The transportation committee meets with delegates Dec. 13 and promises definite recommendations. Commissioner Campbell urges consideration of transportation from national standpoint, not that of Pacific Coast. Many urge that roads have failed and the government should own or control.—C. B. Messenger.

## THE SECRETARY REPORTS

The secretary of agriculture begins his annual report with: "If financial rewards were measured out in proportion to the results of honest, productive effort (unfortunately they are not always), the farmers of the nation would have little reason to complain of their returns this year. In contrast with various other groups of workers they have produced abundantly and without cessation. This year the acreage of the 14 principal crops is about 337,000,000 which is 7,000,000 acres above the ten year average, and but 1,000,000 acres below last year. Production of these 14 crops is estimated for this year to total about 265,000,000 tons, which is 11,000,000 tons above last year and above the ten year average. This great total is the result of long hours of hard work, aided by favorable weather conditions. If the relationship between prices now was such as existed before the war, this would be a prosperous year for agriculture, and consequently a prosperous year for the nation. With the distorted relationship of prices at the present time, the farmers, notwithstanding their hard work and large production, find themselves still laboring under a terrible disadvantage as compared with other groups. There is food in superabundance, and this contributes to the prosperity of business and industry for a time, but the inadequate return which the farmer is receiving, and has received for three years, inevitably must result in readjustments in the number of people on the farms and in the cities, which will not be for the continuing of the nation.

"There were substantial reductions in freight rates on farm products during the year, but rates stil remain far above pre-war levels and constitute a heavy burden on agriculture. In the case of some crops grown at considerable distance from the large consuming centers freight rates are now prohibitive or so nearly so as to make crop readjustments imperative. If this condition should continue industrial readjustments must follow, our manufacturing centers gradually being shifted westward toward the great agricultural surplus producing regions. In the case of some crops, notably fruits and vegetables, the higher freight rates tend to benefit eastern farmers at the expense of western and southern. In the case of the coarse grains and hay, however, the finished product of the western farmer is to some extent the raw material of the eastern farmer and the advance in freight rates hurts both.

"The cost of labor is one of the largest elements which determine the price the farmer must pay for what he buys, whether it be transportation, fuel, implements and machinery, clothing, or what not. The success of industrial labor in holding most of the gains in wages secured during the war period and the two years following accounts for a considerable part of the higher prices the farmer is now paying for what he buys. Wages of men working in organized industries, including transportation, remain at 50 to 100 per cent above pre-war levels and are perhaps within 10 per cent of the high level of 1920. These wages are carried into the price of the things produced. The farmer's income on the other hand is down to or below the pre-war level. The farmer benefits when there is full employment for labor and when wages are good, because the wage workers can then buy freely of farm products. There is a limit, however, beyond which consumption is not increased, and as wages advance beyond this point they add to the cost of the things the farmer must buy and thus increase his own cost of production without in any way enlarging the market for what he produces."

# California Cultivator

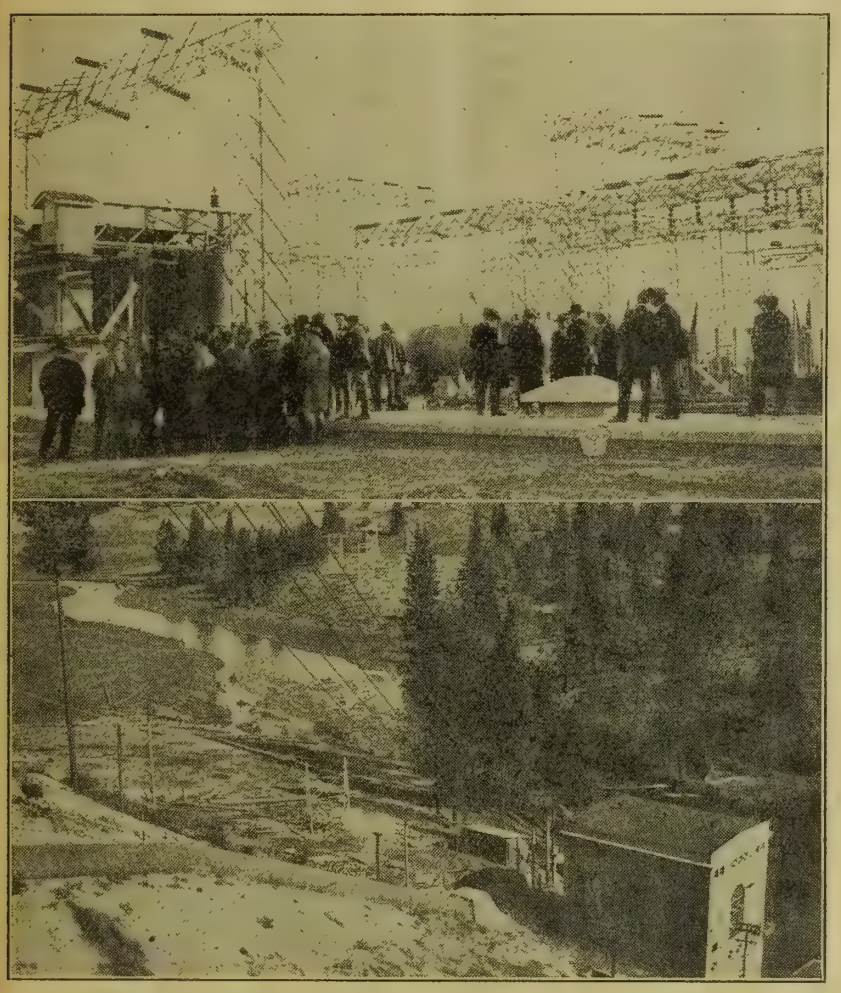
Vol. LIX, No. 25 December 16, 1922 One Dollar Yearly


# The Riches in the Cascades and Sierra Nevada

By C. B. Messenger

UP where the snows fall, up where the waters leap over the cliffs, up where they make possible the kwh which lights and warms and moves things, we had a forceful and novel explanation as to what a kwh is.

The time was a beautiful late October evening. The place was in the Cascades of California, more particularly on the banks of the Pit River. The man was an electrical engineer, J. P. Jollyman. "We" were various Californians—possibly a hundred of us—up from the valleys where we had boasted long and loud of our golden grains and golden fruits. We had been told of the great wealth in the white coal of the Sierra Nevada and the Cascades. So we had come to see.



**Where Power and Light Are Made and Distributed**

The upper illustration shows a party of Californians inspecting the transformer station of the P. G. & E. between Dixon and Vacaville. The lower photograph is of the plant at the far end of the line. It is up on the slopes of Mt. Shasta more than 200 miles from the transformer station shown above. It is known as Hat Creek No. 2 Plant. Hat Creek is a tributary of the Pit River.

In order to see we first listened. Mr. Jollyman was talking. He told a lot of things—amongst them this:

"A kwh (kilowatt hour) is the amount of electrical energy required to take a 200 pound man at Sisson and lift him 2000 feet above the summit of Mount Shasta."

As we had left Sisson only a few hours before where we were told the altitude was some 3,550 feet, wound around the base of Shasta (stopping long enough for me to take that photograph on first cover page of this issue) which we know is 13,480 feet high, we had a fairly definite idea as to what a kilowatt hour is.

Then as to kva. The dictionary gives little comfort. Jollyman said "kva" means kilovolt amperes, which is the product of the voltage, or pressure, by the amperage, or quantity. Like water confined in a vertical pipe one must know its pressure and quantity to learn as to its economic worth.

I have spoken of the "Cascades of California." Lest some sharp eyed Cultivator reader who is also a reader of the "Gazetteer" over in the back part of the dictionary "calls" me because of claiming for California what the Gazetter says belongs to "Oregon, Washington and British Columbia," I must says the Cascades (like a lot of other things) start in California.

Mr. Peterson, one of our party, gave to us a world of information regarding these mountains. O. W. Peterson, engineer of general construction of the Pacific Gas and Electric Company, not only has wide experience and knowledge of electrical construction, but a great fund of information as to the rocks and rills and the trees which here arranged themselves along the eastern border of California.

From the San Ysidro Mountains on the southern boundary of the state to the Pit River solid granite was generally used in constructing the Sierra Nevada. Lassen, Shasta, and all to the north largely consist of lava formation.

This volcanic or lava formation increases the real value of the waters of the Cascades. Rather, the formation permits continued holding back of the waters. The constancy of the flow has long been noted. Springtime flood measurements are almost identical with those of late fall or the driest season of the year.

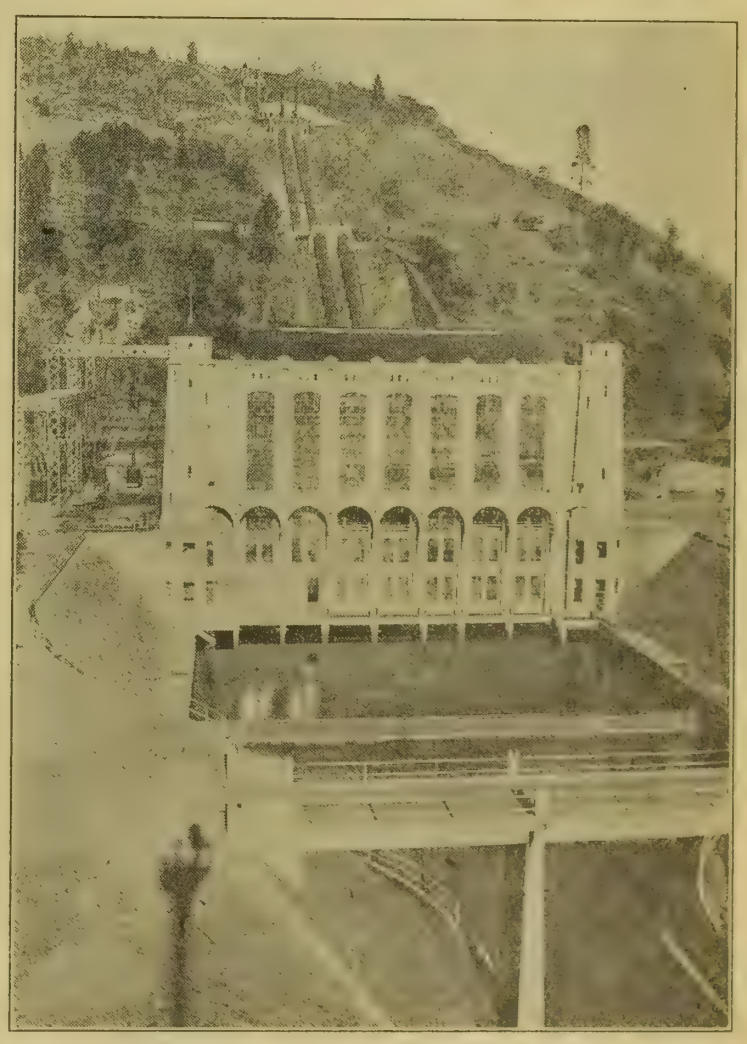
Our party was made up largely of farm bureau men and others who realize the need for greater use of the power which has since time began been wasted. There were presidents of farm bureaus, county agents, several of the faculty of U. C., and others. Luther Burbank, Prof. W. F. Durand of Stanford University, Warren H. McBryde of the California Hawaiian Sugar Company, all were greatly impressed by the magnitude of the installations and the efficiency shown in accomplishment.

Vice-president R. E. Fisher was in charge of our party, and he was ably assisted by F. A. Leach, also one of the vice-presidents of the company, O. W. Peterson, engineer of general construction, J. P. Jollyman, chief of division of hydro-electric and transmission engineering, and other live wires of the Pacific Gas & Electric Company.

The beneficial use which has been made of this water power by the Pacific Gas and Electric Company was made known to us through inspection of several of the plants on the Pit River and its tributaries.

The Pacific Gas & Electric people have plants extending from the Oregon line along the Sierra Nevada to the headquarters of the San Joaquin in Madera County. The greatest distribution system is in San Francisco though the Sacramento Valley and the northern end of the San Joaquin Valley are covered as are the south of San Francisco counties down to King City. The newer installations are those along the Pit River and the magnitude of the work can only be appreciated by inspection of some of these great plants.

Carrying the current from the generators 200 or 300 miles to the consumer calls for the construction of transmission lines that are a wonder to the layman. One item may be mentioned, that of copper wire. The biggest order ever given for copper wire was that of the Pacific Gas & Electric Company, seven million pounds. The line carrying the current from Pit River calls for seven cables of seven strands or 49 single wires. The cables are nearly one inch in diameter. These wires, if placed end to end, would girdle the world twice. It requires about two tons of copper for each mile, and the cost of the line is not far from $35,000 per mile. 204 miles from these plants on the Pit River is located the Vacaville-Dixon transformer station. The cables carry to this house the current with a voltage of 220,000. It is stepped down to 110,000 and from there distributed to other transformer stations located principally about San Francisco Bay.



**Dropping Pit River Down the Mountain Side**

Pit River No. 1 power generating plant. In the extreme upper part of the picture may be seen the surge chamber and beginnings of the pipe line which takes the waters of Fall River, which is one of the tributaries of the Pit River, after they have passed through a two mile tunnel and drops them to the great power house shown in the foreground.

# Agricultural News Notes of the Pacific Coast

## Northern California

Yuba County reports satisfactory results from tb. tests.

Plans are practically completed for the 1923 egg laying contest.

The Napa farm center has organized two poultry clubs. Egg laying contests are to be started.

Orland, Glenn County, shipped its first car of oranges of the season on Monday, November 27.

Sonoma County Indians predict cold winter because of "large crop of acorns" which is reported.

Pacific Pigeon Fanciers Club staged a most successful pigeon show at Idora Park near Oakland recently.

Nine cars of California grapes went into the ditch at Truckee. The grapes had been intended for export.

The California Almond Growers Exchange has purchased a bleaching machine for use at its Fairoaks packing house.

Kadota fig growers met recently at Orland, Glenn County, to discuss matter of cannery for handling output of fig orchards.

California Grape Growers Exchange is conducting a campaign for new members. It is directed by President E. M. Sheehan.

Sacramento Valley folks are getting together for a rousing good advertising campaign. Land colonization will be encouraged.

The board of supervisors of Butte County refused to make appropriation in financing the Orange and Olive Exposition.

The state highway between Grass Valley and Auburn has been opened. It is still necessary to make slight detour between Grass Valley and Forest Springs.

There was a large attendance at the gathering of fruit growers and farmers of California in annual state convention Sacramento, December 13, 14 and 15.

Over 50 fruit growers in the Winters district of Yolo County pooled orders for purchase of frost pots. Growers will also pool their orders for oil and storage tanks.

The shipments of turkeys from the Willows district of Glenn County for the Thanksgiving market amounted to 50,000 pounds. The larger part of the marketable birds are being reserved for the Christmas and New Year trade.

Weather bureaus have predicted frosts over much of the Sacramento and San Joaquin Valleys during the cool nights of the past week. As yet no seriously damaging frosts have come. Cloudiness has saved the day on several nights.

Prof. F. W. Woll of the University of California has been celebrating the 25th anniversary of the publication of his first book, "Testing Milk and Its Products." For a quarter of a century this has been a text book in dairy schools of this country.

The state highway under construction down Trinity River is completed as far as Don Juan Point, below Big Bar, where a bridge has to be built. Only three miles has to be finished to make way open to Humboldt County's highway system at Willow Creek.

## Central California

Fresno will have four large community Christmas trees.

Lindsay shipped 55 carloads of Navels on November 24.

There is proposal to erect a $150,000 condensery at Patterson, Stanislaus County.

Potato growers of Inyo County have adopted U. S. potato grades in marketing their potatoes.

Don Pedro dam will soon be completed. The power plant will begin operation about February 15.

The annual harvest festival of the Dinuba Grange was held December 9. Degrees were conferred on 40 candidates.

Fresno County farm bureau has begun drive for new members under direction of President B. E. Knapp of Sanger.

Settlers on the state land colony at Delhi have voted to dispose of tubercular reacting cows and to keep their herds clean.

Farm home department meetings in Stanislaus County at Patterson community club, December 18; Denair, 19; Mt. View, 20; Tegner, 21.

Four cattle rustlers have been apprehended in San Luis Obispo County. They are said to have run off cattle valued at more than $8,000.

The second annual Grape Institute to be held in Fresno under auspices of the Sun-Maid Growers will open January 17 for a three day session.

The fourteenth chamber of commerce in Fresno County was organized last week at Biola. A membership drive will be conducted immediately.

The Universal Milk Company has opened the Carpenter plant at Salida, Stanislaus County. Condensed and evaporated milk will be produced.

Farm center meetings will be held in Kern County at Mountain View, December 18; Pond, 20; Indian Wells Valley, 21; Rosedale, 22; Muroc, 22; Shafter, 25; Arvin, 29.

Fruit and vine pruning demonstrations were given in Stanislaus County last week by experts of the agricultural extension service cooperating with County Agent Jungerman.

Construction will start at once on four reinforced concrete bridges on the Visalia-Three Rivers highway. It will be necessary to close the sections of the highway where the bridges are being constructed.

The Sun-Maid Raisin Growers Association celebrated its tenth birthday on November 15 with massmeeting of growers at Fresno. During the ten years the annual raisin production has increased 70,000 to 225,000 tons.

A public demonstration in the pruning of orange trees will be given by W. R. Schoonover, extension specialist in citriculture of the University of California, on Saturday, December 23, beginning at 9 a. m., at Jasmine, Kern County.

Date of the 1923 Raisin Festival will be fixed at a chamber of commerce meeting on January 18. Inasmuch as April 30, 1923, falls on a Monday, which is not generally considered a satisfactory day, it has been suggested that the date be named as of the last Thursday of April each year.

## Southern California

The Escondido farm center has organized a poultry department.

Highland district shipped 20 carloads Navels the last week of November.

The winter gas war against squirrels has begun in Santa Barbara County.

A camp has been established at Westmoreland by the state highway commission.

First car of Navels went from Riverside, November 25; from Redlands, November 24.

Riverside and Orange County fruit shippers are interesting themselves in proposal to enlarge Newport harbor.

Ventura County receives $900 as share of national forest fund. This is applicable to road and school expenditures.

Picking of cotton in Coachella Valley will be finished about the middle of January. Market price has dropped to around 28 cents.

The Ontario-Cucamonga Fruit Exchange closes its 25th year with output of 1409 cars for which it received approximately $2,340,150.

Riverside supervisors are asking Imperial County to join in expense of maintaining quarantine inspectors at important points of entry along the Colorado.

A commercial pack of persimmons was put out by the Mission packing plant from the grove of Noel Curtis at Redlands. The persimmons are of the Hachiya variety.

Perris Valley has vot d to form a conservation district. The plan is to build ditches and reservoirs to sink flood waters of the San Jacinto into the Perris basin.

Piling is being driven along the Santa Ana River near the Auburndale bridge and a network of wire and brush will be added to prevent flood damage this winter.

The Fruitvale farm center has committee arranging for frost protection in Hemet Valley. An order is reported to have been placed for 42,000 heaters and arrangements are being made for oil storage.

As the state highway commission is considering the improvement of the highway between Santa Barbara and Ventura, the Carpinteria chamber of commerce is urging that the route over Ortega Hill be changed so as to go around the southern side of the hill to avoid heavy grade.

A permanent board of directors for the Orange County fair will be organized with three members from the farm bureau, three from the Santa Ana chamber of commerce, and one each from the county supervisors, Santa Ana city council and Federation of Women's Clubs of the county.

Riverside County and the state highway commission are in legal possession of the right-of-way for the state highway from San Bernardino to El Centro. Many property owners demanded what the supervisors considered excessive damages and under the law of eminent domain the improvement now is going ahead with compensation to property owners to be settled by the courts.

## The Coast and General

Yuma is now shipping winter peas.

The fourth annual Ogden Livestock Show will be held at Ogden, January 2 to 6, 1923.

Sheep are being shipped south from northern Arizona. Twenty carloads left Seligman, December 6.

Weather reporter at Douglas, Arizona, states that fine rains up to December 6 have put ranges in excellent condition for winter and cattle are in fine shape.

Several short staple gins will be established through the Salt River Valley of Arizona next season to accommodate extensive planting announced by many cotton growers.

Cotton picking in Arizona has been stopped by rains. Growers are hoping that the rain will open frost killed bolls and make it possible to complete picking at an early date.

Survey over Oak Creek road to Flagstaff, Arizona, is being made by engineers of the U. S. bureau of public roads. Coconino County is said to have provided funds for the survey.

During 1921 the value of American milk products exported from the United States to foreign countries amounted to more than $37,000,000, going to more than 28 foreign countries.

The Hawaiian Pineapple Company has purchased the island of Lanai which contains 150 square miles. The company will plant between 12,000 and 15,000 acres of pineapples and will continue to operate a 5,000 acre cattle ranch.

Production of cucumbers for manufacture is estimated at 2,619,480 bushels by the United States department of agriculture, a decrease of 42 per cent from the crop of 1921 for the same purpose. Long continued drouth is said to be the chief cause.

Arizona Good Roads Association will meet at Douglas, January 15. The question to be presented is: "Has Arizona reached the place in road building where temporary roads must give way to permanent construction, and a state road system take the place of haphazard county systems?"

The Blue Mountain Highway Association of Oregon is planning a road across the mountains to connect the Walla Walla and Grande Ronde Valleys. This road will shorten the distance by 74 mlies, opening a promising agricultural district. The present road is impassable six months of the year.

L. M. Estabrook, in the United States department of agriculture for 18 years and at present in charge of the division of crop and livestock estimates, has been selected by the Argentine government to reorganize the economic and statistical work of the department of agriculture in that country.

Production of commercial late onions is estimated at 24,074 cars of 500 bushels each by the United States department of agriculture. Yield in 1921 was 18,823 cars. Yield per acre is estimated at 309 bushels compared with 259 bushels last year. New York leads with crop of 4,476 cars; Ohio is next with 4,184 cars; Indiana, 3.473 cars; California, 3,262 cars; Massachusetts 2,508 cars: Michigan, 1,386 cars; Colorado, 1,067 cars; Minnesota 1,058 cars; Illinois, 750 cars.

# Pear Blight Control

By Leonard H. Day, University of California,
Before Pear Industry Conference, Berkeley

THIS disease is particularly difficult to control for the reason that it is caused by bacteria which are carried directly from tree to tree and branch to branch by various insects, and other mechanical agencies, and introduced thereby into the blossoms or into the bark of the tips of tender shoots. There is at present no known means of preventing the infection from getting into the tree because so many agencies are concerned in its spread. All pomaceous fruits, that is, pears, apples and quinces, are more or less susceptible to the disease. Some varieties of these fruits, however, are practically reistant. The disease has also been found to affect various other common plants but usually does not do severe injury to these. However, these plants may act as centers of in fection. Insects may carry the disease from the blossoms of these plants to the pomaceous fruits and thus bridge the gaps between distant orchards. The following plants have been found by various experimenters to harbor the disease; rose, prune, plum, cherry, almond, peach, apricot, crabapple, cotoneaster, hawthorne, service berry, mountain ash, red raspberry, blackberry, strawberry, loquat and California holly, or toyon.

There seems to be a direct relation between the vigor of the tree and the rate of development of the disease in the bark. The more vigorous the growth, the more easily infected and the more rapidly the infection travels in the bark. During the first rapid growth in the spring and early summer the disease may progress downward in an infected branch at the rate of several inches per day, but usually slows down to an inch or two per week from about June on. In many cases a large number of the in fections die out during the summer without causing great injury. This, however, varies from season to season and from one locality or climatic condition to another. Soil types and cultural practices may influence the nature of the tree growth and hence determine the severity of the attack. In older trees the disease is sometimes limited to younger growth and fruit spurs and dies out on reaching larger branches.

In early spring old blight cankers, known as "holdover" cankers, in the bark of both large and small branches, trunks and roots, will sometimes begin renewed activities, and drops of discolored sap will ooze out around the margins of the cankers. Insects may become contaminated with this bacteria laden sap, or ooze, and carry it to the blossoms. From the blossoms bees and other insects seeking the nectar will in turn become contami nated with the disease and spread it to other blossoms even to considerable distances. Though not many blossoms on each tree may thus become infected, yet each diseased blossom becomes a center of infection for other blossoms and tender shoots. The insect carriers are many. Ants, grass thrips, pear thrips, various plant bugs, squash bugs, stink bugs, tarnished plant bugs, plant lice, beetles and other insects may have their mouthparts infected from these diseased branches and blossoms and, puncturing the ends of tender healthy shoots, start many infections throughout the tree. These latter infections become evident by the wilting and blackening of the tender shoots towards the latter part of the blooming period or some days after the petals have fallen. It has also been found that rains will spatter the disease from the tops of the trees to blossoms and tender shoots and lea-es below.

After gaining entrance into the bark the bacteria multiply rapidly and after some days the disease may reach the larger branches, scaffolds or trunk. The disease advances mostly in the outer bark, but may finally penetrate inward and kill the cambium layer and thus cause the death of the parts above the infection. The parts of the tree below the infection will remain in per fect health. The leaves above the infection wilt and die and remain hanging to the branch. Both branch and leaves finally turn to the dark color characteristic of dead pear branches and leaves.

As intimated before, there is no known method of preventing insects and other agencies from scattering blight from tree to tree or from orchard to orchard during the time of blossoming. However, we can reduce the number of infections which would reach the main branches and trunks by a systematic cutting out of all blighted twigs and branches, and treating the cankers. We hope it will be possible to extend these experiments to the control of certain species of the most active insect carriers of blight. There may possibly be more promise in this than we can now foresee. In our present state of knowledge we cannot recommend keeping honey bees out of our pear orchards, for in many localities and in young pear orchards, especially, bees are needed for cross polli nation. Certain other fruits, notably cherry, plum, prune and almond, require bees, and we know it is impossible for the grower of these fruits to keep his bees on his own side of the fence. At most honey bees are not responsible for all of the blossom infections. There are many other nectar seeking insects which make constant visits to pear blossoms. Again, the greater part of our blight infections are in the twigs and second bloom after the regular blooming is over, and these certainly are not the direct result of bees. It may, however, he entirely true that if an orchard is free from holdover blight blossoms must first become infected from sources from without the orchard before blossom blight can take place in any large degree. Even granting this we have not proven that the honey bee is the only carrier of blight to the blossoms.

I wish to present the results of some experiments which I have been conducting during the past two years on the control of blight cankers on trunks and larger branches.

Dating back for nearly 20 years the pear orchardists have been stopping cankers and saving trunks and scaffolds by surgical methods in cases where the canker had not girdled the branch. The operation consists in cutting and scraping off the bark to the wood over the diseased area and to some distance beyond into healthy bark. If the canker has progressed clear around the trunk or scaffold the only recourse in this method is to re move the tree or scaffold as the case might be. This process, followed by disinfection and painting over the exposed wood, is quite successful. However, it is a tedious process and leaves large wounds which may never heal over or may become infected with wood rots before they heal over.

In the last few years there has developed among the growers in the Sacramento Valley a new method of treating pear blight cankers to save blighted trunks and scaffolds. The exact origin of this method I have not been able to trace definitely, but Mr. Hayward Reed of Sacramento was apparently the first to use it successfully in a large way. The method is based on the fact that the disease develops first in the outer bark and may affect large areas of the bark before penetrating inward and killing the cambium, and also from the fact that cankers often die without injuring the cambium, and that the branches then continue to grow as though nothing had happened to them. It was found that by shaving off the outer bark over the diseased area and for some dis tance beyond, and applying a disinfectant, that the disease would be checked in many cases and the branch saved even though the canker extended clear around the branch. Some growers were having good success with this method while many were not. We are calling this method "scarification."

These experiments, begun in May of last year (1921), were conducted in an attempt to find out why this scarification method was not uniformly successful and if possible to improve the method and make it more reliable. It was proposed to investigate the surgical operation itself and also to try several different disinfectants besides the cyanide and bichloride of mercury solution which was being used. It was conceived that if this method could be made thoroughly successful it would be very much superior to the older method. Under the old method many cankers were operated on and branches removed which would have cured themselves, because large numbers of the cankers do run their course and die out without ever injuring the cambium layer. With this new method the cambium could be saved under practically all cankers if these were detected early enough in their de velopment.

Watching the operation of blight workers using this scarification method, it was evident from the start that many operators either did not cut off the bark far enough beyond the disease area or else they did not pare deep enough over bark thickenings in crotches and around old scars and pits in the bark, also that many did not remove enough of the diseased tissues after shaving off the outer bark. Another defect which was apparent was the lack of penetration of the disinfectant which consisted of cyanide of mercury and bichloride of mercury, one part each to 500 parts of water. The water apparently evaporated so rapid ly that it did not have time to penetrate the scarified bark and carry the mercury disinfectants down to where living bacteria were still present. Nothing very definite was demonstrated last year but I am convinced from various observations made in the course of the experiments that a disinfectant could be developed which, following a thorough surgical operation, would be effective. Among other formulae tried was the addition of glycerine to the combination mercury solution. This material does not evaporate readily so that it was thought that it would have time to penetrate any diseased tissues remaining after the surgical operation. This material also sticks to the knife and shears and other tools like so much oil, and hence it is very effective in keeping these constantly disinfected. Theoretically, at least, it should also prevent immediate reinfection of the wound by ants or other insects. We find that insects infect wounds made in removing water shoots, pruning scars, etc. This material was used in a limited way last year but looked very promising. So this past spring it was tried out on a larger scale, and it gave almost perfect results both in my own experiments and in the hands of two growers to whom I had suggested its use early in the spring. A university student, Gus Gearson, who tried out quite a num ber of disinfectant formulas, got 100 per cent control with 17 cankers on which he used this glycerine-mercury solution as against only 33 per cent control with the usual water-mercury solution. I also got very good results with some other disinfectants, but since only a few cankers were used with each disinfectant, I should withhold judgment on these until they can be tried out more extensively. One of these, if it should prove effective after more thorough trial, will be especially desirable on account of being quite inexpensive, the glycerine-mercury disinfectant being relatively expensive. From the results of these experiments I am convinced that scarification is a practical method and can be successfully applied by any grower who will attend carefully to the details of the operation. A heavy knife with a long thin blade is about the best tool with which to perform the operation. Specially made scrapers are being used, but I believe the use of these leads to carelessness on the part of many operators. They fail to remove enough of the diseased tissues in narrow crotches and other inaccessible places. Scrapers may be necessary in old scaly bark.

The mercury glycerine combination disinfectant consists of the usual bichloride and cyanide of mercury, one part each to 500 parts of water and glycerine. This latter consists of one part water and three parts glycerine by volume. A paint brush is the best thing to use in applying this disinfectant.

Along with these scarification experiments just outlined I have also been trying to find a chemical means of treating cankers to do away with the more laborious cutting methods entirely, something that can be painted on with a brush or possibly applied with a small hand sprayer or atomizer. While I have not attained complete success along this line, yet some very promising leads have developed. Scores of disinfectants have been tested during the past two years and several of these offer some promise. One of these, zinc chloride, is probably the most promising of the materials yet tried, but since it has its limitations, and must be used with caution until we have found the exact proportions in which to use it, I would prefer that only those growers with whom I can work and assist shall experiment with its use. Apparently its penetration varies with different soil, climatic and seasonal changes and hence its effec

tiveness may vary. All these problems will have to be met before we can arrive at definite results with the material. Also it may have some undesirable property which has not yet developed. I wish it understood fully at the outset that this is a progress report on experiments now under way and not the finished product, that it is still in the experimental stage. However, the results so far secured are very promising and we have hopes that they will lead to much less laborious methods of treating pear blight cankers.

From June to September of the present year a total of 166 active cankers were treated with this material, and with the exception of two cases all stopped immediately. In all cases where the disease had not killed the cambium before treatment, the cambium was saved. However, in some of the experiments in which the zinc chloride was used in very concentrated form the cambium was killed under the diseased area, even where the disease had not injured it. I have high hopes that this material can be worked out to a practical conclusion. If it can there will be no occasion for going on with the scarification experiments. However, I am going on testing various other disinfectants.

These experiments were made possible through the generosity of the Earl Fruit Company in renting an eight acre orchard near Marysville, for the use of the University for pear blight experiments. This orchard had been so badly wrecked by blight that the owner had determined to remove the remaining trees and replant to peaches. We have the privilege of doing what we wish with these trees, so we have an excellent orchard for experimental work.

# The Alkali Problem

By W. S. Hall, B. Sc., E. M., A. I. M. E.

ALKALI is an increasing menace in California as it is in any other irrigated country not adequately drained by either natural or artificial methods.

The term "alkali" has been used loosely to include both sodium carbonate or "black" alkali and sodium sulphate, the "white" variety. It is also misapplied to certain salt lands, particularly in the coastal plain region, where it is distinctly a misnomer although some of the low lying lands may be afflicted with all three. In this connection it may be well to say that the term "sour" is often applied to soils that are in no sense acid as the expression would indicate.

Black alkali is easily identified by its greasy appearance and characteristic moist look. It is compact, lacks humus or vegetable matter, and in time of rain or heavy irrigation forms puddles and bogs. Such land usually sun cracks badly upon drying.

White alkali is characterized by a white crust or powder that forms on the surface or by a puffy, ash-like consistency. Common salt also causes a white crust but does not cause the puffiness. Taste is usually a good guide in the rough identification of the white incrustation. The white alkali tastes like "salts" while the common salt is easily recognized.

Salt grass, alkali weed, and ink weed are the three most readily recognized plants that will grow in the presence of black alkali, if it is not present in too great quantities to inhibit growth. White alkali usually collects in small patches and these patches gradually become bare and spread from year to year, particularly in a time of extended drouth or insufficient watering.

Alkali usually shows as spots in an otherwise fertile field, and these spots are not necessarily confined to the low lying swales. This condition usually puzzles the observer who is at a loss to explain the apparently irregular distribution of the affected areas. A recent drainage experiment in lower Los Angeles County gave a comprehensive answer to this question. A deep ditch was dug across a field in which there were several alkali spots. The sides of this ditch exposed a vertical section through the field that showed that the original land level consisted of hills or hummocks of clay soil. The valleys between these hummocks were later filled in with sand and loam, becoming in time a level plain. Where these clay hills came to the surface a patch of alkali appeared while the spots in between were free and fertile. The clay acted as a wick, bringing the alkaline waters to the surface by capillary attraction which could not be exerted by the sandy loam. There was no back drainage and the salts collected at the surface until the concentration reached a point inhibiting plant growth of any sort.

In the treatment of alkali soils there are two distinct problems. The first and most important is flocculation of the soil by the addition of some substance that will react with the alkali and put it in shape for removal by washing. Black alkali is comparatively insoluble in water and this, added to the fact that it causes compacting of the soil, makes a direct leaching and washing almost impossible. Neutralization may be accomplished by the use of sulphuric acid or gypsum. The former is expensive and dangerous to handle while the latter is cheap and safe and is readily applied. Much has been said concerning the top foot of soil. Analyses are based on this measurement; calculations are made involving huge tonnages representing this top foot as though it really meant something. This may be all right for shallow rooted crops and for the equally shallow arguments of the vendor of various alleged "cures" for alkali. As a matter of fact the effective treatment demands deep cultivation, frequent cultivation, and repeated cultivation. Gypsum is a neutralizer and flocculator combined, and if properly applied in sufficient quantities and followed by good cultivation will eliminate the black alkali. Its purpose, as stated above, is twofold. First, the conversion of the insoluble black alkali to a soluble salt, and second, the flocculation of the soil which makes drainage possible and stops the capillary action that pulls the dissolved salts back to the surface. This treatment presupposes the existence of sufficient drainage to carry off the dissolved salts. Should the water level rise to a point where the roots of the plants are submerged, then there is no answer except the creation of an artificial drainage scheme.

The problem of white alkali and salt is much simpler. Usually, no neutralization or flocculation is necessary, and the solution lies in the proper drainage and frequent and thorough washing of the affected areas. The end of all sodium salts existing as solutions is either the chloride or the sulphate, and these are, from their readily soluble nature and also from their flocculating properties, comparatively easy to remove by washing.

Determination of the amount of gypsum necessary for treatment of black alkali is a matter of some doubt. Soil analyses are, to speak conservatively, more or less a matter of chance. The proper sampling of a field is expensive and at best an approximation. The most feasible method is to apply gypsum liberally, say from two to four tons per acre, cultivate through one season before planting, and then judge future applications by the resulting crop. If the land is to be planted to trees or vines or other plants with a deep root system, dig out deep holes, mix the soil with approximately one-third its bulk of gypsum, and use the mixture for setting the plant. This is a rough method of using, but the results on some of the alkali infested soils have proven it to be effective, far cheaper, and just as reliable as the more elaborate and expensive tests based on soil analyses.

In conclusion it may be said that the use of gypsum is comparatively unknown in the extreme West. The schools and colleges with their usual conservatism hesitate to recommend it until they have proven conclusively its value. An elaborate test has been under way for some two years at one of the state institutions, but the men in charge withhold any statements concerning the tests until they have indisputable proof. The writer has been in intimate contact with tests conducted under widely varied conditions and does not hesitate to state that in every test conducted according to the methods outlined above the results have more than justified the expense and in all cases far exceeded the expectations of the men who made the effort.

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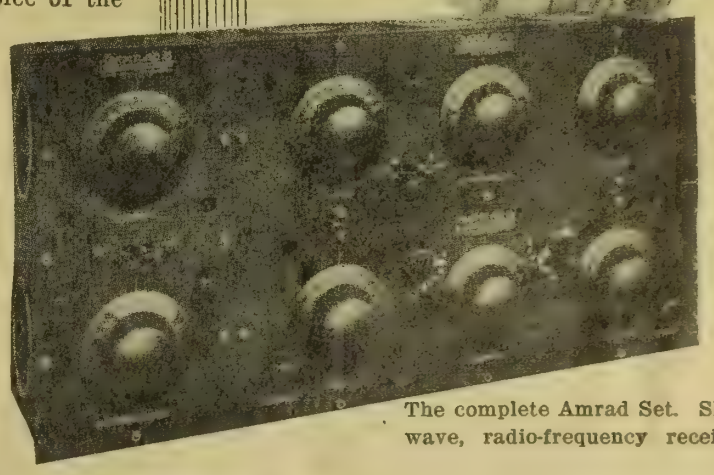

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# Taxation of Improvements

As every orchardist knows, fruit trees and vines just planted and up to bearing age are not assessed as "improvements." But on arrival at bearing age every county assessor is supposed to value and assess at "full cash value." The valuation varies with varieties of fruit according to their supposed profitableness. Technically the assessor expects his deputies to take into account, as the years go by, these values and depreciation, if any. This creates a rather serious situation in the assessor's office, especially with regard to subtropical fruits. The depreciation on subtropicals in a year when there is great loss from frosts may be very great. A Los Angeles County subscriber, whose loss of the present year's income was complete and whose loss because of freezing was perhaps 50 per cent of all living citrus trees, has asked the Cultivator as to his rights and possibility of redress. The deputy assessor apparently did not take into account his losses, and the increase in taxes over the preceding year was more than 100 per cent with no income whatever from the place with which to pay it. Naturally this is considered unjust by the taxpayer. Apparently it is impossible to secure reduction this year for the matter should have been taken up with the board of equalization which met last July.

However, we asked information from Assessor Ed W. Hopkins of Los Angeles County. Possibly the procedure is not identical in all counties but we believe there will be enough of information and interest in Mr. Hopkins' reply to give entire. One point which all orchardists and vineyardists should make sure of is that deputy assessor is fully informed as to the productive value of any "improvements." Then in case of doubt visit board of equalization in July.

Mr. Hopkins writes:

"It was the intention of this office in levying assessments for 1922 to allow a just depreciation on trees which might have been damaged by frost prior to the opening of the assessment season. While some trees were saved from damage by smudging or by reason of the fact that they were located outside the frost belt, it may be possible that the trees on the property to which you refer in your communication should have been allowed a certain depreciation for this year's assessment.

"As you have not furnished us with the legal description of this property, we are unable to locate the same on our records but we shall be pleased to give the matter our further attention when given the necessary information. If it is found that these trees were damaged by the January freeze the owner will be entitled to a refund of a portion of the taxes paid covering the improvement assessment if he will send us his receipted tax bill showing both installments of the 1922-23 tax to have been paid.

"Had the owner of this property appeared before the board of equalization during its session the first two weeks in July any adjustment found to have been necessary could have been taken care of at that time prior to the tax payment. However, no redress can be offered him at this time until he has paid both installments of the tax.

"The board of equalization, whose next session will be between the first and third Mondays in July of 1923, will have authority at that time to act upon only the assessments of next year."

# Citrus Growers Can Turn Waste Into Profit

Great numbers of bruised, undersized or oversized oranges, grapefruit and lemons go to waste in the growing districts annually. The bureau of chemistry of the United States department of agriculture has investigated methods of preparing several excellent food products from such fruit, which can then be disposed of at a profit to the grower.

Department Circular 232, By-Products from Citrus Fruits, by E. M. Chace, chemist, gives directions for the commercial manufacture of grapefruit juice, orange vinegar, citrate of lime, candied grapefruit and orange peel, marmalades of various kinds, jellies and butters. Most of these recipes are in sufficiently simple form to be understood and used by any housekeeper.

Grapefruit juice is a favorite among the refreshing fruit juices on the market. It is not as well suited to home manufacture as other citrus by-products because certain expensive and cumbersome apparatus, including a press, a silver plated strainer and a pasteurizer are called for in the process. However, it should be possible to prepare grapefruit juice on a small scale in the home by means of utensils usually available.

Since vinegar made from oranges is quite as satisfactory as that made from apples, orange vinegar might well be substituted for apple vinegar in regions where many cull oranges would otherwise be wasted. Two processes are given in the circular, the slower of these could be applied in the home.

Citrate of lime is an article of commercial importance which can be made from cull lemons or limes by the ambitious grower who is able and willing to go to the trouble and expense of installing the necessary equipment.

Candied grapefruit and orange peel make excellent centers for chocolates and also serve as a substitute for citron in baking. Candied orange peel may be mixed with icings for cakes or with dough for cookies. It may also replace shredded coconut in homemade candies and fresh orange peel in marmalade. Many firms now use similar products instead of citron in making mincemeat. The circular gives recipes which have produced excellent peel in the laboratory.

Among many different ways of making grapefruit or orange marmalade, several have given excellent results. They consist with one exception of the clear strained juice combined with cooked peel. The exception is orange marmalade made by the three-day method with which many housekeepers are familiar. In this recipe the pulp is retained.

Bitter orange and grapefruit jelly are made in the same way as the marmalades without the peel and with slight variations in the proportion of sugar. Orange butter, especially with a small amount of pineapple pulp added, may be a new preserve to many people.

The circular may be obtained free upon application to the United States Department of Agriculture, Washington, D. C.

### GETTING READY FOR THE NATIONAL ORANGE SHOW

Thirty-five fruit growing communities have joined in entering an exhibit at the National Orange Show which will be held at San Bernardino February 16-26. This entry will contest for the lemon and orange sweepstakes of the exposition. The exhibit has been entered by the Mutual Orange Distributors and will occupy one entire side of the big fruit tent.

With the National Orange classic being held on its own grounds this year and with entries greater than in any previous year, R. H. Mack, general manager of the show, predicts unusual success for the citrus exhibition. Already the demand for space has made necessary an additional tent, and several of the largest regular exhibitors are still to be heard from.

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The truck rollers of Best Tractors run over tracks which are true and straight. Tracks are made from drop forged hardened links which have been accurately machined top and bottom and large hardened spools and pins at each joint contribute to the long life which may be expected from the tracks on Best Tractors.

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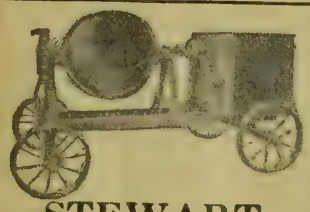

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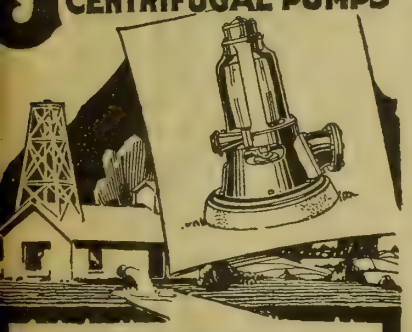

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## ASPARAGUS CULTURE

By Ernest Braunton

THE first thing to choose about asparagus culture is the soil. It should be loose and friable, preferably sandy. But whatever its texture it should be plowed very deep, as deep as possible. Some California growers have plowed a deep furrow and in the bottom placed a quantity of stable manure. This is not good practice as it places the plant food below the roots, whereas it should be slightly above. Planting may be done any time from December to April. The distance between rows has the greatest range of any vegetable grown in California, from four to eight feet. In the row the plants are spaced from 12 to 18 inches. The roots should be six inches deep in the furrow. All large plantings are done in furrows and are covered by turning soil back again in like manner. Water should be run down the rows as soon as planted to settle the soil about the roots.

Water and weeds are the two things to keep in mind throughout the year. Asparagus needs an abundance of the first and is very intolerant of the latter. In the Imperial Valley, where the finest asparagus is grown, the crop is irrigated every ten days during the hottest weather. Other sections may take their cue from this and irrigate as needed, but water is the chief factor in commercial success. In cultivating the rows are ridged as with potatoes and corn, but still deeper covering is needed if white asparagus is to be cut. For plant food nothing is better than barnyard manure and lots of it, for asparagus is a heavy feeder. In addition to stable manure nearly all growers use large quantities of commercial fertilizers, usually fed in two or three doses during the growing season, one of which is given after the cutting season is over, to stimulate and store vigor for the next spring crop.

So long as cutting is done, cut off everything that grows. After the harvest is over the plants should be kept growing vigorously and all the tops be allowed to grow so long as they are green and not diseased. The green leaves manufacture food until they begin to turn yellow, when they should be cut, and burned as a precautionary measure. Of course, if rust appears on the foliage it should be cut and burned at once. It may be best to cut out any canes that bear seeds as the seeds will fall and germinate and furnish a crop of young plants that are not needed. Down in the Imperial Valley one year old plants are preferred, but in most sections two year plants are most used as a marketable crop is certain the first year. Asparagus is not subject to many troubles outside the rust and that is very hard to control. For many years government experts have been at work selecting plants free from rust in beds where the plants in general are badly affected. It would seem that they have met with some measure of success, though none of the newly bred strains are immune. Last summer the writer visited the Jameson fields east of Ontario, where the latest and best government varieties were being tested, but all of them showed some rust. Perhaps in time they will win.

## AUCTIONING AN ORANGE GROVE

Tulare County is trying out a new plan which may be a forerunner of other like events. It is the placing of an orange grove on sale at auction. C. T. Hanson of Woodlake is to offer his place, consisting of 38 acres, to highest bidder on the afternoon of Thursday, December 21. Twelve acres of the place are planted to bearing Navels, six to bearing Marsh Seedless grapefruit, ten to bearing olives and a vineyard which will bear another year. Mr. Hanson writes:

"The place is watered from the St. Johns River Mutual Water Company and 38 shares of water stock go with the place. The St. Johns is one of the best equipped water companies in the valley, has ample water for all land under its system, and the cost is low.

"The buildings consist of shop, barn and living compartments with bath and running water. A complete line of tools and implements, including tractor and a team to go with the place."

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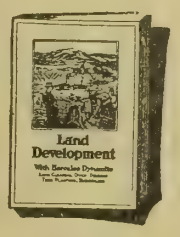


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Tree planting, blasting between the rows, ditching, stumping, boulder blasting—all the uses of dynamite on the farm are fully explained in "Land Development"—a 75-page book published by the Hercules Powder Co.

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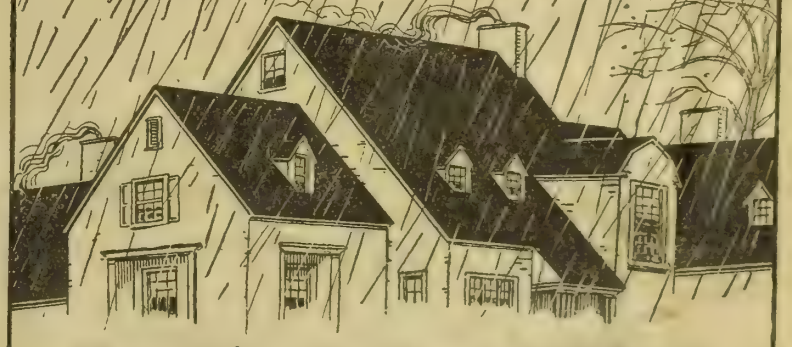

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The 1923 Armstrong Nursery Catalog will give you helpful suggestions—it is beautifully illustrated and the best of each variety of fruits, flowers, shrub or ornamental plant is described fully.

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# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Raw Potatoes for Cow Feed

Would you please publish milk value of raw potatoes when fed to cows? Do they cause bloating?—Subscriber, El Monte.

Raw potatoes have practically the same nutritive ratio as dry beet pulp but should be fed with care. Cooked potatoes can be fed up to 30 pounds daily, but raw the quantity should not be nearly so much. Raw potatoes contain a large amount of free starch which may cause bloat. Start with a small quantity and increase slowly until on full feed.

### Planting Walnut Orchard

I have about three acres I wish to put into walnut trees. Can you advise me as to best variety? I am in the San Fernando Valley near Burbank. If planted before the winter rains should they need watering next summer? I am told not.—Subscriber, Burbank.

The Placentia Perfection walnut is considered about the best for planting in Southern California and is more generally planted than any other variety, however the Ehrhardt has proven very satisfactory in the San Fernando Valley. With proper cultivation the winter rains will probably give the trees sufficient moisture but if irrigation water is available it would give the trees a better start to irrigate them occasionally during the first summer.

### Walnuts—Water Too Near Surface

I have about ten acres of good sandy loam soil that I wish to set out to walnuts, but as the water table is from eight to nine feet I am told walnuts will not do well. What does the Cultivator think about it? The soil never gets too wet to work and I can't see why walnuts should not do all right if given plenty of fertilizer and good cultivation.—Subscriber, Oxnard.

Walnuts will do well for a while under the conditions you mention but we are afraid that about the time the trees reach an age at which they should be really profitable they will begin to go back or deteriorate to such an extent that they would not produce profitable crops. While your soil may not appear too wet on top you will probably find, by digging down four or six feet that the sub-soil is so moist that the tree roots would hesitate to penetrate it. Walnuts root fairly deep where conditions are favorable and it is only under such conditions that they can be expected to produce maximum results.

### Pecans on Walnuts

Will pecans grow if grafted on walnuts or almonds?—Subscriber, Tulare.

They will not. Affinities must be sought. None but stone fruits or of the same group of the family may be grafted on almonds. Practically nothing but walnuts will grow on walnut stock. Pecans belong to the hickory family and will graft well on hickory stock. In fact, some claim it is superior to seedling pecan stock, and many wild hickory trees in Texas and elsewhere have been topworked to pecans.

### Gumming of Peach Trees

What is the best treatment for peach trees that are affected with excessive gumming breaking through the bark?—Subscriber, Sacramento.

The gumming of deciduous trees is one of the most perplexing problems of the orchardist. It is also one to which it is impossible to give any adequate answer in this department. There have been in this paper during the last five months several articles in which it has been referred to and treatment suggested. See first article by Leonard Coates, issue of July 29, page 104. See issue of August 12, page 153. A much more extended article given in the issue of September 9, page 261. In addition the same number has on page 263 comment by Mr. Wood. There is no effective spray or paint or method of pruning which will control this trouble. A sufficiency of moisture at the roots at all times with best of soil treatment seems to afford the only suggestion.


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BLACK MONUKKA
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This nursery stock is absolutely clean and I invite your personal inspection. Book orders now. Act promptly. Visit or write.

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### Grafting Black Walnuts

Please inform me through the Cultivator if I can graft black walnut seedlings next February or March, if I am going to move them now from the seed bed into nursery rows. The seedlings were planted last spring.—Subscriber, Los Angeles.

You should have planted your black walnut seed in the nursery row and not in a seed bed. It could have then been grafted in February of this year. but we do not think you will get satisfactory results now unless you allow the seedlings to grow another year after transplanting before attempting to graft them. It might be possible to bench graft this stock; that is, do your grafting as the seedlings are taken out of the seed bed, and then plant them in nursery row, as is sometimes done with apples, pears, etc., but we question whether you would make a success of handling them in this way.

### Tamarisk Hedge

Please advise me as to evergreen tamarisk for hedge or windbreak. Will it thrive in this locality, near Monterey Bay? Where may cuttings be obtained?—Subscriber, Watsonville.

Tamarix articulata, the evergreen tamarisk, has grown well wherever tried so far as we know. It is growing well in San Fernando Valley and near coast 20 miles oceanward from there. Cuttings are advertised by nurserymen in the Cultivator.

### Federal Farm Loans

Please tell us about the Federal Loan Bank system, and give us the address of the one nearest Santa Rosa.—Subscriber, Santa Rosa.

Write Federal Farm Loan Bank, Berkeley, and the bank will probably refer you to your nearest Federal Farm Loan Association through which you may make application for loan.

### Pasteurized Milk

I want to ask a few questions regarding milk. After milk has been pasteurized as the state law requires, should there be as much of a cream line showing as in the raw milk? Which milk would you recommend for young children and babies, raw milk from the tb. tested cows or the pasteurized? Does not pasteurizing the milk take out bone making material that is very essential for babies and children? I would like to have some comparisons, valuing milk pound for pound with such foods as eggs, meat, potatoes, beans and bread.—Subscriber, Arroyo Grande.

The best information as to the above questions might be had by a study of "Newer Knowledge of Nutrition" by Prof. E. V. McCollum of Columbia University. We may say in a word, however, that the value of pasteurized milk depends largely upon the pasteurization. Prof. McCollum reports a case where children were fed on milk pasteurized at 165 degrees for 30 minutes for a period of two years, later on similar milk pasteurized at 145 degrees for 30 minutes. Where the milk pasteurized at 165 degrees was used there were occasional cases of scurvy. This entirely disappeared when the 145 degree milk was fed. Presumably at the present time there is no milk being pasteurized at a temperature as high as 165. "Certified," "Guaranteed," "Grade A Raw" are not pasteurized, and these milks sell often at double the price of pasteurized milk. This makes it fairly evident that the consumer as a rule prefers the raw milk. Its production calls for exceptional attention to cleanliness and health of animals and attendants. It is known that prolonged boiling entirely destroys the more beneficial elements in pure milk. Pasteurization should not affect the amount of cream, neither will it lessen the lime or bone making material. The loss from heating is because of destruction of vitamins or "Fat soluble A" or whatever may be the illusive quality which we know is contained in pure raw milk. Farmers bulletin, 1207, "Milk and its Uses in the Home" published by the U. S. department of agriculture, Washington, D. C., states: "One quart of milk contains as much protein as 7 ounces sirloin steak, 6 ounces round steak, 8.6 ounces of fowl, 4.3 eggs. In energy value the proportion is still greater in favor of milk.

### License for Testing

I wish to inquire about a milk and cream testers license. What is it and do testers for cow testing associations require one? Do you believe that records of grade cows made by licensed testers and sworn to be correct before a notary would carry as much effect as those made by farm bureau testers?—Subscriber, Imperial.

No license is required for testers unless employed by the university on official work. Testing associations are generally operated by the farm bureaus and outside associations are generally frowned upon, but there is no reason why tests made by a reliable man should not be given full value.

### Olives Soft

Am pickling olives by recipe given in the Cultivator a week or so ago. Have them through the two lye waters and in clear water two days. They have soft spots on them which raise and seem full of water. What is the cause and will it render them unfit to use? There has been some frost.—Subscriber, Acampo.

Your trouble is evidently due to either too strong a lye solution or allowing olives to stay in the solution too long. Are you quite sure that you followed the directions exactly with regard to the stock solution and the diluting of same for use on the olives? The soft spots will not render them unfit for consumption but will destroy their keeping qualities, and they will have to be used immediately. If fruit was damaged by frost these soft spots would be in evidence before treatment in the lye solution.


## OIL LIGHT BEATS ELECTRIC OR GAS

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A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal oil).

The inventor, W. V. Johnson, 31 N. Fifth St., Portland, Ore., is offering to send a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help him introduce it. Write him today for full particulars. Also ask him to explain how you can get the agency, and without experience or money make $250 to $500 per month.


**The California Cultivator is only One Dollar Per Year.**

# ASK FOR POTASH

The present conditions in the business of the farmer and in the fertilizer industry call for serious thought. Both are going through a readjustment period, with its hardships and doubts.

The farmer may well ask whether he is using the most profitable fertilizer. The fertilizer salesman may well inquire whether he is selling the kind that will do the farmer the most good, and lead to larger sales in the future.

During the war America could not get Potash, and the use of acid phosphate increased. Central Europe could not get phosphates, and the use of Potash Salts increased. Today plenty of Potash can be had at less than pre-war prices. Now is the right time to restore the balance by using more Potash in the fertilizer formulas than the average amount used before, 5 to 10 per cent.

Crops take from the soil very much more Potash than phosphoric acid. On any soil where Potash has been profitable it is not unreasonable now to use at least as much Potash as phosphoric acid. Ask the fertilizer agent for prices on this kind of goods, and rebuild your soil while Potash is cheap.

Recently it has been shown that a lack of available magnesia causes serious injury to important crops on some soils. German Kainit and Manure Salts furnish this soluble magnesia without extra cost.

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**POTASH PAYS**

# Household Department

### THE BULLIEST FRUIT OF THEM ALL

Seems like I'm crazy for apples—
  Been without any so long;
Now that it's time for the fruit to be prime,
  Say, I just burst into song.

Other fruit's good in its season,
  But, ah, how I welcome the fall,
That part of the year when apples are here,
  The bulliest fruit of them all.

There's a tang to the taste of an apple,
  A zest like the keen autumn breeze,
With a savor that's won from the smile of the sun
  When it ripened the fruit on the trees.

Oh, I've hungered and thirsted for apples,
  With the appetite keen of a boy,
And the season which brings in this viand of kings,
  For me is a season of joy.

For autumn means rosy cheeked apples,
  And apples mean cider and pie,
And dumplings and such, which you can't praise too much,
  No matter how hard you may try.

So here's to his Highness, the Apple,
  Who comes with the crispness of fall,
When my palate's athrill as I take in my fill
  Of the Bulliest Fruit of Them All!

—Unknown.

### THE GOOSE, THE POET AND THE PRINCESS

By Clara Peterson

ONCE upon a time there was a princess named Floria who did not care to smile. She was not sad, for she had nothing to be sad over except a splendid home and hundreds of dresses and piles of delightful books to read. However, it was fun to be sad continually and have everyone worry over her, so Floria was sad. Her father finally grew so worried over the matter that he offered to let any really clever man marry Floria—that is, any man clever enough to make her laugh and to make her love him.

Floria had lips as red as currants and lovely pale brown eyes that matched her hair. She was tall and graceful too so princes and dukes and earls and barons came to see her and acted as silly as they could to make her laugh, but Floria would lift her pale brown eyebrows a trifle higher and go on reading.

One afternoon she was sitting under a chestnut tree sadly reading a joke book when a poet chanced to pass on the other side of the high white fence. Through an opening he caught the tiniest glimpse of Floria's pink dress but it was such a soft, cloudy, rosy color that the poet was interested at once and put his eye close to the opening. He stood there several minutes and when he looked away he was deeply, hopelessly in love with the princess—who had not even lifted her eyes.

The poet's companion was several yards down the road, catching flies. (The companion was none other than a large and beautiful white goose. The poet found him very satisfactory as he picked up his living along the road and whenever poems came fast and a new pen was needed it was only necessary to pluck a quill feather from the companion.)

"I think we'll stop right in this village, Honkie," said the poet, catching up to his companion who had just caught a grasshopper. "Let's waddle around and find the cheapest inn."

The cheapest inn was the first one they reached so they came back to it after wandering through the city and the poet went immediately to his attic room while his companion took a swim in the watering trough. (The poet had come down again though for a new pen.) It was a pleasant afternoon altogether for the goose, but as for the poet, he sat till sundown with a clean sheet of paper before him, biting his pen, for he could think of no words lovely enough for the princess. It is only fair to say that he was a very bad poet though he was a very good man and a handsome one, too.

"Oh, fair one, sitting in the shade!" the poet had written but that was absolutely as far as he could get. The only word he could think of to rhyme with shade was marmalade and after writing marmalade several times with curlicues and spirals to see whether it could by any means look romantic, the poet pushed back his chair angrily. Not till then did he realize how extremely empty his stomach was.

"Oh, ho! So that's the trouble!" said the poet to himself, and he sent down immediately for one large raisin bun and one small pot of gooseberry jam. When he had eaten the last crumb he wrote quickly.

"Oh, fair one sitting in the shade,
My heart would speak, yet 'tis afraid.
Your eyes of shining—(brown or blue?)
Have brought me close, beloved, to you!"

The third line troubled the poet but he thought perhaps the princess wouldn't notice so he carefully enclosed the poem in an envelope, sealed it with several kisses and sent it to the palace.

There was no answer. In fact, the princess went to sleep before she reached the last line for it was a lazy evening and she had gotten up early to send away two lords and a prime minister. The poet waited sadly all the next day. Then he decided to show the princess in a different way how very much she meant to him.

On Monday he sent her pink arbutus in a basket, hoping she would know that the tiny flower meant, "Thee only do I love."

Tuesday he sent yellow jasmine flowers tied with a lavender bow, for they meant elegance and grace.

Wednesday he sent blue violets for faithfulness—and then his last coin was spent.

Honkie, the goose, found so much to eat down in the grain fields and around the kitchen door that he never thought of his master being hungry. The poet got paler and paler and on Friday the goose thought to himself, "He must be thinking up an awfully hard poem this time. I wish I could help him."

Just as he thought this, waddling along in the dust, he saw ahead of him a bright silver piece. He immediately picked it up and carried it to the poet. Perhaps it would make his master smile.

The poet was lying on the bed. There had been no answer from the princess. (She had been away from home three days and the bouquets had gone to the cook). The poet turned his dark head wearily and looked at Honkie. His eyes grew brighter as he saw the coin and he said quite happily.

"I wish that with it you would go to the shop and buy something for the princess; my last gift, and yours too, Honkie. Get something beautiful and white—like her."

Now of course the poet meant that Honkie was to go to the flower shop but as he didn't say that, the goose waddled serenely past all the stores looking for something beautiful and white.

In the first butcher shop hung a delicious leg of veal, but Honkie was afraid it was not quite white enough so he passed on.

Farther on was a great whitewash

Gifts that render service

"Coffee, Walt? Toast?"

"Yes, thanks. I will have some more, since it is no trouble at all for you to get it."

Can't you hear just such a dialogue between a couple who have received such time-and labor-saving presents as an electric percolator and an electric toaster? Wouldn't you feel good, if you had given them one of these or an equally *convenient* and *useful* electrical present for Christmas?

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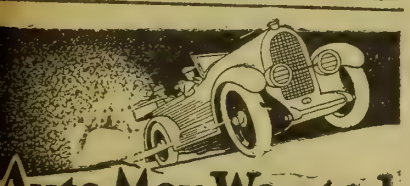

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tub which no one could say was not beautiful and just the thing for a swim. Honkie stood before it a long time as it looked like the most for his money but at last he happened to think that he never could get it to the palace so he strolled on.

Then he found just the thing! In a shoe shop window was an enormous pair of white bedroom slippers trimmed with lace. In a minute Honkie was inside the store.

"You are sure you haven't any larger ones," said the goose as the clerk tied the bundle. (Living with a poet had taught him always to get his money's worth.)

"These are the largest size made in any slipper," said the clerk gruffly—some people were such geese!

When the goose arrived at the palace gate, the gatekeeper looked him over curiously. Honkie was quite splendid in his red and white suit and his bundle looked interesting, but the gatekeeper shook his head.

"No pelicans, cormorants, terns, gulls, penguins, flamingos, ducks, or book agents allowed on these grounds!" he barked loudly and thought to himself, "I guess that will hold him. I've named everything with a bill."

All Honkie did was spread his wings and sail straight over the gate and through the spray of the fountains to where he saw the princess sitting. By the time she had looked up from the joke book he had the slippers unwrapped. He placed them carefully on the grass beside her tiny feet in their blue kid shoes.

"A present for you from the greatest poet in the world!" said Honkie loudly.

Floria looked down at the slippers lying there like flat white boats with railings of lace. She began to smile and in a moment she was screaming with laughter.

"You mustn't laugh," said Honkie, frowning. "They may shrink you know—or you feet may grow."

"Oh! oh! oh!" shrieked the princess till her father came running out rubbing his hands in delight at the sound.

Of course they sent at once for the poet who forgot all about being hungry and only looked the more interesting for being pale.

It all ended happily. The poet was extremely smart (except in poetry,) and he helped manage the kingdom while Floria destroyed every joke book in the palace and was happy ever after.

As for Honkie, he was given a suit like the gatekeeper's and not to this day has he let anything with a bill get past him.

### THE RAG DOLL'S CHRISTMAS

THERE was once a very, very old rag doll who lived in a nursery. She was so old that she had seen all the children grow up—the boy who wore trousers now, the girl who had her hair done in braids, the middlesized child who had so often left the rag doll out in the garden at night. There was only the baby left—bless his pink toes!

But the rag doll was very, very old, and one beautiful Christmas time she began to show her age.

Her hair had been combed so much that it had come out dreadfully, and her nose, from a great deal of kissing, was entirely gone. Her pretty pink cheeks had been washed away when the boy tried to teach her to swim in the bath tub, and all her clothes were very untidy indeed.

The baby never noticed all these things, but the toys did; they all made the most unkind remarks to the rag doll the day before Christmas.

"Look at your dirty face," said the large French doll. "You'll be put in the attic tonight. That's where the old dolls go." "Look at your dress," said the jumping jack. "It is all torn. I wouldn't walk across the nursery floor with you."

"Did you ever see such thin hair?" asked the hobby horse. "I thought my tail was thin, but it isn't to be compared with that!"

But just then the nursery door opened, and the Christmas Angel came in. You could be perfectly sure that it was the Christmas Angel even if she did have on a gingham apron, be-

# She Knows

## how to use left-over bread and make the farm hands like it

LOTS of bread was used on her table, but lots of it also was left over. She used to throw away a lot.

But now she knows what to do with it, for one day she found a recipe which told her how to use raisins in bread pudding.

It made "a new dish" of it. Men who didn't like plain "bread pudding" were delighted with the raisins and became enthusiasts.

### Raisin Bread Pudding

Three-fourths cup Sun-Maid Seeded Raisins, 2 eggs, ½ teaspoon salt, butter size of an egg, ½ cup sugar, cinnamon to taste, ½ large loaf of stale bread, 2 bananas or apples.

Soak the stale bread over night in water. When time to make the pudding press as much water as possible from the bread so that the bread is about the same consistency as dough, then take a fork and get all lumps out. Do not leave the crust if it cannot be mashed to the same consistency as the bread. Add well beaten eggs, salt and stir. Add raisins mixed with the butter. Put into dish in layers, covering each layer with sliced banana, sugar and cinnamon. Bake in slow oven until brown. Serve with whipped cream.

*All measurements for this recipe are level.*

*Blue package (seeded) best for pie and bread.*

Now she never wastes a slice of bread. She even has to bake bread specially to make this pudding.

Try the recipe and see how good it is —with

# Sun-Maid Raisins

Hear your men folks call for more, and how they compliment you. Try it now.

Be sure you get Sun-Maids—the finest raisins grown.

Your retailer should sell you Sun-Maid Seeded Raisins (in 15 oz. blue packages), the best bread-pudding raisins, for not more than 20c.

Insist on Sun-Maids, the kind you know are good.

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cause her face shone so through the dark.

"The French doll must go up to the attic," said the Christmas Angel. "There is a more beautiful new best doll coming."

"Why, the jack-in-the-box has forgotten how to jump."

You see the jack-in-the-box had been so excited about the rag doll's dress that he had broken his spring.

"The jack-in-the-box must go up to the attic, too," said the Christmas Angel.

Then she went over to the hobby-horse.

"Poor, old hobby-horse!" she said. "Your leg is very badly broken. I will take you up to the attic until you can be mended."

"There," the Christmas Angel said at last, "the nursery is all tidy, and ready for new toys—but, dear me, what's this? Why, it is the little rag doll!"

"Oh, please, do I have to go to the attic, too?" said the rag doll. "It's very cold there, and I know the best doll will have the chimney corner for herself—and I don't want the mice to gnaw my toes!"

"Why, you dear old thing!" said the Christmas Angel. "You're the same rag doll that I used to play with when I was little. You go to the attic? Why, I just guess not! We couldn't get along without you in the nursery. You do need a little mending, but I am going to sew you, and then you shall sit on the very tiptop of the Christmas tree."

The Christmas Angel lighted one of the Christmas candles so that she could see to sew. Then she took the rag doll in her lap and opened her workbag and set to work.

First she stuffed the rag doll's insides with plenty of cotton so she could sit up. Then she sewed her toes and put new little white stockings and black shoes on her feet. She took a piece of clean white cloth and covered the rag doll's dirty face, and painted in blue eyes and a smiling red mouth and vermillion cheeks. She sewed on a new yellow wig; and then she made a pink-and-white checked gingham dress with puffed sleeves, and a white apron with strings to keep the dress clean, and a pink-and-white checked sunbonnet to tie under the rag doll's chin and keep her hair tidy.

"I think you will do now, you dear old thing," said the Christmas Angel.

So it came Christmas morning, and there on the tiptop of the tree sat the rag doll quite made over. The children thought her really the most beautiful of all the Christmas things. As for the rag doll herself—why, all the pleasure of her old days was as nothing to the happiness that was hers now.—Carolyn S. Bailey.

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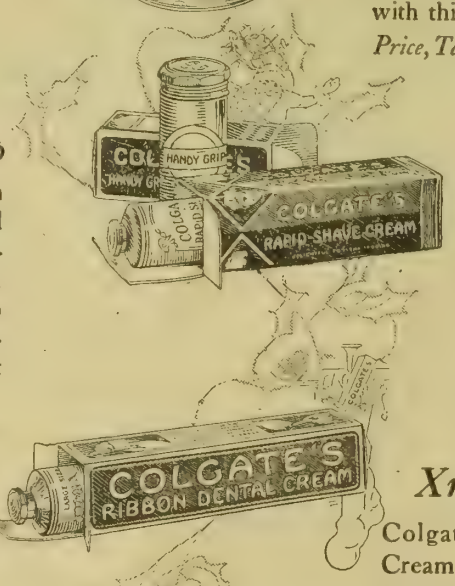


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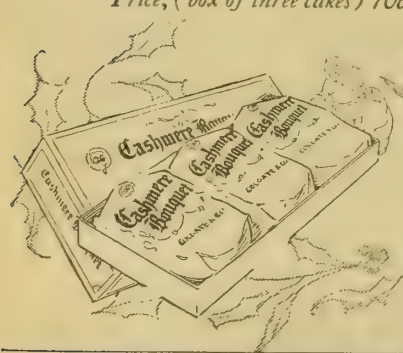





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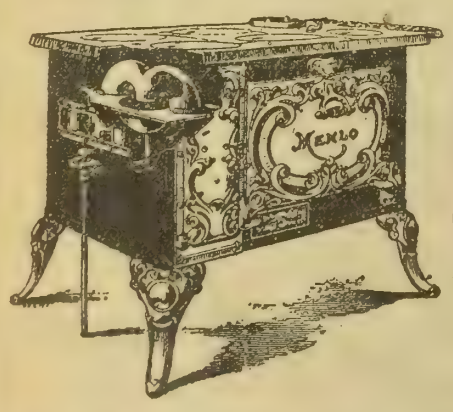


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## HINTS FROM HOUSEKEEPERS

### Cowboy Song

Some one noting the many cowboy poems in the Cultivator recently has sent in the following one requesting that it be published.

"THE COWBOY'S RETURN"

Backward turn backward, oh time with your wheels!
Aeroplanes, wagons and automobiles.
Dress me once more in sombrero and flaps,
Spurs, and a flannel shirt, slickers and chaps,
Put a six-shooter or two in my hand.
Show me a yearling to rope and to brand.
Out where the sage-brush is dusty and gray
Make me a cowboy again for a day.

Give me a broncho that knows how to dance,
Buckskin of color and wicked of glance,
New to the feeling of bridle and bit.
Give me a quirt that will sting where it hits
Strap on the poncho behind in a roll
Pass me the lariat dear to my soul.
Over the trail let me gallop away
Make me a cowboy again for a day.

Thunder of hoofs on the range as you ride,
Hissing of iron, and smoking of hide,
Bellow of cattle, and snort of cayuse
Shorthorns from Texas, wild as the deuce.
Midnight stampede and the milling of herds,
Yells of the cowmen too angry for words.
Right in the thick of it all I would say
Make me a cowboy again for a day.

Under the star studded canopy vast,
Campfire and coffee and comfort at last.
(Bacon that sizzles and crisps in the pan
After the roundup smells good to a man).
Stories of ranchers and rustlers retold
Over the pipes as the embers grow cold—
These are the things that old memories play.
Make me a cowboy again for a day.—By J. H. Bissell.

## PURELY INSPIRATIONAL

The archbishop had preached a fine sermon on the beauties of married life Two Irish women coming out of church were heard commenting upon his address.

"'Tis a fine sermon his reverence would be after givin' us," said Bridget.

"It is indade," replied Maggie, "and I wish I knew as little about the matter as he does."—Tid-Bits (London).

## HOUSEHOLD QUERIES

### Candied Citron

Would you kindly send me the recipe for making pie plant citron? I think it was given in the March 25 Cultivator which was before I had the Cultivator to read. My pie plant is still in the field. Will the frost injure them? I get many suggestions from the Cultivator and especially enjoyed the article on Miss Warner's turkeys.—Subscriber, Oroville.

The directions for making candied citron have been mailed our subscriber. They, however, apply to the true citron which grows on tree similar to the lemon and is not unlike a large coarse skinned lemon in appearance. The field citron melons may be candied like watermelon rind or by following directions for candying fruits given on Page 61 of the Cultivator of July 15. This will not have the characteristic citron flavor as the citron or pie melon is practically tasteless. As a suggestion we may pass on the hint to add flavor by placing lemon or orange peel or both in candying syrup. The citron melons will not be injured by any ordinary frost.

If any of our household readers have been successful in candying citron melon we will be glad to pass on their experience in these columns.

### Thin Rich Cookies

Will you please reprint directions for making "Thin Rich Cookies" given in the Cultivator about this time last year? They are the most delicious Christmas cakes, confections rather, we have ever made and the most universally popular in Christmas boxes. Hope you can put this in next Cultivator.—Reader, Los Angeles.

Three eggs, 1 cup sugar, ½ cup butter, pinch salt, enough flour to roll out. Roll as thin as possible, brush the surface lightly with well beaten egg, sprinkle with granulated sugar, cinnamon and finely chopped nuts. Cut in squares and bake till brown in very quick oven. Watch closely for they are so thin and rich that when they start to brown they burn quickly. It really takes two people to handle them properly, one to roll out and sprinkle with sugar, cinnamon and nuts, place on pans and have ready to slip into oven as soon as the other, who has been watching the first batch in the oven, pops them out. They keep crisp for a long time—if they have a chance—are as delicious as any Christmas confection, but less cloying than many and absolutely wholesome for children.

### Chocolate Dipped Candies

We have been asked to repeat Mr. Cruess' directions for dipping candies and dried fruits in chocolate, for Christmas goodies. Here they are. Note his caution not to make chocolate too hot.

Dried fruits of all kinds or candied fruits can be converted into excellent chocolate candies by dipping them in melted confectioners chocolate. This chocolate is melted as follows: Cut thin shavings into a shallow pan. Place pan in water heated to from 90 to 95 degrees Fahrenheit (less than blood heat). When the chocolate melts dip the dried fruit or candied fruit in the chocolate and place on oiled platter. When cooled and solidified it can be packed in candy boxes. The whole secret of success in the dipping of chocolate lies in not having the chocolate at too high a temperature. Candied cherries, chopped raisins and nuts, halved dried pears, peaches and apricots make excellent chocolate dipped candies.

## CALIFORNIA CHRISTMAS LOAF

Made of representative California goodies, without cooking, this loaf is guaranteed by the editor of the California Cultivator to be better than any candy ever made. This is the way it's done:

Take 1 pound seeded (not seedless) California raisins, 1 pound California dates, 1 pound California dried figs, 1 pound California dried prunes, 2 pounds California nuts (walnuts and almonds). Scald dried fruits and let drain and remove pits, blanch nuts by letting stand a moment in scalding water, then in cold and rub off skins. Put all ingredients through food chopper, using coarse knife, mix thoroughly. Have ready buttered loaf pan. Pack mixed nuts and fruits in tightly with spatula, packing firm and tight. Place in ice box over night or cover and leave in cold place, such as back porch. Put a real cutting edge on the carving knife. Pull and shake gently sides and ends of loaf pan to loosen loaf and turn out on platter or cutting board. Shave down slices—thick or thin as desired—with the sharp knife, then cut in squares. If wished these may be rolled in sugar or dipped in chocolate, following directions given elsewhere in this department. This loaf will keep for months.

## TURKEY STUFFINGS

### Chestnut Stuffing

Cook chestnuts in boiling salted water until soft, then drain and mash. Melt ¼ cup butter, add 1 teaspoon salt, ⅛ teaspoon pepper, ¼ cup cream. Melt another ¼ cup butter, add 1 cup cracker crumbs, mix well, then add to chestnut mixture and mix thoroughly.

### Oyster Stuffing

Two cups cracker crumbs, 1 tablespoon chopped onion, 1 pint oysters, ¼ cup butter, 1 tablespoon salt, 1 teaspoon pepper, 1 tablespoon chopped celery, 1/3 cup boiling water or hot milk. Parboil oysters, dip in melted butter, add remaining ingredients.


# White-of-Egg

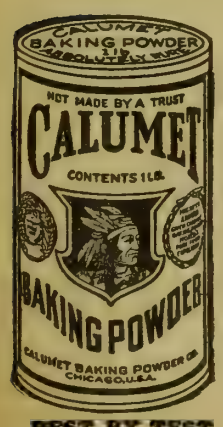
## in Calumet a Vital Element Most Baking Powders Lack

Don't use a leavener that does not contain white-of-egg. When you do you take chances—you run the risk of spoiling your bakings.

# CALUMET

**The Economy BAKING POWDER**

contains a small amount of white-of-egg. This makes it possible for representatives of the company to test it frequently for leavening strength—right on the dealer's counter. Nothing but absolutely fresh stock is permitted to remain on the dealers' shelves. It must always be up to the high Calumet standard.

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Remember the white-of-egg in Calumet protects the success of your bakings. It is the economical positive bake-day aid and its sale is 2½ times as much as that of any other brand.

***A pound can of Calumet contains full 16 ounces. Some baking powders come in 12 ounce instead of 16 ounce cans. Be sure you get a pound when you want it.***

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That will increase attendance during the chilly, rainy months is

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It circulates warm, odorless, sterilized air throughout six connecting rooms or their equivalent, providing uniform heat. This means that the air in your church is always fresh and free of fumes, and that those seated furthest from the HEATROLA are as comfortable as those nearest it.

The principle upon which it operates is scientific, yet simple and interesting. Send the attached coupon for further information.

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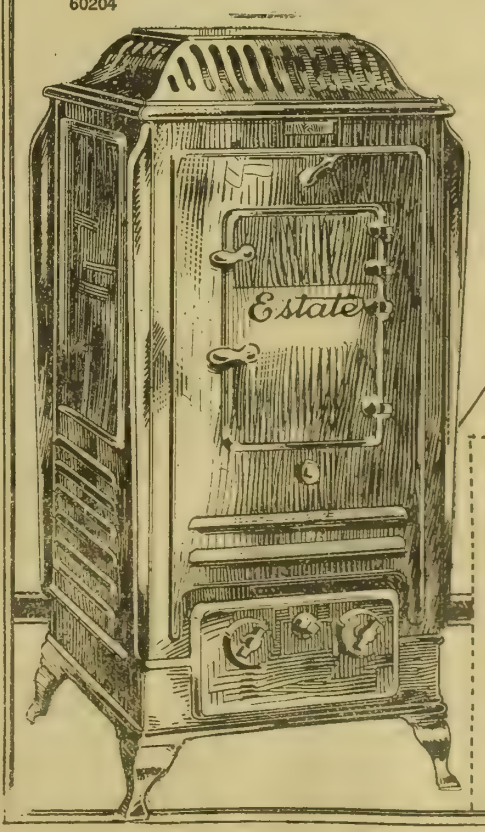


Birch-Smith Furn. Co.,
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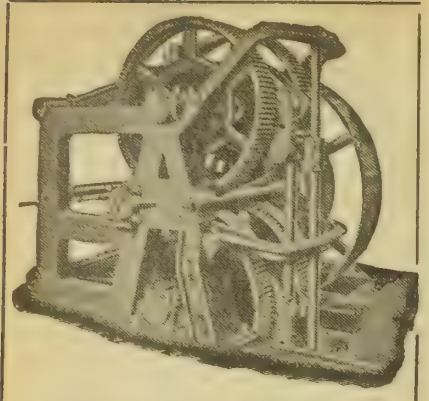
Gentlemen:

Without obligation to me, please forward information as to The ESTATE HEATROLA for heating the church.

Name .....

Street address or R. F. D. .....

City or Town and State .....



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are solving the pumping problems for many users during the period of low water levels. They will lift the water to the surface, and, if desired, deliver it to high elevations above ground and at lower power cost than any other system of pumping water.

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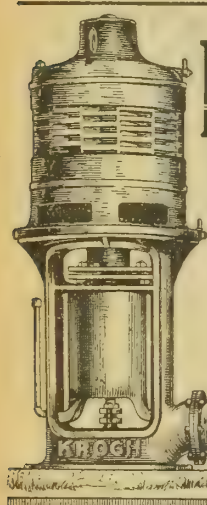


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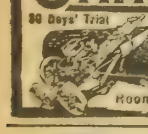


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# Livestock News Notes

The two big loving cups awarded by F. F. Peabody of Santa Barbara for excellence of exhibits at the Southern California Fair were delivered last week. The one for the best general livestock exhibit went to the Italian Vineyard Company which showed Berkshire hogs, Guernsey cattle and Cotswold sheep. The one for best showing of dairy cattle went to Fred Hartsook for his Holsteins. The cups were awarded on the basis of points won in the separate classes.

C. W. Anderson of Burbank has purchased E. C. Schroeder's interest in the big herd of Holsteins which they owned jointly and will continue the business alone. This herd which is made up largely of daughters and granddaughters of Sir Pietertje Ormsby Mercedes, is one of the strongest aggregations of Ormsby blood in the country. It includes 16 daughters of Sir Piet, two of which are out of Spring Brook Bess Burke 2d. It also includes 15 daughters of Sir Pietertje Ormsby Mercedes 37th, and most of the cows are bred to him. The 37th, who arrived in California last week, is one of the great bulls of the breed. His daughters, all in heifer form, have been making wonderful records in the Erickson herd in Wisconsin. Mr. Erickson has 52 of them and practically all are on test. Among the tested daughters is Wisconsin Pride 2d. In the herd Mr. Anderson has acquired six cows with over 1000 pounds and a number with records from 800 to 1000 pounds. Mr. Anderson is doing considerable testing and is going to have some very excellent records to announce before long.

Mercedes Pontiac of Donnybrook, a senior three year old Holstein cow belonging to Fred Hartsook, recently completed a seven day record of 30.36 pounds butter.

The report of the Stanislaus County cow testing association for last month shows 3146 cows tested with an average of 26.6 pounds fat per cow. 193 cows made over 40 pounds. The two high cows were registered Holsteins owned by E. W. Looney which made 79.4 and 78.6 pounds fat respectively.

The H. G. Ranch of Buelton has sold a registered yearling Ayrshire bull to the Sefton Investment Company of San Diego. They have also sold Harmony Victor, junior champion at several shows this year, to a neighboring dairyman. Jack McLean formerly with Santa Anita and later with Hartsook, is now in charge of the H. G. herd.

Farm bureau centers and others organizations having motion picture equipment can get the several reels of Ayrshire films by writing to Frank Howard, P. O. Box 136, Santa Rosa. There is no charge for the use of the films. Mr. Howard will be glad to furnish full information to interested parties.

# The Influence of Type in the Production of of Pork in California

By E. H. Hughes

The pork producer in California, as well as in any other section of the country is interested primarily in producing a product that first makes money for himself and at the same time meets the need of the consuming public.

At the present time the consuming public requires pork that has been well grown, but is not excessively fat. There was a time, of course, when an extremely fat hog met the demands of the packer because he could not sell the lard for more than he could sell hams or bacons.

From the producers' standpoint there is no doubt in the writer's mind that the big type hog excels. While the producer should not forget that the ultimate end of all hogs is the pork barrel, yet size with depth, constitution and good legs means money for the producer. Constitution is of primary importance, of course, in any class of livestock. In the big type hog we get our constitution in depth rather than width of chest, which is comparable to the constitution of our race horses. The big type hog is an animal that has length combined with depth. Such an animal we believe is on the average more prolific than the shorter, thicker type of hog that we found on our ranches ten years ago. These big type sows farrow more pigs, pigs that are larger at birth and we believe raise a larger per cent of their litters. These pigs in my judgment weigh more at weaning time than the pigs from the old fashioned type of sow. The pigs from the good rangy deep bodied sow have a tendency to grow rapidly and not to fatten, thus reducing the liability of having thumps and that sort of thing. In addition, the big type sow has more room for feed, and other things being equal she should produce more milk for her litter than the short thicker sow. In dairy cattle it has been found that the high producers of milk have capacity, constitution, dairy temperament and large mammary development. I see no reason why these same things might not be true of our hogs.

The question of type in our hogs has always been an important one, and when we see grand champion barrows, such as were seen at the Pacific International recently, some breeders are apt to get the notion that the old thick short kind of a sow is coming back into favor.

If the big rangy deep bodied smooth hog can make money for the producer today, is there any reason why that same animal will not make money for the producer and at the same time meet the demands of the consuming public in the future?

## STATE WOOL GROWERS

At the recent meeting of the California Wool Growers Association at Stockton A. T. Spencer was elected president. Retiring President Ellenwood was elected vice-president, and Frank N. Bullard, treasurer. The board of directors is made up of presidents of branch associations and the following who were elected directors at large: George J. Cleary, Rocklin; Louis Oleese, Bakersfield; Charles Kimble, Hanford; J. E. Maurer, Los Angeles.

Resolutions were adopted endorsing the removal of bear from protected game list, securing abandoned highways for driving of livestock, easier methods of financing livestock producers, prohibiting trespassing by individuals upon privately owned lands without a permit, prohibiting the running of dogs after deer. Further it was resolved if possible to secure adequate appropriations for livestock sales pavilion at University Farm, Davis; control of scabies; from federal government for extermination of coyote, from state for continuing federal-state method of extermination of coyote.

## NEW BANK AT LOS ANGELES STOCKYARDS

The establishment of a stockyard of any size calls for the founding of a bank which functions peculiarly in that its principal business is handling the funds derived from the sales of livestock and making loans on the same commodity. The new union yards at Los Angeles is to be served by the newly formed Southwest State Bank of which John L. Knorpp, head of the Southwest Cattle Loan Company, will be president.

The bank at the stockyards will be useful to the livestock industry in many ways and will serve both large


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A Brother to the State Champion

We offer for sale a 3 months old Holstein bull calf sired by King Segis De Kol Mead, whose 4 year old daughter made 1139 lbs. butter in a year on 3 time milking. His daughters have made good in yearly test wherever given the opportunity. He transmits the wonderful ability of his dam, De Kol of Valley Mead, who now has a score of descendants averaging close to 20000 lbs. milk and 1000 lbs. butter in 365 days.

The dam of this calf has 2 records of over 26 lbs. butter in 7 days with over 510 lbs. milk, and a Cow Testing Association record of 802 lbs. butter in a year at ten years age. For several generations back all ancestors averaged 90% white.

Priced reasonably. Guaranteed right.

Los Angeles County Farm
Hondo California
Three miles south of Downey on the Downey Long Beach Boulevard



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produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

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We have a carload of sows and gilts guaranteed safely bred to our great boars.

For Sale Singly or in Lots

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BARREN COWS are the results of CONTAGIOUS ABORTION

Prevent this by using ABORNO. Easily administered by hypodermic syringe. Kills abortion germs quickly without harming cow. Write for booklet with letters from users and full details of Money-Back Guarantee.

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Big Money Boring Wells

Have water on your own farm. In spare time make wells for your neighbors. It means $1000 extra in ordinary years, double that in dry years. No risk—no experience needed.

One Man One Team

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Earth augers, rock drills and combined machines. Engine or horse power. *Write for easy terms and free catalog.*

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BESIDES the danger of serious permanent results, hurts or sores on the udder and teats seriously check the milk yield. The full milking comes from the cows with soft, silky udders, and smooth healthy teats.

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Every barn should have this big 10-ounce package of Bag Balm. Costs only 60c and goes a long way. Feed dealers, general stores and druggists sell it. Let us send free booklet, "Dairy Wrinkles," and if you have never used Bag Balm, send coupon below for free sample.

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Dairy Asso. Co., Inc., Lyndonville, Vt. Please send free sample of Bag Balm

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Prevent
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that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with

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also other Bunches or Swellings. **No blister, no hair gone,** and horse kept at work. Economical—only a few drops required at an application. $2.50 per bottle delivered. Book 3 R free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Cysts, Wens, Painful, Swollen Veins and Ulcers. $1.25 a bottle at dealers or delivered. Book "Evidence" free.
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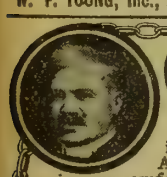

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*Veterinary Advice Free*
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**119 Grand Ave., Waukesha, Wis.**

**IF YOUR VETERINARIAN** Uses "Cutter's" Serums and Vaccines he is doing his best to conserve your interests. 25 years concentration on one line count for something.

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and small producers. It will facilitate the financing of the feeder industry and in conjunction with the centralized public market at the yards will enable the farmers who wish to feed cattle on a credit basis to operate efficiently. The function of the market in this operation will be that of fixing the cash prices of livestock from day to day so that the banker knows the value of the cattle under consideration, and to provide a place where the cattle may be readily inspected without loss of time. Heretofore there has been no satisfactory way in which banks could place a valuation on cattle and in most cases no satisfactory way in which they could make inspections of cattle in small lots.

It is estimated that 95 per cent of the feeder business of the Central West, one of the most stable businesses in connection with farming, is done on credit, and with the establishing of the essential facilities at Los Angeles it is believed that this business, on which the greatest advance in improvement of quality in meats depends, will be adequately encouraged. Directors of the new bank are F. L. S. Harman, manager of the Central Manufacturing District of Los Angeles; John L. Knorpp, president of the Southwest Cattle Loan Company; Leo M. Meeker, president of the Long Beach National Bank; J. A. McNaughton, general manager of the Los Angeles Union Stockyards Co.; P. O. O'Neil, Los Angeles capitalist; W. S. Witten, general superintendent of the Los Angeles Union Stockyards; B. B. Reynolds.

The advisory committee includes the following: A. W. Ellington, president Warman Steel Casting Company, Los Angeles; J. A. H. Kerr, vice-president Security Trust & Savings Bank, Los Angeles; Arthur G. Leonard, president Union Stockyards, Chicago, and president Los Angeles Union Stockyards; Halsey E. Poronto, vice-president Central Manufacturing District of Chicago and president of the U. S. Cold Storage Co. of Chicago; John A. Spoor, director of Guaranty Trust Co. of New York, director of the First National Bank of Chicago, chairman of the board of the Union Stockyards of Chicago, and Thomas E. Wilson, president of Wilson & Co., meat packers of Chicago. R. A. Knorpp will be vice-president and B. B. Reynolds, formerly with the Drovers National Bank of Kansas City, will be cashier.

### U. OF C. AT CHICAGO

For the third time the University of California won the Clay-Robinson cup which is offered to colleges showing the best group of 5 steers, 5 barrows and 5 wethers, at the International Livestock show at Chicago. This is one of the most sought for honors of the show.

The hog department also made considerable winnings. A telegram from Ralph Dunham, who has charge of the hogs, states that California won 1, 2 and 3 on single Poland barrows under 250 pounds and 1 and 2 on pens of the same weight, 3 on heavy Duroc barrow and 7 on pen of light Durocs; also reserve champion pen of Polands.

In the cattle the farm won 3 on senior yearling Angus steer, 2 junior yearling Angus, 2 on Hereford calf, 1 on crossbred calf, 2 get of sire and champion steer herd of the show.

In the sheep show the university won first on pens of Shropshire, Hampshire, Southdown and crossbred lambs and champion college wether on a Southdown lamb.

This is the fifth year that livestock bred by the U. of C. has been shown at Chicago and every year the winnings have been high. Two years they included the grand champion steer of the show. While not primarily a livestock state like many in the Middle West, California has lots of good livestock and the university farm is typical of the state. Under Prof. Gordon H. True the livestock department has come to be one of the strongest of the school. Funds for this department have never been sufficient but the loyalty of the men connected with it has enabled it to do great work. There are few college faculties as strong in livestock and its associated industries as the U. of C. is now.


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Price Reduced to $125.00
DELIVERED AT EUREKA OR ANY OTHER R. R. DEPOT IN CALIFORNIA
PRICE INCLUDES A REAL CLUTCH, SPECIAL MOTOR, BATTERIES, AND A 6 FOOT BLADE.
LONGER BLADES $1.50 PER FOOT

*Wood Splitters---Pole Saws*

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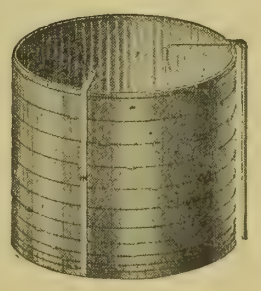

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You have seen his dam and know that she is the type you want his daughters to be.
Or you have seen a good picture of her with a close-up picture of her udder.
She is a big producer of milk with a high percentage of fat.
Our cows are the tops of all the big sales in the state for the past three years.
Practically all of them have high 7 day and yearly records. They hold 4 world's records.
Our herd bull is Aaggie De Kol Mead, whose five nearest dams average 1130.66 pounds of butter in a year testing over 4%.
You should have one of his sons out of a high record dam.
Call or write for our long-time, easy payment plan.

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Every Day—Ducklings, turkeys, hatching eggs—dogs, cats, birds, rabbits, pullets.

Write for prices

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640 So. Main St. Los Angeles

**For Sale**—For 18 years we have produced the best White Leghorn chicks. All the best blood of the world is represented in our flocks. Chicks grow into exceptional layers. Last season our customers had almost no death loss in their brooders. We delivered every order in full and on time. Send for new circular. We ship everywhere. Leghorns, Rocks and Reds $15.00 per 100. P. Cook Chick Ranch, 1717 Valley Blvd., Alhambra, Calif.

**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

**Order Your Baby Chicks Early.** You will sure get plenty of eggs if your chicks come from Webb's Cackle Farm. Not a new one in the business but for 12 years Santa Cruz' largest breeder and hatcher of single comb White Leghorns. 2700 choice hens mated this season. Our stock is open for inspection at all times. 227 Parkway, Santa Cruz.

**Baby Chicks** that are strong, healthy and easy to raise are hatched in Oakland Electric Hot Water Incubators and hovered in Oakland Electric Brooders. By selling direct we can save you money. SOLD ON A TEN YEAR GUARANTEE. We pay the freight. Write for catalogue. OAKLAND INCUBATOR CO., 1411 40th Ave., Oakland, Calif.

**Baby Chix Electric Hatched**—Booking orders for 1923 delivery. R. I. Reds, Barred Rocks. Our S. C. White Leghorns are from hens of George England strain mated to cockerels from the A-1 matings of the trap-nested stock of the Bonnie Brae Farm at Burbank. Write for price list. RED LOCK HATCHERY, 305 North Main Street, Artesia, Calif.

**The Parent Stock from Which** we get our day old chicks, is selected for vitality and laying capacity. We specialize in White Leghorns, but will furnish other desired breeds. Our capacity being limited by the necessity of carefully selecting only the best stock, orders should be sent in promptly. THE STEVENSON HATCHERY, Watsonville, Calif.

**Poultrymen Attention.** We are now booking orders for hatching eggs, baby chicks and 8 weeks old pullets, from our well selected and culled heavy laying utility stock. S. C. White Leghorns exclusively. Only a few more dates open for hatching eggs. All our cockerels are from trapnested stock. Pine Tree Poultry Farm, Los Gatos, Calif.

**For Sale**—Pedigreed White Leghorn Cockerels—Mother laid 252 eggs at Santa Cruz egg laying contest. Father's mother laid 306 eggs, grandmother, 312 eggs. The egg habit can not be fed into a hen, it must be bred in. California Poultry Farm, R 1, box 160, Modesto, California.

**Weis Farm Baby Chicks** are produced from the world's best laying strains. Cockerels used with the breeders this year come from hens with records up to 312 eggs. 25 chicks, $4.00; 50 chicks, $8.00; $15 per hundred. Weis Farm, P. O. Box 351. Petaluma, Calif.

**I Have Had 12 Years** of experience in hatching and am booking orders for White Leghorn Chix. I breed from 2 and 3 year old hens, mated with best roosters that can be got and sell nothing but strong chix. Write for prices. J. C. Foster, Box 68, Moneta, Calif.

**Baby Chicks**—From selected breeders. Order now for 1923 delivery. White Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for circular and price list. The J. H. Stubbe Poultry Ranch and Hatchery, Box 67-E, Palo Alto, Calif.

**Baby Chicks of Seven Varieties.** Order now for early Spring delivery from Fresno headquarters. Rohrs & Anson, 2028 Belmont Avenue, Fresno, California.

**Watch Us Grow Quality Chicks.** Booking orders now for the season of 1923. Brown and White Leghorns, Barred Rocks, Rhode Island Reds and Anconas. Order early. Ohlen's Hatchery, Campbell, California.

**White Leghorn Baby Chix for summer and fall months from stock Accredited by Sonoma County Farm Bureau.** We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Santa Cruz Chicks** from my heavy laying strain of White Leghorns that are hatched right and prices are right; 12 years experience at hatching and breeding in Santa Cruz, Calif. T. E. Blake, Oak Knoll Poultry Ranch.

## POULTRY

**Hi-Grade Chicks For Less**—We are hatching every Wednesday—Barred Rocks, Reds, Anconas, W. Leghorns. Latest price list just printed, giving lowest prices. We deliver free. We carry full line of poultry supplies at a reasonable price. 580 egg incubators only $68; 500 chick brooders $25; chick boxes 100 size 27 cents; 1000 market egg boxes $10. Sodium fluoride 35 cents pound. Write us your wants, or call and see us. Hargett & Son (11215 Compton Ave.) Route 2, Box C, Compton, Calif.

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First hatch January 1st. We specialize on Hyde and Ramar White Leghorns, "Hill Crest" Reds and Buhrman's White Wyandottes. Also hatching Brown Leghorns, Anconas, Minorcas, Barred and White Rocks, Buff Orpingtons, Cornish Game, Partridge and Golden Wyandottes and Black Cochin Bantams. Descriptive folder gladly sent from The Archibald Hatchery, B. W. Archibald, Soquel, Santa Cruz Co., California.

**Certified White Leghorn Baby Chicks,** hatched in the world's largest Electric Hatchery, for Spring 1923 delivery. January prices $4.00 per 25; $8.00 per 50; $15.00 per 100. Special prices 500 and 1000 lots. Order early chicks now and realize big broiler profits. Choice free range, high egg producing breeding flocks. Inspected by Sonoma County Farm Bureau. Safe arrival guaranteed. Must Hatch Incubator Company, 438 Seventh St., Petaluma, California.

**Baby Chicks**—Twelfth year specializing on properly incubated chicks—the better grade that live and thrive—White Leghorns, brown and buff Leghorns, Rhode Island Reds, Barred Plymouth Rocks, Anconas, Black Minorcas, Blue Andalusians. Now booking orders for January and later delivery, safe arrival guaranteed. Free circular. Order early and get date wanted. McDonald Poultry Ranch and Hatchery, Route 1, Box 246, King Road, San Jose, California.

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**Hachiya Persimmon Trees on lotus roots.** Select buds, free from disease. Alcorns Nursery, Fullerton, California.

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## SEEDS AND PLANTS

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**4 Lbs. Salmon Bellies and 3 lbs. absolutely boneless Codfish delivered by mail, prepaid, $2.00. Sixth zone and beyond, $2.25. Coffin Fish Co., Seattle, Wash.**

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## CATTLE

**Holsteins—For Sale—Jane Garden Ner Abbekirk, a son of Sir Aaggie de Ko Acme out of a 34 pound cow. Also tw of his sons, and several high class fe males, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sac ramento.**

**Guernseys—Grape Wild Farms—Berk shires—Young bulls, from calf age u to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon California. A. B. Humphrey, Proprietor**

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**High Class Jersey Bull Calves for sale, from R of M Dams. Grant A. Brown, El Monte, California.**

## GEESE

**Geese**—Purebred Toulouse. Two young ganders and two young geese, 1st and 2d prize winners at recent Oakland Auditorium Show, $12.50 each. Bronze King Farm, Merced, Calif.


# Veterinary

**Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.**

### Diarrhea

My cow seems to be very loose in the bowels most of the time. I am feeding her dry oat hay and bran. She was the same last year. She is a young cow with her second calf and is in good health otherwise. Can you tell me what is wrong?—Subscriber, Napa.

Probably the bran has something to do with the trouble. Bran alone often irritates the bowels and causes diarrhea. We would suggest changing to ground corn or some other better feed than bran. Get these powders of your druggist: Powdered gentian, four ounces; powdered nux vomica, two ounces; powdered areca nut, two ounces. Mix and divide into 16 powders. Give one powder once a day in the feed.

### Cow Ailing

Cow up to a week ago gave good quantity of milk. She was feeding on alfalfa which was considerably mixed with broncho grass and other weeds. We first noticed that she fell off amazingly in milk and then that she ate and drank very little, noticed a swelling under her throat and at the breast. Have rubbed the swellings with lard and turpentine but see little change. Please advise what to do for her.—Subscriber, Malin, Oregon.

The symptoms you describe are not common to any disease but when such animals die we nearly always find that they have swallowed a nail or piece of wire and it has cut its way into the lungs. This is not a very encouraging reply to your question but you can see that if such is the case very little can be done. It would do no harm to give her a physic, hoping that the whole trouble, whatever it may be, is still in the stomach. We would suggest giving one pound of epsom salts and half a pound of common salt dissolved in two quarts of hot water. When cool give it all at at one dose as a drench. Follow this with one ounce of aloin, six ounces of turpentine and one quart of raw linseed oil. Mix and divide into four doses. Give one dose once a day.

### Sore Shoulders

Will you publish in your columns a good prescription for an economical gall cure for workhorses shoulders, also an antiseptic and healing powder for use on shoulders? I have been told that a ten per cent solution of tannic acid in alcohol is good for sore shoulders. What do you think of it?—Subscriber, Santa Ana.

The very best remedy for sore shoulders or collar galls on horses is a perfect fitting collar. Nearly always when the shoulders get sore you will find that the collar is too long which drops the tug too low and brings the pull near the point of the shoulder. The collar should fit up close to the neck and the pull of the tug should come about six inches above the point of the shoulder. Rein up the horse so he will keep the collar up where it belongs. The solution of tannic acid in alcohol ought to dry up anything. It is a little expensive and would crack the skin. Here is another just as good for less money. One pint of good vinegar, one ounce of sugar of lead and one dram of sulphuric acid. Shake the bottle well before using. When the harness is taken off at night bathe the irritated parts with cold water and wipe dry then apply enough of the lotion to wet the parts. A good dusting powder can be made by mixing three parts rice flour, one part powdered charcoal and one part air slacked lime. But if you keep the collars right you will not need all this dope.

### Swelling on Shoulder

I have a ten year old horse that has a soft swelling about the size of the hand just above the point of the shoulder and under where the collar comes. It feels as if there was water in it. It does not seem to hurt him. Have been bathing it daily with hot water and applying liniment but it does not improve. What is it and what shall I do with it?—Subscriber, Caruthers.

Probably one of those soft tumors caused by a bruise and full of serum. It is like a blood blister on your hand; if left to absorb it will leave a thickening of the skin which will be easily irritated by the pressure of the collar. The best way to cure it is make a cut up and down nearly to the top and bottom of the swelling and deep enough to open the whole cavity. Wash out all the fluid and wet the inside of the cavity once a day with a solution of permanganate of potash, using one dram to the quart of water. It will take three or four weeks to heal it but then it will be as good as ever. See article on sore shoulders in this issue.

### Warbles

What would you recommend for grub on livestock?—Subscriber, Turlock.

About the only way to get rid of warbles is to squeeze them out. With the ends of the thumbs pressed down on opposite sides of the bunch in a moment the grub will pop out. Destroy grub. The only way to prevent them is to spray the cattle during the summer with something that will keep the bee that lays the eggs away from the cattle. Almost any of the sprays or sheep dips will do it. It does not sting or bite but annoys the cattle very much. Eggs are deposited on the hair.

### Cat with Worms

Please give a remedy for a cat that has worms in the intestines.—Subscriber, Van Nuys.

Get ten 5 grain tablets of santonin of your druggist and give the cat one every evening while they last.

### Indigestion

My cow has been throwing up her cud at night but never in the day time. I feed her mornings with mash made of beet pulp soaked over night mixed with bran and rolled oats, evenings with green alfalfa and pumpkins; also all the alfalfa hay she wants three times a day. What is the remedy?—Subscriber, San Jose.

She has indigestion probably caused by too much feed that will not form a cud. Cut out the bran and beet pulp and feed the rolled oats dry. There is no better feed for cows than alfalfa but it should be cut green enough so the stalks will be tough and form a cud. To sweeten up her stomach get one quart raw linseed oil and six ounces turpentine. Mix and divide into three doses. Give one dose once a day as a drench.

# A New Discovery Makes Hens Lay

Any poultry raiser can easily and quickly double his profits by doubling his egg yield through the remarkable discovery of M. B. Smith, a Kansas City chemist.

Working along entirely original lines, Mr. Smith discovered why hens lay less in winter than in summer and perfected a formula that turns loafers into layers and profit makers.

Within five or six days this discovery, which is called Ditto Egg Tablets, will rejuvenate your flock. Your hens will go strutting and cackling about with red combs and full of life and pep. Every nest will yield an egg nearly every day in the week, which means a lot, since eggs are certain to sell for 60 cents or more. This is not guess work as over 100,000 successful poultry raisers testify to the value of Mr. Smith's products.

Although different from anything you ever heard of, Ditto Egg Tablets are easily administered by simply dropping in drinking water.

So confident is Mr. Smith you can double or triple your egg yield, that he offers to send two large $1 packages of Ditto Egg Tablets (enough for a season) to any reader who will write for them. If you are satisfied they cost only $1 on this introductory offer, otherwise, nothing.

Send No Money—just your name and address to M. B. Smith, 1217 Coca Cola Bldg., Kansas City, Mo. The two $1 packages will be mailed immediately. When they arrive, pay the postman only $1 and postage. Use the tablets 10 days. If you are not getting more eggs or are not satisfied for any reason, simply return unused tablets and your money will be returned immediately without question. A big Kansas City bank guarantees the reliability of this offer. Write today before this introductory offer is withdrawn, as you can sell one package to a friend and thus get your own free.

Established in 1910

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Order spring chicks now; delivered by our Special Tan colored Auto delivery around your brooder. We have Wyckoff, Hillview, Tancred, England, Beal and other high record male lines. If you want the best in laying strains, tried out and proven for years, buy from us.

Our special egg turning trays now available in quantities at reduced prices.

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I supply you with accurate information on construction and ventilation of Pride of Petaluma Brooder Houses; also carry a full line of stoves and parts.

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**Phone 144 P. E. Hanna Station**

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**With Laying Strain That Live and Thrive**

Hatched with our new mammoth, forced draft incubators, from pure bred, farm raised, Heganized stock. This insures you a large fluffy chick, full of pep and grows from the very start.

We are now booking orders for 1923 delivery. Write today for our price list and reserve your delivery date. We guarantee 100% delivery anywhere within 72 hours from Long Beach. We hatch nothing but S. C. White Leghorns and S. C. R. I. Reds.

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Get our prices before you sell.

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# What is An Accredited Hatchery?

TO explain this phase of the poultry industry one must go back and look into how the Sonoma County Farm Bureau Accredited Hatchery List originated. The first and most important object of the farm bureau in any county is to improve agricultural conditions. When any branch of agriculture is exceptionally active in any county one of the first activities of the farm bureau is the formation of a separate department, such as the dairy department, horticultural department, poultry department, etc. About two years ago the poultry department of the Sonoma County farm bureau was formed. In aiding the poultry industry this department has accomplished several things, namely the establishment of Sonoma County Egg Laying Contest, the Cockerel Auction Sale, the Utility Poultry Show and several minor objects, but while accomplishing these things the hope and desire of the department has always been to do something to improve the quality of baby chicks.

Last fall at a meeting called by the farm bureau, to which all the hatcherymen of Sonoma County were invited, the subject of improving the breeding stock of the county through some uniform method was discussed. The outcome of this meeting was the forming of a contract between the farm bureau and a majority of the hatcherymen present. During the past year eight more hatcheries have signed this contract, making at present a signed up capacity of 1,456,000 eggs.

There are ten requirements that an accredited hatchery must live up to if it desires to remain on the accredited list, and they are as follows:

1. Fowls used for breeders shall be in good healthy condition as judged by the inspector and shall be culled as far as possible during the first period beginning November 1, 1921, and shall be thoroughly culled during the early summers of 1922 and 1923 according to the standards recommended and demonstrated by the agricultural extension service.

2. Females must be at least 12 months old.

3. Males are to be approved by the inspector as to vigor and shall not be less than eight months of age. The males to be used during the breeding season of 1922-23, beginning November 1, 1922, shall have, in addition, trapnest pedigree records on the side of the sire of 175 eggs or better, and the males to be used during the breeding season of 1923-24 shall have a trapnest pedigree record of both the dam and sire 175 eggs or better.

4. No artificial lighting earlier than 5 a. m. or stimulating feeds to produce higher than 40 per cent during the months of December and January.

5. Eggs to be delivered within seven days and precaution taken to prevent chilling or overheating.

6. Weight 22-26 ounces per dozen.

7. Eggs must be uniform in size, shape, color and shell texture.

8. Ample supply of greens must be fed birds in inspected pens.

9. Grain must constitute at least 50 per cent of total amount of grain and mash fed, and where fed in houses, litter must be reasonably clean, dry and close.

10. No chicks bearing the Sonoma County Farm Bureau Accredited Hatchery Trade Mark can be sold for resale as Sonoma County Farm Bureau Accredited Hatchery Chicks.

At the beginning of each month every accredited hatchery is given stickers showing that it is a member of the accredited list for the current month. Should a hatchery be dropped from the list for not fulfilling the requirements the stickers are denied it.

During the past year the work has been divided into four phases; removing colored and speckled hens, ordering and having the cockerels that meet the requirements delivered, culling the old hens, and inspecting birds at 12 months that are to be used as breeders.

Over 18,000 cockerels were purchased, 7,500 coming from breeders throughout California, Oregon and Washington, 8,000 being raised in Sonoma and Marin Counties. 2,700 cocks with single pedigree that were used last year were culled to 1,750, and these are to be mated up again this year. All of these cocks and cockerels have their pedigrees covered by sworn statements and are from breeders that have been referred to the farm bureau as being reliable poultry breeders.

In the culling work 269,400 hens were inspected and culled and 57,380 culls and 6,150 colored hens were taken out and sold. Also about 40,000 birds that are just passing the twelfth month are to be mated for this season's hatching. These birds are at present being inspected for vigor and colored feathers.

Over 50 per cent of the hatcherymen on this list at present are placing their orders for cockerels for next year, which is evidence that they are in earnest and mean to continue improving their breeding stock.

# Poultry Queries

(Conducted by Jean A. Koethen)

### Certified Chicks

What are certified baby chicks?—Subscriber, Tucson, Arizona.

An article on the certified chick appears in this department.

### Amputating Wing Joint

How is the first joint of wing on baby chicks cut, with scissors or knife? Is mortality very large?—Subscriber, Tucson, Arizona.

This question was referred to Mrs. W. G. Suits of the Bandini Ranch at Riverside, who has practiced this method of controlling flying for a number of years. This is her reply: "We use a small pair of scissors just below first joint, then place quickly in very warm dark brooder for several hours. This is done at once on taking from machine or shipping box." When the cutting is done at this early age it is almost painless and the chick recovers very quickly.

### Buff Chickens

Please let me know where I can get Buff Minorcas and Buff Leghorns?—Subscriber, Vina.

Watch the advertising columns of the Cultivator. Probably some one who reads this will send in an ad if there is none already.

### Hatching Turkeys

When is the best time to set turkey eggs so that the turkeys will be ready for Thanksgiving and Christmas?—Subscriber, Lompoc.

As the best selling turkey is one that weighs between nine and 16 pounds, the best month to hatch in is the one which will just give time for reaching this size when the birds are marketed. For marketing at Thanksgiving hatch in March or April. For the Christmas market birds hatched in May or June reach a nice size. As turkey eggs take 30 days to hatch they must be set a month before you want the poults.

### Hens Loafing

Almost six months ago we purchased a lot of 500 White Leghorn hens about 18 months old. They were laying when delivered to us but gradually stopped and went into a molt. They have been through molting for some months but do not lay. Is it a fact that moving hens stops their laying? Had we moved them during the molting period would they have stopped laying? Is there a chance of their coming soon to laying condition? There has been no change in ration, and they have plenty of greens and large yards. What can we do?—Subscriber, Hollywood.

Moving hens is very likely to check laying. Moving them just before the molting period has given yours double time off, but they ought to be on the job again in January, if not before. Hens usually begin to lay as soon as the price of eggs drop, or does the price drop because hens generally are getting to work? You say you are feeding the identical ration the hens had before you bought them. Perhaps you can improve on it. Are you feeding sprouted oats? Sour milk? Moist mash once a day in addition to dry mash in hoppers? Is the grain ration one-third cracked corn? All these things help. Very frequently


## Moe's Poultry Supplies

Famous Star Fountain Fits any Mason Jar. Price.....10c

Round Chick Feeders. Easily cleaned and filled. Eight hole, 15c; Twelve hole, 25c. Ask your Dealer and write for catalogue of Moe's Big Line of Poultry Yard Fixtures.

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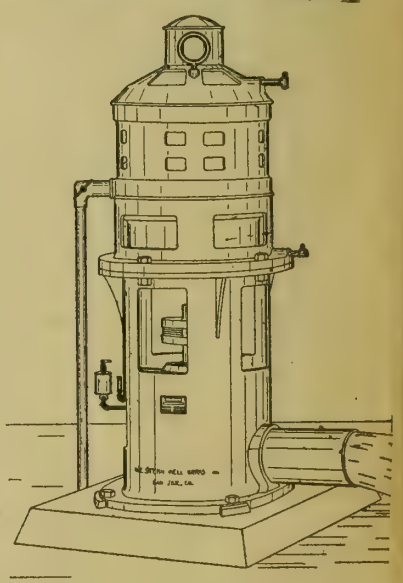
## Western Turbine Centrifugal Deep Well Pumps



represent a highly developed construction of a simple practical pump. They are manufactured to meet rigid inspection and deliver long uninterrupted service. The cost of maintenance is very small over many years of severe use.

**Made in capacities from 100-4500 G. P. M.**

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The most Simple, Accurate, Durable and Complete Farm Level Outfit ever made is the

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The TELESCOPE with FIVE Magnifying Lenses makes the work a genuine pleasure, and when you finish a job of

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or any farm work requiring a Level you just KNOW it is O. K. Agricultural Schools, County Agents and progressive farmers from Atlantic to Pacific swear by the Bostrom, and so will you, after using it, if not, just remember our unqualified money back guarantee brings every red cent right back into your pocket. Write TODAY for description, testimonials, money back order blanks AND NAMES OF OUR DISTRIBUTORS IN LOS ANGELES, SAN FRANCISCO AND SACRAMENTO.

**BOSTROM-BRADY MANUFACTURING CO.**
**85 Stonewall Street, ATLANTA, GA.**

hens delay beginning to lay after the molt just for want of a little coaxing. A mash moistened with sour milk the last thing before the hens go to roost is a particularly good coaxer.

### POULTRY QUERIES

Your answers to "Poultry Queries" are undoubtedly good, but some of them not beyond reasonable criticism. In nearly every issue someone's hen is suffering from a louse or a mite, and always you advocate the same remedies. Can you imagine yourself anointing several thousand birds with lard or holding them aloft perhaps while you daintily salt their plumage with sodium fluoride or again, touching them hither and thither with a splash of blue ointment? Your readers (barring myself) are of course human and you must certainly frighten them with such drastic measures. Really now, can't you think up something practical? But when from Redlands there comes a cry of anguish "behold our hen has a cheesy lump on the throat," and the answer comes from the Oracle —"Swab her throat with silver nitrate"—we tremble for the "Roupy hen" when we wonder whether she shall (or has) met her fate by the tabular crystals of argenti nitras or perhaps from a succulent morsel of lunar caustic. Now practically, when we speak of the throat we refer to that part of the esophagus which can be readily swabbed, and in view of this common understanding of the term, does it not weigh upon your conscience to contemplate the goodly number of fowls that may have been sent to their untimely deaths by your carelss instruction. We all have "roupy hens" you know, but perhaps your prescription was merely offered as an alternative to the guillotineal hatchet. They say advice is the cheapest thing; sometimes it ain't.—Subscriber, Puente.

This has not been referred to Mrs. Koethen who has been so efficient in answering various and diversified questions pertaining to the poultry industry. Mrs. Koethen has been answering these questions for many years. When she began this service she rebelled because of the great number of queries which came asking for remedies for various poultry diseases. She was emphatic in stating that prevention is worth many pounds of cure and many times has so urged. Further, Mrs. Koethen felt and has so stated many times, that her province is in giving helpful advice to the beginner, or at least that her suggestions may be of lesser value to the poultryman of long experience. But, knowing the circumstances in many a poultry yard and that there is many a poultry keeper with a small flock who has reasons for saving a bird because of feather, form or great productivity, we have insisted on the continuance of homely helpful advice. No one is compelled to accept it, and yet we konw it has proved of great value to many a perplexed inquirer. The busy poultryman with a thousand or more hens has little liking and less time to spend on nursing sick chickens, so his greatest effort is to secure such cleanliness and perfect sanitation that with proper methods of feeding disease and pests are absolutely barred. At best, poultry are more or less like humans, and we doubt not as long as we produce poultry there will be more or less of poultrymen's troubles which the Cultivator will endeavor to assist in controlling.

### STORRS EGG LAYING CONTEST

Storrs, Connecticut, report for week ending November 28:

Over 1000 eggs in excess of the expected yield for the fourth week is the report from the Storrs egg laying contest. The average yield for this period for the last eight years has been 1403, with the highest previous mark at 1590 eggs back in 1915. Last week, however, the hens laid 2462 eggs or a yield of more than 35 per cent. This big increase in the number of eggs is believed to be due chiefly to the installation of a night system of feeding that was started November 1. All the birds in the contest are gotten up promptly at nine o'clock in the evening and are fed what scratch grain they will consume in the course of an hour. Then the lights are dimmed for 15 minutes when the birds go to bed. The table below shows the average number of eggs laid in each of the first four weeks of the contest in previous years and also the number for the first four weeks in the present contest.

| Period | Ave. no. of eggs | 1922 |
|---|---|---|
| First week | 829 | 1109 |
| Second week | 1083 | 1633 |
| Third week | 1267 | 2164 |
| Fourth week | 1403 | 2462 |

The four leading pens in each of the principal breeds are:

**Plymouth Rocks**

G. B. Treadwell (Barred), 105; Maurice E. Bride (Barred), 96; S. Bradford Allyn (White), 93; Davidson Bros. (White), 93.

**White Wyandottes**

Obed G. Knight, 180; Frank P. Matteson, 159; Woodbridge Orchards, 146; William E. Moran, 102.

**Rhode Island Reds**

Jacob E. Jansen, 146; Harriet F. Lawton, 134; E. Newton Searles, 121; Fellows Bros., 120.

**White Leghorns**

Roy H. White, 169; Hollywood Farm, 159; Acrebridge Farm, 158; Mrs. J. L. Theusen, 156.

The directors of the California Farm Bureau Exchange met in the office in San Francisco, recently. Reports made at that time indicate that the exchange is making good progress and that a large percentage of the grain of the state will be marketed through the grain department this year.


**Byron Jackson Service**

WHEN you buy a Byron Jackson deepwell turbine your purchase includes Byron Jackson service.

A service built on an engineering foundation that goes back to the very beginnings of irrigation in the west.

Starting in the factory testing department, this service accompanies the pump through the installation and down through the years of operation by means of a state-wide system of service cars.

Your water development problem is assured prompt and expert attention in our engineering department

**BYRON JACKSON IRON WORKS-INC**

*Wherever water is to be lifted*

Sharon Building
SAN FRANCISCO

**For Your Convenience**
**Frequent and Dependable Service**
Between All Important So. California Cities
Within Radius of 75 Miles of Los Angeles
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Ask Your Nearest Agent for Information

5¢ A DAY for 90 rainy days is the price of a Genuine FISH BRAND REFLEX SLICKER
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AT DEALERS EVERYWHERE
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It quotes the lowest prices, amazingly low prices on everything for the expert and the amateur. Every improved part, the most up-to-date outfits, everything that is needed of the most modern type—at the lowest possible prices.

It gives a list of broadcasting stations, and gives much information about radio construction and operation. Every one interested in Radio needs this complete catalogue and book of instruction.

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Address Department 33-R

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The Oldest Mail Order House is Today the Most Progressive

**100,000 Chicks Died Last Night**
**Roup Killed Them**

That's probably true, for that means only one death to every 64 farms in America—a ridiculously small average during Roup time. Millions of chickens killed yearly by this terrible disease. Don't let Roup get a start. Stop it quickly with

(97) Conkey's The Original **Roup Remedy**

KILLS THE GERM — SAVES THE CHICKEN

Just put it in the drinking water—chickens doctor themselves. It kills the Roup germs and saves the fowl. Keep it on hand and use it for prevention. Sold by dealers everywhere.

CONKEY'S POULTRY TONIC Keeps Hens Healthy and GETS WINTER EGGS

It is a Regulator, Laying Tonic, Moulting Powder and Chick Conditioner of the highest type. No cayenne pepper—no filler. CONKEY'S POULTRY BOOK is well worth 50c to anyone who keeps chickens. Sent for 6c in stamps.

THE G. E. CONKEY COMPANY 6586 BROADWAY, CLEVELAND, OHIO

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**By Replacement of Infertile Eggs**

We are now booking orders for hatching eggs and baby chicks from Emerson & Martin exhibition W. Leghorns, also the heaviest egg-laying strains in America and England. It will pay you to arrange for yours now. Make a 10% payment and know that you will have them when you want them.

Our heavy commercial egg-laying hens are mated up to males from Emerson, Martin, Tancred, Hansen of Oregon, Hollywood Farms of Washington, Barron, Ferriss and Hillview Farms of Illinois. Why don't you arrange for some of each. Let us toe punch the chicks and see which produces the type of hen you like best?

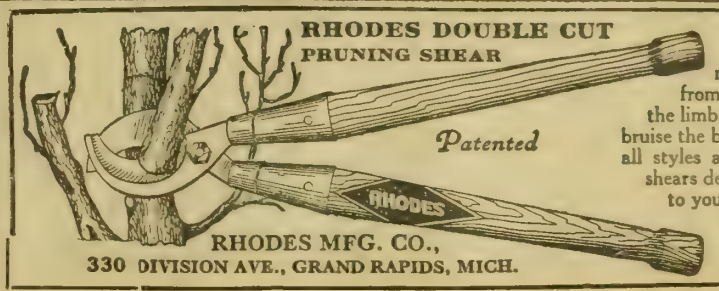
HATCHING EGGS—From Nov. 1st to April 1st, 15 for $2.00. In 100 lots, 12c each. In 500 lots, 11c each. In 1000 lots, 10c each. BABY CHICKS—January, February, March. In lots of 100, 25c each. In lots of 500, 24c each. In lots of 1000 or over, 23c each.

WE ALWAYS HAVE THREE, FOUR, FIVE AND SIX MONTHS OLD PULLETS FROM PEDIGREED TRAPNESTED STOCK.

**The California White Leghorn Breeding Farms**
LANKERSHIM, CALIF. R. R. 1—Box 277

Located three miles north of Lankershim, on Lankershim Blvd., then two blocks west on Tulare St. (Tulare St. is the first street north of S. P. tracks.)

You are welcome on our farms any time. Go north through Lankershim on Lankershim Blvd. to Tulare Street, turn west. You can't miss it.




THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. All shears delivered free to your door. Write for circular and prices.

RHODES MFG. CO.,
330 DIVISION AVE., GRAND RAPIDS, MICH.

# Los Angeles Markets

Los Angeles, December 13, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 54 cents.

Prices extra past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| Dec. | 6 | 7 | 8 | 9 | 11 | 12 |
| '22 | 49 | 49 | .... | 50 | 53 | 54 |

### CHEESE

Brokers' prices:
California flats, 28.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 55; case count, 50; pullets, 49; pewee pullets, 34.

Prices extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| Dec. | 6 | 7 | 8 | 9 | 11 | 12 |
| '22 | 52 | 53 | .... | 54 | 55 | 55 |

### POULTRY

Price to producers L. A. produce exchange: Hens, 20; colored, 28; broilers, 30; roasters, 26; old roosters, 14; fryers, 26; ducks, old, 20; ducklings, Pekin, 3½ up, 26; others, 22; geese, 25; turkeys, live, young toms, 35; dr., 40; old, live, 31; dr., 36; hens, live, 34; dr., 39; small hen and tom, 15; squabs, 25@50; capons, 30@35. Belgian hares, 12@18; old, 8.

### LIVESTOCK

Weekly summary, Tuesday, December 12, 1922, furnished by Federal-State Livestock Market News Service, 1028 Pacific Finance Building, Los Angeles.

Cattle: With supply of range cattle rapidly diminishing market past week has been strong and prices show gains of 25 to 50 cents over a week ago, and beef cows are as much as 50 to 75 cents higher than during Thanksgiving.

The 8.25 mark was reached last week on a string of good 1150 pound Colorado steers. Bulk northern steers cleared from 7.50 to 8.00, former price taking two loads medium quality Cal. steers. Ariz., Tex. and New Mex. offered few loads common steers which sold from 4.25 to 5.75, going mostly as stockers and feeders. Good Northern steers, fair meat covering, sold for 30 to 60 day feeding at 6.50 to 7.00

Good beef cows 3.25 to 5.75, mostly Col. and Mont. Numerous medium cows went from 4.25 to 5.00, canners and cutters 2.00 to 3.25. Bologna bulls 3.00 to 3.75, load at 3.10 going as stockers.

Calves: Market dull. Bulk common and heavy, few loads from 5.00 to 6.00. Choice light vealers 7.50 and better.

Hogs: More life to market this week and good 170 to 190 pound Tex. hogs went at 9.25 to 9.50. Stock pigs 8.00 to 8.75.

Sheep and Lambs: Demand for fat lambs narrow, due to depressed dressed market. Demand for wool holds prices up, however. Packers insist on lightweights and heavy stock is being penalized. Good light Idaho lambs brought 13.50 last week, and recently shorn Cal. lambs went at 12.35. Band of 501 Inyo lambs on the yearling order half fat, sold at 11.50, averaging 95 pounds. Good fat ewes made 6.25.—Nelson R. Crow, local representative.

### POTATOES AND ONIONS

**These are the actual prices obtained Tuesday, December 12, 1922, furnished by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.**

Potatoes: Northerns: Rivers, 1.50@1.75; poor, low as 1.40 cwt. Idahos: Russets, 1.50@1.75. Sweet Potatoes: Locals, Nancy Halls, 2; Jerseys, 2@2½ lb. Northerns: Nancy Halls, 2½@3 lb.

Onions: Stocktons: Yellows and Browns, 2.25; Whites, best, 4.00@4.25; poorer, 3.75 cwt. Locals: Yellows, 75; Spanish, 1.00 per lug; 3.00 per cwt.

Garlic: Mex. and Northern, best, 8; poorer, 7.

### VEGETABLES

**These are the actual prices obtained between 7 and 8 o'clock, December 12, by wholesalers in their sales to retailers, pedders, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.**

Artichokes, 1.50@1.75 doz.; small, 1.00@1.25 doz.

Beans: Kentucky Wonders, 12@14. Limas, 6@8.

Bunched Vegetables: Per dozen bunches: Turnips, beets, 30@35; carrots and spinach, 25; parsley, 15; onions and radishes, 10@15 ;parsnips, 40.

Cabbage: Local and Northern, best, mostly 2@2¼.

Cauliflower: Per doz., 1.00@1.25

Celery: Wide range in quality and prices. Locals: best, 3.00@3.50; poorer, 2@2.50. Northerns: 3.00@4.00 per crate according to quality.

Cucumbers: Southern, 1.85@2.00 per flat; 3.00@3.25 per lug.

Eggplant: Local, 6@7 lb.

Lettuce: Local, best, 1.25@1.50; ordinary, 1.00 per field cr.

Peas: Orange County and Carlsbad, best, 14@16.

Peppers: Locals: Bells, mostly, 6@7; Chilis, 5@6; Cherry Chili, 13@14.

Sacked Vegetables: Per sack. Beets and Carrots, 90@1.00; Turnips, 1.25@1.50.

Squash: Summer best, 1.50@1.75 lug; Hubbard, 2½; poorer, 1½; Cream, 3@3½.

Tomatoes: Local: lugs, ripe best, 1.25@1.50; poorer, 80@1.00.

### FRESH FRUIT

These are actual prices obtained December 12, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Northerns: Bellflowers fancy, 3½ tier 1.25@1.35; 4 tier 1.35@1.40. Utahs: Jonathans loose, 3½@4 lb.; poorer, 3; Delicious, 7 lb. Idahos: Jonathans loose, 3@4; Ganos, 3 lb. Washingtons: Jonathans packed, extra fancy, 2.00@2.15; fancy, 1.75@1.90; overripe soft, 1.50@1.75; Delicious, extra fancy, 2.40@2.65; Yellow Newtowns, fancy, 1.60@1.75 per box. Oregons: Spitzenburgs extra fancy, 2.10@2.25.

Cranberries: Cape Cods: Late Howes, 18.50@19.50 per barrel; 9@9.75 per half barrel crate. New Jerseys: Late Howes, 18@19 per barrel, crates 9@9.50.

Grapes: Locals and Northerns: Muscats best, 4@5; Malagas, best, 4@5; Red Emperors, 5@6; poorer, 3@4 lb.

Pears: Northerns and Locals: Bartletts, best, 7@8; poorer, 5@6.

Persimmons: Lb., 9@11; poorer, 7@8.

Pomegranates: Lb., 6@8.

### CITRUS FRUIT

Grapefruit: Arizonas: 64-96 sizes, seedless, 4.75@5.00 per box. Imperial Valley, special brands, 5.50@6.00 per box. Northern, 3.00@3.75 per box.

Lemons: Special brands, fancy 7.50@8.50; choice, 6.00@7.00 box; market pack, 3.50

Oranges: Northerns: Special brands, Navels, 4.75@5.25 per box, market pack, 3.50@3.75 per box.

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

A slightly weakened condition obtains because of increased receipts, but it is thought to be only temporary.

| | |
|---|---|
| Tame Oat | 22.00@24.00 |
| Barley Hay | 16.00@18.00 |
| Rabbit Alfalfa | 24.00@26.00 |
| No. 1 Dairy | 22.00@24.00 |
| Standard Alfalfa | 16.00@18.00 |
| Wheat Straw | 10.00@12.00 |
| Barley Straw | 9.00@11.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around 25.00@27.00 as a fair average. No. 1 dairy is varying from 15.00@18.00 with 16 as a mean or average price. Standard, 10.00@12.00.

### GRAIN

Prices L. A. Grain Exchange, December 12:

Milo, 100 ton lots, December del., 2.00. Barley, 100 ton lots January del., 1.62¼.

Cal. Farm Bureau Marketing Exchange reports December 12:

Heaviest shipments of grain in history of L. A. markets have been coming in for past 45 days. Result has been that L. A. market has been overloaded. Spot market here lower than grain can be bought for shipment from the country. Present prices do not reflect market conditions except as to immediate vicinity of L. A. At present barley is running around 1.52½; milo, 2.05@2.10; bulk yellow corn, 1.70@1.75; Sonora wheat, 2.00@2.15; milling wheat, 2.15@2.30 according to quality. We expect these excessive arrivals will soon let up and grain market return to normal basis. For the present anything shipped in to L. A. will have to be discounted to secure sale.

San Francisco market in comparison to L. A. shows unnatural condition for this time of the year. Barley is worth as much or more than it is here, selling S. F. at 1.50@1.52½ for feed and up to 1.60 for choice. Wheat prices about as quoted in L. A.

# San Francisco Markets

San Francisco, December 12, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras (Dec. 13) | 53 |
| Firsts (Dec. 13) | 49½ |

Extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| Dec. | 6 | 7 | 8 | 9 | 11 | 12 |
| '22 | 47½ | 47½ | 49½ | .... | 51½ | 53 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats (Dec. 13) | 23 |
| Oregon Trips | 26½ |
| Oregon Young America | 28 |
| Cal. Y. A. fy | 28 |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras (Dec. 13) | 58 |
| Extra Pullets | 52½ |
| Undersized (Dec. 13) | 48 |

Extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| Dec. | 6 | 7 | 8 | 9 | 11 | 12 |
| '22 | 55½ | 55½ | 57 | .... | 57½ | 58 |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of December 11, by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers: 1 to 1¼ lbs., 33@35 per lb.; 1½ to 1¾ lbs., 30@32 lb. Colored, 25@27 per lb.

Fryers: Leghorn, 2 lbs., 26@28 per lb. Colored, 2 to 3¼ lbs., 25@27 per lb.

Young Roosters: Colored 3½ lbs. and up, 25@27 per lb. Staggy, showing spurs, 21@23 per lb.

Old Roosters: Colored, 17@18 per lb. Leghorn: 14@15 per lb.

Leghorn Hens: 2½ to 3 lbs., 18@20 per lb.; 3 lbs. and over, 24@26 per lb.

Large Colored Hens: 26@28 per lb. Off stock 23@25 per lb.

Ducks: Young, 18@20 per lb. Off stock, 15@18 per lb.

Geese: Young, 20@25 per lb., according to quality.

Live Turkeys: 30@33 per lb.

Dressed Turkeys: Fancy, 35@40 per lb. Off stock, 20@25 lb.

Belgian Hare: Live, 15@18 per lb. Dressed, 18@23 per lb.

Jack Rabbits: 2@2.50 per doz.

Squabs: Live, fancy, 55@60 per lb. Common, 3.00@3.50 per doz.

Old Pigeons: 2.50@3 per doz.

Guinea Fowls: Young 8@10 per doz.

### LIVESTOCK

In reviewing conditions governing the local livestock market during the past week the Federal-State Livestock Market News Service says:

Cattle prices, per cwt. (delivered off cars from San Francisco)—Beef steers, good grades, 7.75@8; medium grade, 7@7.50; common grade, 6@6.75; beef cows, good grade, 5.75@6; medium grade, 5.25@5.50; common grade, 4@5; canners and cutters, 2@3.50; bologna bulls, 3.00@4.50.

Calves—150 to 200 pounds, good and choice, 7.25@7.75; 200 to 250 pounds, 7.00@7.25; 250 to 300 pounds, good and choice, 6.75@7.00; over 300 pounds, 5.50@6.50.

Hogs—Good and choice, grain fed, Californias, 150 to 200 pounds, 10.25@10.50; 200 to 250 pounds, 9.50@10; 250 to 300 pounds, 8.50@9; 300 pounds up, 7.50@8; smooth sows, 250 to 300 pounds, 6.50@7; rough sows, 250 to 300 pounds, 5.50@6; rough sows, over 300 pounds, 4.50@5.50.

Sheep and Lambs—Lambs, good and choice grades, 13.50@14; medium grades, 13@13.50; ewes, medium and good, 5.50@6.50; wethers, medium and good, 8.50@10.

### FAT HOG AUCTIONS

California Farm Bureau Marketing Association reports:

| No. Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Corcoran, December 4** | | | |
| 90 | 175 | .... | 9.10 |
| 50 | 182 | .... | 9.00 |
| 17 | 128 | feeders | 9.00 |
| 4 | 200 | .... | 8.50 |
| 8 | 205 | sows 160 | 8.00 |
| 3 | 266 | .... | 8.00 |
| 8 | 371 | 100 | 6.25 |
| 130 hogs | | | |
| 2 cars, 11 consignors, $2,878.22. | | | |
| **Tulare, December 5** | | | |
| 20 | 121 | feeders | 9.40 |
| 22 | 242 | .... | 9.30 |
| 89 | 189 | .... | 9.10 |
| 88 | 183 | .... | 8.50 |
| 98 | 158 | .... | 8.45 |
| 99 | 156 | .... | 8.45 |
| 104 | 150 | .... | 8.45 |
| 6 | 330 | 70 | 7.30 |
| 1 | 400 | 20 | 7.00 |
| 527 hogs | | | |
| 6 cars, 51 consignors, $7,739.97. | | | |
| **Visalia, December 6** | | | |
| 66 | 164 | 80 | 9.60 |
| 82 | 117 | feeders | 9.15 |
| 14 | 233 | .... | 9.10 |
| 98 | 162 | .... | 9.00 |
| 80 | 193 | 60 | 8.65 |
| 98 | 160 | .... | 8.35 |
| 7 | 327 | 70 | 7.10 |
| 3 | 455 | .... | 5.25 |
| 447 hogs | | | |
| 5 cars, 27 consignors, $6,491.47. | | | |
| **Hanford, December 7** | | | |
| 18 | 119 | feeders | 10.00 |
| 85 | 190 | .... | 9.30 |
| 59 | 179 | .... | 9.05 |
| 104 | 156 | .... | 8.90 |
| 24 | 235 | 50 | 8.55 |
| 1 | 260 | .... | 8.55 |
| 1 | 300 | .... | 8.00 |
| 1 | 350 | .... | 8.05 |
| 13 | 269 | 120 | 8.00 |
| 306 hogs | | | |
| 3½ cars, 29 consignors, $4,957.48. | | | |
| Totals 1460 hogs, 16½ cars, 118 consignors, $22,067.14. | | | |

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained December 11, between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Wharf and track prices, Rivers, 70@85; Salinas, 1.65@1.85 cwt. Idaho Russets, 1.25@1.35 cwt. Washington Gems, 1.20@1.30 cwt. Jobbing: Rivers, 90@1.15.

Sweet Potatoes: Merced, 1¾@2 lb. Nancy Halls, 2 lb. Poor for less.

Onions: Green onions, 1.25@1.50 box. Stockton Browns and Yellows, 1.25@1.75 cwt. at wharf, white, 1.50@1.75 cwt.; jobbing prices, 25@35 higher. Garlic: 4@6.

### VEGETABLES

**Prices furnished by state department of agriculture, division of markets:**

**Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, December 11, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.**

Artichokes: Per lug, 20.00@22.00.

Beans: Kentucky Wonder and Wax, 12@18 per lb.; French, 18@20; Limas, 5@9 per lb.

Brussels Sprouts: 5@5½ lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 55@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: 1@1¾ per lb.

Cauliflower: Doz., 1.00@1.25.

Celery: Local, 2.00@3.00 cr.; 15@25 per half doz. bunches.

Cucumbers: Southern, 1.25@1.75 small box; English, 1.00@1.75 doz.

Eggplant: Southern, lb. 6@7.

Endive: Lb., 50@55.

Lettuce: Local, best, 1.25@1.75 cr.; Sacramento fy., 2.75@3.00; So., 3.25@3.50 cr.

Mushrooms: Lb., 25@40.

Peas: Imp. Valley, 10@17½ lb.; fy., 20.

Peppers: Bells, Southern, 6@8; Chili, 8@9.

Rhubarb: So. 1.00@1.50 box.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 1.25@1.75; beets, 1.00@1.25; pumpkin and squash, 1.25@1.75 sk.; lb. 2.

Spinach: 5@7.

Squash: Summer, 1.25@1.75 L. A. lug; Italian, 1.25@1.50 box.; Cream lug, 1.50@1.75 lug.

Tomatoes: Bay and Peninsula, 50@1.00 lug; basket, 1.00; San Diego best, 1.25@1.75 cwt.; 1.75@2.50 L. A. lug. Los Angeles, 1.75@2.50 per lug.

### FRESH FRUIT

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, December 11, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Apples: Gravensteins, nominal. Bellflowers, best, 1.10@1.50 box. Winter Pearmains 1.25@1.50 box. Newtowns, 3½@4 tier; 1.25@1.50 box. Spitzenburg, fancy, 1.15@1.40 box. Jonathans, 3½@4 tier, 1.50@1.75 Spitzenburg, 1.50@2.00 box. Choice, 1.50@1.75. Winter Banana, 2.25@2.75 box. Lady apples, 2.50@3.75; Delicious, 2.25@2.75; Rome Beauty, 1.75@2.25.

Avocados: Cal. nominal; Tahiti, 1.00@3.00 doz.; Florida, 5.00@6.00 doz.

Bananas: Best Eastern, 8@8½ lb.; Hawaiian, 7½@8.

Casabas, 50@85 crate, or 75@1.50 doz.

Cranberries: Eastern, Late Howe, 19.00@20.00 bbl.; Oregon, 5.50@5.75 box.

Grapes: All varieties, 1.00@1.60 cr.; 75@1.75 lug.

Huckleberries: Lb., 25.

Olives: Ripe, 7@8 lb.

Peaches: nominal.

Pears: Anjou, 2.00@2.50 box. Comice, 2@2.25 box. Glout Morceau, 1@1.25 box. Winter Nellis, fancy, 1.50@1.75 box.

Persian Melons: Nominal.

Persimmons: 75@1.75 flat cr.

Quinces: 75@1.50 box.

Strawberries: 1.50@2.25 cr.

### CITRUS FRUIT

Grapefruit: Southern California, 2.00@2.50; Arizona, 4.00@5.00 box; Imp., 6.00@6.50.

Lemons: Special pack, 7.00@8.00 box. Choice, 6.00@7.50. Lemonettes, 2@4.00 box.

Oranges: Valencias, fancy, all sizes. Navels, 3.50@5.00 box; Tangerines, 3.50@4.00 lug.

### BEANS

Shipping prices for 100 pounds. Quotations from California Bean Growers' Association, C. R. C., 1922 beans:

Laarge whites, 6.25; small whites, 6.35; pinks, 6.50; Mexican reds, 5.75; red kidneys, 7.50; Henderson Bush, 9.50; red kidneys, 7.40; Henderson Bush, 9.50; cranberry, 7.65; bayos, 7.40; blackeye, 5.50.

### HAY AND FEEDSTUFF

Under date of December 9, A. W. Scott Co says:

Receipts of hay for the past week 801 tons as compared with 1916 previous week. Market locally steady, offerings light. The car situation has improved but country loadings for San Francisco have been rather light, mainly due to the bad weather. Prices generally are steady on top grades, but low grades move irregularly with uncertain values. Export and coast shipping have been steady but in rather light tonnage. Alfalfa has moved regularly to almost all sections of the state but not in any great amount. Shipments have been light by water and while there has been a little demand for Eastern states, difficulties in obtaining freight space have prevented any quantity moving.

**We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges for switching, cartage, commission and handling expenses must be added according to conditions.) Transportation bad, scarcity and high prices for spot.**

| | |
|---|---|
| Wheat Hay, No. 1 | 17.00@20.00 |
| Wheat Hay, Fair grade | 15.00@17.00 |
| Tame Oat Hay | 17.00@21.00 |
| Wild Oat and Barley Hay | 14.00@16.00 |
| Alfalfa Hay | 19.00@21.00 |
| Stock Hay | 12.00@15.00 |
| Straw | 11.00@12.00 |
| Barley, Ground | 35.00@37.00 |
| Rolled | 33.00@35.00 |
| Oats, Rolled Feed | 45.00@48.00 |
| Bran | 37.00@39.00 |
| Millrun | 38.00@41.00 |
| Middlings | 47.00@50.00 |
| Linseed Meal | 58.00@60.00 |
| Coco Meal | 34.00@36.00 |
| Alfalfa Meal | 30.00@31.00 |
| Cottonseed Meal | 51.00@53.00 |
| Molasses Beet Pulp | 44.00@46.00 |
| Milo | 45.00@46.00 |
| Corn Meal or Cr. Corn | 46.00@48.00 |
| Whole Corn | 41.00@43.00 |
| Scratch Feed | 50.00@52.00 |

### GRAIN

Prices S. F. Grain Exchange, December 11, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 2.20@2.25; feed, 2.20@2.25; Barley Feed, 1.45@1.47½; shipping 1.50@1.52½.

Oats: 1.60@1.75.

Corn: Colored Milo, 1.80@1.90; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.80@1.82.

# Citrus Markets

Los Angeles, December 13, 1922.

Release of refrigerator cars from transportation of grapes has allowed shippers of Navels, especially from the central part of the state, to send forward fruit for the holiday market. Conditions have been favorable for maturing Navels. Railroads report better running time; eight days to Chicago, 14 to New York. Rains in citrus districts have had little effect on shipments as the bulk of the fruit was already picked awaiting transportation. First sales of Navels have been somewhat disappointing. Southern California packing

houses sent out quantity of Navels for holiday trade but packing houses will close down again till markets are sufficiently cleaned up to warrant heavier shipments. Large imports of Porto Rican oranges have lowered market on California Valencias.

Arrivals of foreign lemons exceedingly heavy. 78,000 boxes available within 30 days. Market on Californias slow.

**Shipments**

Shipments of citrus fruit to date since November 1, 1922:

Southern California, oranges, 1,025 cars; lemons, 468; total, 1,493. To same date last season, oranges, 704, lemons, 546; total, 1,250.

Central California, oranges, 2,584, lemons, 51; total, 2,635. To same date last season, oranges, 2,906; lemons, 13; total, 2,919.

Northern California, oranges, 223; lemons, 13; total, 236. To same date last season, oranges, 269; lemons, 2; total, 271.

### AT THE AUCTIONS

**December 6**

New York: 6 Val., 2 Nav., 1 lem. Val. 2.65@8.55, Nav. 3.00@6.35, lem. 5.35@6.00.

Boston: 4 Val., 1 lem. Val. 1.30@2.45, lem. 5.75@6.90.

Cleveland: 1 Val., 3 Nav., 1 lem. Val. 2.30@4.80, Nav. 4.00@5.40, lem. 4.15@7.45.

Philadelphia: 2 lem., 2.35@3.45.

**December 12**

New York: 10 Nav., 5 Val., 1 lem. Val. 1.60@2.50, Nav. 2.85@4.90, lem. 6.00@6.10.

Boston: 7 or., 2 lem. Val. 2.60, Nav. 3.80@4.75, lem. 3.35@7.20.

Pittsburgh: 4 Nav., 1 lem. Nav. 4.25@5.35, lem. 4.30@4.55.

St. Louis: 3 or., 1 lem. Val. 2.00@2.40, Nav. 4.15@4.65, lem. 2.15.

## Snappy Notes on Livestock

**By A. L. Spellmeyer**

Wednesday, last week the market showed for an hour an activity that equalled the opening morning on fat cattle, and the scales were kept busy. The rest of the week a few good killing cattle came in and sold, but those that dragged lacked quality, for good steers were snapped from 7.50 to 8.25 and cows from 5.00 to 5.50.

Depression continues in stocker and feeder young cattle with light twos steers around 5 cents to 5.50, and that is difficult to understand with continued rains and green grass booming through most of the state.

Two fancy heavy Shorthorn cows weighing 2750 pounds sold at 7.25, the top for fat cows since the yards opened. Some Mex steers sold from 4.50 to 5.25. Calves were a drug on the market and butchers were oversupplied by country and other shipments outside stockyards. From a strong 8 for best calves they dropped to 7 and then to 6 with stagnant offers. Hogs were dull. Feeders sold 8 to 8.70, fats around the 9.50 mark but few moving. Great chance for California men to get some nice feeders and some are picking them up. A. Dinuba butcher outbid packers in San Joaquin with reported 9.60 there for some fat hogs.

Snow has, together with car shortage, tied things up in southwestern Colorado, I hear, with 700 cattle cars on orders and only shipping 30 cars a day. The mountain country is glutted with light feeders etc. that California needs very badly with its present great grass crop, and it's the chance in ten years for the California grass men to make some money. Winter is six weeks too early in parts of Colorado, hence forcing the issue, whereas winter feed is two to three months early in California and giving a great opportunity.

It would be well for Imperial people with feed to file what they have and price they want for feed or by by the month, with stockyards commission men as Colorado and northern men want to put out their half fats and lighter cattle on some definite basis. The same applies to California grass men who have the feed, but either not the money or nerve to buy for themselves.—A. L. Spellmeyer.

Chas. H. Hill, Pres. Harry P. Jones, Sec.
Paul F. Hill, Treas.

Ship to—Sell Through

**Chas. H. Hill Livestock Company**

Cattle Dept.—C. H. Hill, P. F. Hill, Ralph Coyte.

Sheep and Hogs—W. F. Krueger.

Reference—Any live stock commission firm or any of the four Stock Yards Banks in Kansas City.

**Union Stock Yards, Los Angeles, Cal.**

**Jacks For Sale**

Five registered Mammoth Jacks ready for spring breeding, ranging from two to five years of age.

**Rancho Las Delicias**
Santa Susana Calif.
Ed. R. Maier Owner, L. C. Reed Supt.

Monday: Nineteen loads of beef steers were cleaned up before 9 o'clock. Everything in grounds of any quality is practically cleaned up though light feeders are still dragging at 4.95 to 5 with only two loads unsold. Butchers could not get their demand in good fat steers and stockyards at noon looks deserted of cattle population.

### WORLD RADIO CROP SERVICE

The international radio crop service of the United States department of agriculture got away to a flying start on November 4 with the receipt of a radiogram from the department's Berlin representative regarding beet sugar production in Germany. In less time than it takes to read this sentence, traveling with the speed of light—186,000 miles a second—the message filed in Berlin was flashed to the department of agriculture at Washington, D. C. Thence relayed throughout the United States, the news was in the hands of receiving operators all over the country in less than five minutes from the time the message left Berlin.

"Radio is revolutionizing the dispatch of crop news," said Dr. Henry C. Taylor, chief of the bureau of agricultural economics, in commenting upon the new service. "In these times of rapidly changing economic conditions instantaneous advices of agricultural conditions throughout the world is vitally necessary in the protection and advancement of American agriculture. We want to know not only what crops and conditions were last year, but what they are at the present instant. Radio makes this possible."

A part of the department's service is the dispatch by radio to the International Institute of Agriculture at Rome of a weekly report on the condition of the cotton crops and wheat seeding in the United States. The messages are sent from radio stations of the navy department.

### BIRDS OF HIGH DEGREE

California furnishes almost daily proof of the superiority of conditions not only in production of fruit and field crops but in breeding of animals. The superiority of our conditions for poultry breeding are likewise being shown, still more the superiority of California initiative and methods has just received new proof.

Blackman and Mumford who have built up the Gold Nugget strain of Giant Bronze trukeys, made some records this year of which they are justly proud. At California state fair this year they won 1st old tom, 1st and 2d yearling tom, 1st and 3rd yearling hen. Southern California Fair, Riverside, October, 1922: 1st, 2d and 4th old tom; 1st, 3rd and 4th old hen; 1st, 2d and 4th yearling tom; 1st, 2d and 4th yearling hen; 2d young tom; 1st pullet. Pacific International Livestock Exposition, Portland, Oregon, November, 1922: 1st and 2d old tom; 1st and 2d yearling tom; 1st young tom; 1st and 3rd hen; 1st pullet.

Blackman and Mumford won practically every 1st and 2d and grand sweepstakes at the three greatest shows in the West in 1922 on both male and female. Their California bred tom which took first, also their 2d prize tom, proved winners over a tom which had won first place at the Chicago Coliseum Show in 1921. The judge at the Riverside show was E. C. Branch of Missouri, chairman of the advisory committee of the A. P. A.

### STATE FIG INSTITUTE

The state fig institute will be held at Merced, January 19 under auspices of the California Peach and Fig Growers. Over 400 growers from all parts of the state attended last year's institute and the association hopes that this year's attendance will be even greater. All fig growers, whether members of the association or not are invited. Walter T. Swingle, in charge of research in fig and date interests for the U. S. department of agriculture, will be one of the speakers.

### LIVESTOCK SHOW AT OGDEN

The fourth annual Ogden Livestock Show will be held at Ogden, Utah, January 2-6, 1923. The growing importance of Ogden as a livestock center is fast becoming recognized throughout the Pacific Slope and the Inter-Mountain district. The Ogden stockyards have been increased until now they have a capacity of 200 carloads of cattle, 200 carloads of sheep and 100 carloads of hogs. According to the latest government reports, the Ogden Union Stockyards handle more sheep, cattle and hogs than any stockyards west of Denver.

**WEATHER REPORT**

San Francisco, December 9, 1922.

| Stations | Rainfall—Week | Rainfall—Season | Norm. | Temp.—Max. | Temp.—Min. |
|---|---|---|---|---|---|
| Eureka | .70 | 9.78 | 11.74 | 54 | 34 |
| Red Bluff | 1.52 | 9.25 | 6.77 | 58 | 28 |
| Sacramento | 1.00 | 4.67 | 4.53 | 58 | 36 |
| San Francisco | 1.78 | 8.32 | 5.06 | 58 | 41 |
| San Jose | 1.15 | 5.34 | 3.86 | 60 | 32 |
| Fresno | .64 | 1.78 | 2.40 | 60 | 38 |
| San Luis Obispo | 1.92 | 7.69 | 4.03 | 64 | 36 |
| Los Angeles | .94 | 2.62 | 2.82 | 66 | 44 |
| San Diego | .33 | 1.18 | 1.65 | 64 | 44 |

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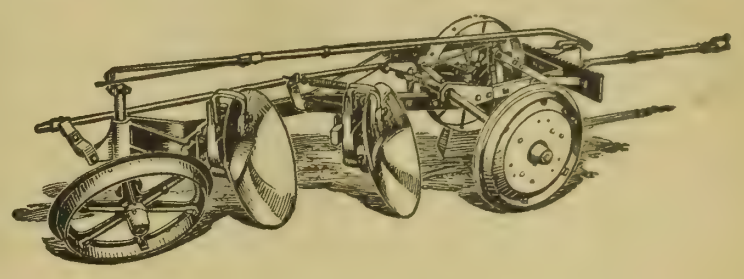

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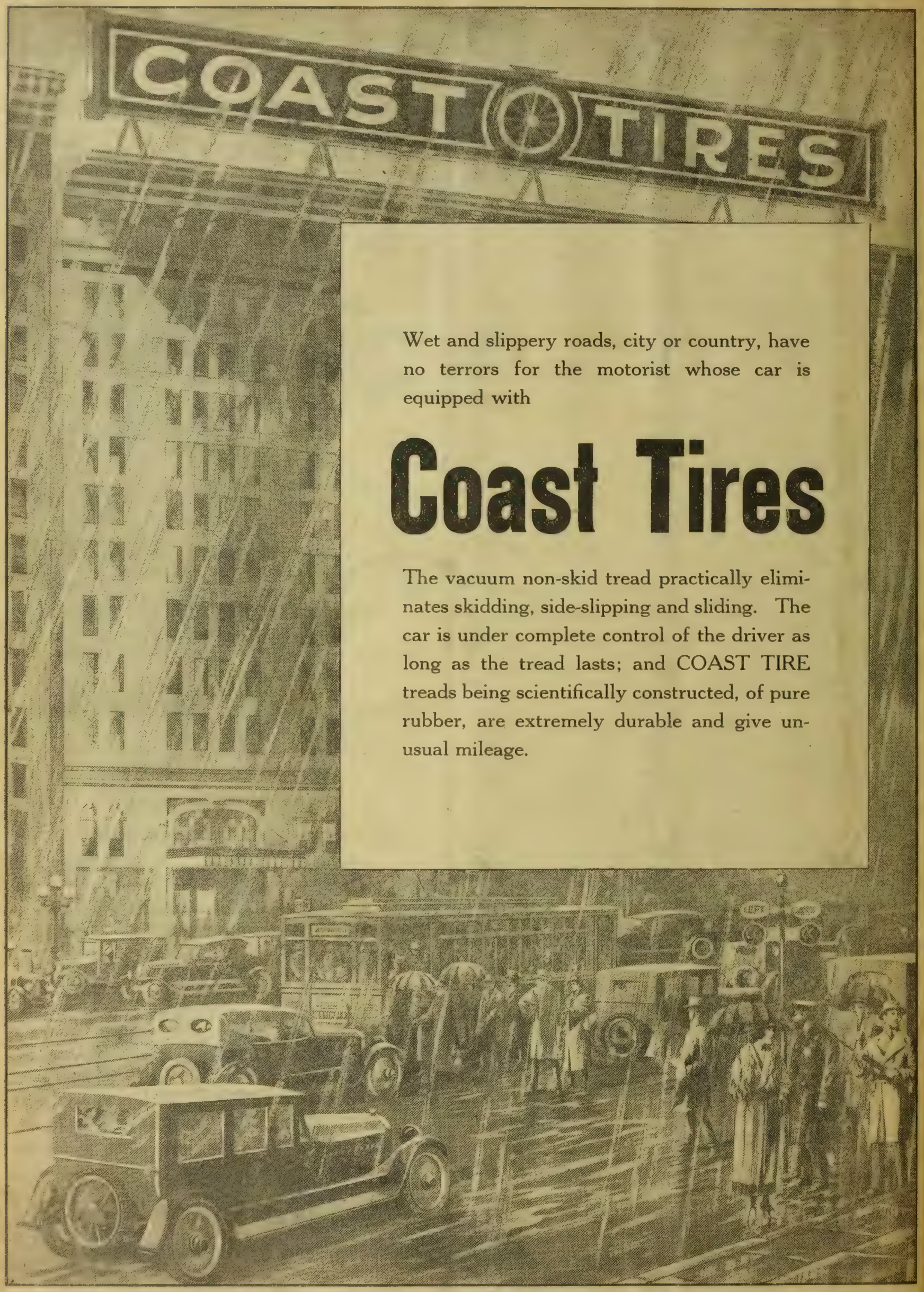


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# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — December 23, 1922 — No. 26


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## 'Twas the Night Before Christmas---Old Time Poem 100 Years Old Today

**On the night of December 23, 1822, Dr. Clement Clarke Moore, a professor in a New York seminary, was telling to his own children the story of St. Nicholas. A Miss Butler was visiting at the home and, noting the beauty of the story as it was told, jotted it down and a year later sent her copy of the poem to the Troy Sentinel in which it was published, and in addition it was copied by papers all over the country. In 1844 Dr. Moore published a collection of poems in which he included "A Visit from St. Nicholas" though the originally given title, " 'Twas the Night Before Christmas," has remained as it has been repeated for thousands of times through its hundred years of existence. It was many years later before Dr. Moore permitted the use of his name as the author. Many years ago it was printed in the columns of the Cultivator and owing to the date of this week's issue being exactly the 100th anniversary of its first repetition it is most fitting that it should be given the place of honor.**

### 'Twas The Night Before Christmas

'Twas the night before Christmas when all through the house
Not a creature was stirring, not even a mouse;
The stockings were hung by the chimney with care,
In hopes that Saint Nicholas soon would be there.
The children were nestled all snug in their beds,
While visions of sugarplums danced through their heads.
And Mama in her 'kerchief and I in my cap
Had just settled our brains for a long Winter's nap.
When out on the lawn there arose such a clatter
I sprang from my bed to see what was the matter.
Away to the window I fled like a flash,
Tore open the shutters and threw up the sash.
The moon on the breast of the new fallen snow
Gave the luster of midday to objects below,
When what to my wondering eyes should appear
But a miniature sleigh and eight tiny reindeer.
With a little old driver so lively and quick
I knew in a moment it must be St. Nick.
More rapid than eagles his coursers they came,
And he whistled and shouted and called them by name.
"Now, Dasher! now, Dancer! now, Prancer! and Vixen!
On Comet! on Cupid! on Donder and Blitzen!
To the top of the porch! to the top of the wall;
Now dash away! dash away! dash away all!"
As dry leaves that before the wild hurricane fly
When they meet with an obstacle mount to the sky,
So up to the housetop the coursers they flew,
With the sleigh full of toys and Saint Nicholas, too.
And then in a twinkling I heard on the roof
The prancing and pawing of each little hoof—
As I drew in my head and was turning around
Down the chimney Saint Nicholas came with a bound.
He was dressed all in furs from his head to his foot,
And his clothes were all tarnished with ashes and soot.
A bundle of toys he had flung on his back
And he looked like a peddler just opening his pack;
His eyes—how they twinkled! His dimples, how merry,
His cheeks were like roses, his nose like a cherry!
His droll little mouth was drawn up in a bow,
And the beard on his chin was as white as the snow;
The stump of a pipe he held tight in his teeth,
And the smoke it encircled his head like a wreath;
He had a broad face and a little round belly,
That shook when he laughed like a bowful of jelly.
He was chubby and plump, a right jolly old elf,
And I laughed when I saw him in spite of myself;
A wink of his eye and a twist of his head
Soon gave me to know I had nothing to dread;
He spoke not a word, but went straight to his work
And filled all the stockings, then turned with a jerk.
And laying his finger aside of his nose
And giving a nod up the chimney he rose.
He sprang to his sleigh, to his team gave a whistle,
And away they all flew like the down of a thistle;
But I heard him exclaim ere he drove out of sight,
"Merry Christmas to all, and to all a good night."

Established 1877 Forty-fifth Year

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

A Journal of Horticulture, Agriculture and Livestock

Rural Californian. Established 1877. Combined with California Cultivator, 1914. Livestock and Dairy Journal, Established 1901, Combined with California Cultivator 1916.

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## Saturday, Dec. 23, 1922

OUR ADVERTISERS RELIABLE

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### EDITORIALETTES

The cover illustration has given way this week to a beautiful story of St. Nicholas. This was written, it is claimed, exactly 100 years ago and is still bright and fresh for the kiddies of 1922. We think it an excellent idea to gather the children about the hearth or the Christmas tree and let one of them or some member of the family read from this cover selection "'Twas the Night Before Christmas."

* * *

Another selection of even greater beauty, written more than nineteen hundred years ago, which may well be read to the children is that which is found in a book written by one called Luke. The whole of the second chapter of Luke may well be read, but the more beautiful part of the original Christmas story may be said to begin with the seventh verse and end with the eighteenth. This is the true Christmas story in which is the song uttered by the Heavenly Host: "Glory to God in the Highest, and on earth peace, good will toward men."

* * *

Speaking of reading about the hearthstone, it is not a lost art, but isn't it a losing art in many of our homes, that is, are we not drifting away from reading "out loud?" Are we not losing an opportunity for education and inspiration in neglecting the reading of some of the gems of literature which occupy a place on the bookshelves of every home? We are giving sufficient attention to the movies and to the yellow pages in the daily paper. Brush the dust from the classics and give to the children a real uplift by learning how to read.

### SOAKING RAIN

Every portion of the state received a thorough soaking from the rains of last week. The precipitation varied from an inch in some sections to 15 or 16 inches. The storm covered several days and at no time was there any washing or serious injury. The rains have added wonderfully to the happiness of the Christmas season.

### PEARS

No section in the world produces quantity and quality pears as does California. Last year we shipped out of the state nearly 6,000 cars. We canned, dried and ate at home almost as many more.

To express it more accurately: We shipped 70,000 tons of fresh Bartletts; we canned 35,000 tons, dried 20,000 tons and consumed 7,500 tons.

These figures are eloquent as to quantity. As to quality it is difficult to express it with equal eloquence—though we may be permitted to say "California pear quality is best represented by 200 percent to the good."

### BOULDER CANYON DAM

Imperial Valley people are somewhat disapponited in the suggestion of Secretary Hoover that the energies of the Southwest be centered on the building of Boulder Canyon Dam and leave the construction of the all-American canal until a time when the safety of the valley has been provided for by the flood control which will be possible by the dam construction. The all-American canal is greatly to be desired, but it is probable that for a dozen years to come the prosperity of the Imperial Valley will be little affected by the waters flowing through a small portion of Mexico. Of course reclamation of thousands of acres additional will be made possible by the new canal. However, those acres would be of little value if one summer's floods were permitted to break their banks and destroy the whole valley. Save the valley and proceed with improvements of the canal system. Safety first.

### CLEAN UP THE FAIRS

There is an International Association of Fairs and Expositions which held a meeting recently in Toronto. In discussing the matter of making fairs of greater educational value the following whereases and resolution was passed:

"Whereas—Fairs and expositions have exerted a far reaching influence on the agricultural, commercial and educational progress of North America, and;

"Whereas—this influence has been in direct relation to the ability of our fairs to give education, information and inspiration and to their freedom from degrading influences,—Therefore:

"Be it resolved,—By the International Association of Fairs and Expositions that we again go on record as favoring clean fairs, which maintain the highest possible standards for all attractions and concessions, and that nothing be tolerated on our grounds of a degrading or dishonest nature, to the end that our fairs and expositio s render the maximum service in the years to come."

The admission by the management of many fairs of low grade "features and attractions" with the idea that they were necessary to swell the gate receipts has resulted in a reaction, and those attractions, especially those which have to do with gambling, have been discouraged by the better class of fair attendants. A man may wish to take his children to the state or county fair as a matter of relaxation and education, but many a man has refrained from doing so because at some of the fairs literally scores of gambling features have been permitted.

### LET'S GET RIGHT

Under the above title Edgar A. Wright, editor of the Florida Grower, in his own personal column comments on California and Florida shipments of oranges and grapefruit. Mr. Wright says:

"I notice that several Florida papers have taken away the orange shipping championship from California and given it to Florida. Sometime perhaps, but just now it is not a fact, in spite of the severe freeze California experienced during this past season. The citrus shipping season in California runs from November 1 to October 31 During the past season California shipped 29,573 carloads of oranges and grapefruit. During that same period Florida probably shipped nearly 38,000 carloads of oranges and grapefruit, but we must analyze the figures before arriving at conclusions. Figured on a basis of 360 boxes to the carload Florida shipped in the same period about 38,000 cars but California cars are based on 460 boxes to the car. Also we must remember California ships but about 200,000 boxes of grapefruit whereas four-tenths, or thereabouts, of Florida shipments are of grapefruit. On this basis California shipped 12,403,580 boxes of oranges while Florida shipped but 8,100,000. However, the time is not far off when Florida will far surpass California as a shipper of oranges; somewhere from five to ten years and this will come to pass. This is said not at all in a spirit of boasting but as a fact that should be recognized by all concerned. I believe that we will be able to impress this easily upon the Californians who are coming to visit us in February. I remember that about two years ago when Mr. Coachman of Jacksonville took a party of prominent Florida people down through the so-called ridge section of the state that many, particularly these folks from the northern end of the state, were perfectly amazed at the citrus fruit planting they saw and I remember the expression of one Tampa banker who repeatedly exclaimed, 'How in the world do you ever expect to market it all?' Let's claim what we have but no more. We are otherwise only deceiving ourselves."

The Cultivator made some comment in the matter of California and Florida production and suggested that both sections should obtain fuller information as to the citrus producing abilities of the other. The editor still has notes and photographs taken in Florida orange groves and in next issue or later will give some of his observations. Florida is a great citrus producing state and it is well for us to recognize that fact.

### GOOD WILL TOWARD MEN

The land where the first Christmas was celebrated is today nearby the scene of the world's greatest suffering. Starvation and tortures unutterable are being visited on a Christian people because they occupy lands under the domination of the Turk. A year ago at this Christmas time the world poured out shiploads of food and clothing until the suffering was greatly alleviated; the resources of that western portion of Asia were being developed and the Armenian people becoming to an extent self supporting. Renewed persecution drove many of them into Asia Minor and down into what was once called the Holy Land. These people, driven from their own country, have been taken, some to Greece and some to other protected sections, and their need today is far greater than it was a year ago.

Many in America are feeling that the past year has not been kindly in the returns from the soil. Others have produced but could not market. But very few of us are hungry. From our abundance it is fitting to remember the unfortunate race so sorely in need.

An organization has been formed to forward help to these people, and it has regular established offices in California. One, Near East Relief, Room 333 Mills Building, San Francisco. This office has charge of the central and northern part of California. The southwest, including Southern California, Arizona and New Mexico has its headquarters at Near East Relief, Room 517 Wright and Callender Building, 4th and Hill Sts., Los Angeles. Remittances may be sent to either one of these offices.

There are in Southern California some 1500 Armenians who have raised large sums to send to their relatives in Asia. About Fresno is the largest colony in the state, there being about 6000. These people are engaged at this time in raising a fund of $25,000 which is to be used for the purchase of farm implements which will be sent direct from this country to Armenia. The Fresno Armenians raised a total last year of $100,000.

### THAT CHAIN LETTER

The other day we received letter, or rather some typewritten stuff, preceded by a long list of names of people who had sent a good luck wish to somebody else. Now we were requested to copy the whole business and send it to nine others, wishing to them good luck. In fact, here is the good luck—and the other—wish:

"Copy this and send it to nine to whom you wish good luck. The chain was started by an American officer and should go around the world three times. Do not break the chain for whoever does will have bad luck. Do it within 24 hours and count nine days and you will have some great good fortune."

These are not the days of witchcraft and such material should be denied the mails. We all of us appreciate good wishes and are glad when our friends send by letter or word expressions of their good will, but, honest to goodness, we don't like the other. It is very possible our friends have just as much power in wishing ill luck if we do not do as they say as they have in wishing the good luck, but it sounds different notwithstanding.

### NEW ZEALAND LEMONS

Dispatch from Department of Commerce. "A small shipment of lemons from New Zealand has arrived in Vancouver, where it is reported to have created a very good impression, comparing favorably in appearance and quality with California's product. Some idea of the extent of the lemon industry of New Zealand, says Consul MacVitty, Auckland, is gained from the fact that over 11,000 cases, representing the output of 100 growers have been handled by one firm this year. A second consignment of lemons is expected soon in Vancouver."

California Cultivator

Vol. LIX, No. 26 December 23, 1922 One Dollar Yearly

# Fruit Growers and Farmers Gather in 55th Convention

By C. B. Messenger

A STATE convention in session for three full days and touching only four subjects in its extended and complete program proved of most intense interest to the attendants, and every minute called for closest attention and participation. The discussions had to do with transportation, quarantine, cooperation and legislation. The first two were handled more from a national than a state standpoint, legislation from a state standpoint and cooperation largely from a local standpoint, that is, cooperation as it affected the raisin, almond, prune, apricot, fig, peach, pear, walnut, citrus and other growers. Reports as to the year's work were made by the managers of many of the cooperative associations. Not a failure was recorded during the past year on the part of cooperators, in fact, the statements made which dealt in values to the extent of millions, in some associations almost hundreds of millions, compose a record which should make the state—which should make the nation—proud of the successes of California cooperators. The successes are not so much in dollars to individual growers as in the welfare of the commonwealth. The whitest spot financially in the United States has been California, and this more largely because of cooperation than any one feature of our commercial life.

### Quarantine

In opening the program on the day devoted to quarantine Director Hecke said:

"California's preeminent position in the agricultural and horticultural world may well be attributed not to favorable climatic conditions, as is supposed by many, but largely to three important features, namely: plant quarantine, standardization, and pest control. California excels in the application of these three principles. We must continue to lead if we are to maintain supremacy in the agricultural world.

"We are faced in the marketing of our plant products with competition from countries located on the Mediterranean, in North and South Africa, in South and Central America, in Asia Minor, and in Mesopotamia, where climatic conditions are no less favorable for the production of plant products, and particularly fruit, than in California. In at least some of the countries mentioned contact with the world's markets is closer than that enjoyed by California. It must be patent to all, then, that the maintenance of our favorable position depends upon placing on the market plant products at least equal in quality to products offered by other states and countries; products which are marketed at the lowest possible cost to the fruit grower. Nothing contributes so materially to low cost of production and to quality of agricultural and horticultural products as freedom from insect pests and plant diseases. We have fortunately been able to work out methods whereby we may control most of the pests and diseases now present in California. However, the cost of working out these control measures has been so great as to be staggering, and we have many concrete examples which furnished ample evidence that it is much cheaper and much more satisfactory to prevent the entrance of pests than to practice continual control measures after pests are introduced and established."

Mr. Hecke dwelt at some length on pests which have found entrance into America because of laxness in quarantine enforcement, or rather, in maintaining no quarantine whatever until the past few years, and also touched upon the history of quarantine since its establishment in this state in the days of Alexander Craw and by the federal government less than a dozen years ago. As a creator of lively interest the quarantine question was not as effective as was transportation. Everybody was in line and fully supporting the demands for more stringent quarantine regulations and greater efficiency and a larger force of men for enforcing the regulations.

Interest, however, was lent to the occasion by the fact that the special conference called by Secretary of Agriculture Wallace in Washington this week would with little question endorse more effective federal regulation. California is being represented by nearly a dozen orchardists and quarantine officials, and many of these delegates were present during the convention. Amongst these were Lee A. Strong, chief quarantine officer of the state department, J. J. McDonald of San Jose, V. T. McCurdy of Milpitas, Santa Clara Valley, George C. Roeding, San Francisco, S. Day of Placer County, Aaron Sapiro of San Francisco, and others. It was requested by the convention that James Mills of Glenn County should attend and represent the state convention. He was, however, unable to attend. The Californians and all the representatives from the Pacific Coast states are determined to make a fight for more stringent regulations and more efficient enforcement, especially at Atlantic Coast points.

The harbor of New York is wide open at the present time to all kinds of fruit from the Mediterranean countries. These fruits, especially peaches and other deciduous fruits, are often infested with the maggots of the Mediterranean fly. Even citrus fruits have been known to carry the pest. The claim is made that distribution of such infested fruit in the Northern Atlantic states is no concern of the fruit growers of those sections because the pest does not spread or become serious in their colder climate. This may or may not be true, but it is true that many of the fruits are reshipped from New York to warmer portions of America, and in Florida, in the Panama Canal zone or in Southern California, that pest, if established, would jeopardize the fruit industry.

### Legislation

The discussion of legislation was introduced by R. N. Wilson, secretary of the agricultural legislative committee, created at the convention held three years ago at Chico. This committee has done some magnificent work not only in securing the passage of many bills but in shaping and aiding measures which in some way affected agriculture in California. Mr. Wilson not only reviewed some of the past accomplishments of the committe but referred to the needs which would be presented at the state legislature to convene within the next two weeks. As a foundation for the coming work Mr. Wilson showed a chart giving the details of the work of the U. S. department of agriculture in California. It appeared that the U. S. department is spending in investigational and other work in California in excess of a million and a half dollars. Fred K. Howard, H. J. Ramsay, Frank T. Swett, Leroy Anderson, Ralph Merritt and others joined in this discussion. It appeared from Mr. Swett's talk that California's tax fund amounts to $12.50 per capita. While this is raised largely from a corporation tax, ultimately it is all paid by the people through higher rates which they pay for freight, electricity or other commodities. Of this $12.50 per capita only 16 cents is now appropriated for the work done by the state department of agriculture. Yet without question the greatest burden of raising the tax falls upon the farmer who is protected by the activities of the department. "How much is it worth to keep the Mediterranean fly out of California." And a voice answered: "Four hundred millions of dollars." It would be safest to double this estimate several times. The plant quarantine service is now costing around $200,000. An appeal will be made to the coming legislature to greatly increase this fund.

### Transportation

There seemed for a time to be an effort to make it appear that nobody was to blame for the transportation muddle of the past six months. It was generally referred to as a "shortage of refrigerator cars." Yet it was shown that there were thousands of refrigerator cars on sidings and in yards in cities of Pennsylvania and New Jersey or near the city of New York. It was charged that the Erie and other railways used all of their available motive power to transport coal. Southern Pacific officials stated that they appealed to eastern railways to move out the refrigerator cars that they might be returned for service and even offered to pay freight on cars which should have been returned to their line without charge. The offer was not big enough to induce movement of the cars. Thousands of cars were kept on sidings and those which were filled with fruit and on the way to market were so slow in securing delivery that their early return was impossible. The situation not only caused immense losses to California fruit growers but delegates from Washington, Oregon, Idaho, and a half dozen other states charged not only great loss to this year's crop but the ruin of many a producer whose apples are still on the trees and whose potatoes are frozen solid in the ground where they grew. The situation, especially in Washington, is so serious that it is affecting the welfare of many communities and some farms are already being deserted.

The report of the transportation committee summarizes the action of the convention in the transportation matter.

### Report of Transportation Committee:

Delegates from California, Washington, Oregon, Idaho, Utah and Colorado appointed to represent the fruit and vegetable interests of their several states at a join conference in Sacramento to work toward betterment of transportation of their products, met at 9 a. m., December 13, 1922, at the office of the department of agriculture, Sacramento, and adopted the following resolutions:

Whereas, on problems of common interest joint concerted effort is better than divided individual effort, and

Whereas, There exists a desire to cooperate between the Pacific Coast states as evidenced by this meeting, and

Whereas, joint concerted effort can be more easily and effectively accomplished if there existed a medium through which to cooperate,

Therefore, be it

Resolved, That such a medium be created, and we recommend to our several states that from the public service bodies and transportation committees of each state under whose jurisdiction should properly come effort toward bettering of transportation on perishable products, there be appointed a representative, or representatives, who acting with similar representatives from the other states shall constitute a permanent body through which to coordinate their efforts to the end that there shall be combined concerted effort by the Pacific Coast states on problems of common interest affecting transportation.

Resolved:

(a) That it is the sense of this convention that the burden of responsibility of supplying and distributing adequate refrigerator and freight car service for the movement of our western agricultural crops be left with the carriers, and on principle we are opposed to the pooling of refrigerator cars; that the western roads should formulate plans and submit them to the interterstate commerce commission for the prompt return by eastern carriers of equipment owned by the western lines which was especially designed and intended for our agrictultural products.

(b) That the present refrigerator equipment of the carriers is inadequate for the efficient handling of the tonnage that must be moved to avert disaster to the nation, and that the carriers should inaugurate a building program of sufficient magnitude to not only meet the present shortage but to meet the ever increasing demand, and that this resolution has particular reference to those carriers which enjoy the perishable freight movement without furnishing their proper proportion of refrigerator equipment.

Resolved: That the executives of railroads engaged in the transportation of agricultural products from the Pacific Coast be invited to attend a meeting to be held in Chicago during January, 1923, for the purpose of discussing better transportation facilities.

Resolved: That this convention condemns and deplores all strikes affecting transportation. Such strikes invariably result in enormous losses to

(Continued on Page 671)

# Agricultural News Notes of the Pacific Coast

## Northern California

Pruning of vineyards has started in vicinity of Galt.

The association has raised its price on Blue Diamond Brand almonds two cents.

A rice yield of 46 sacks to the acre is reported by J. H. Lamme of Sutter County.

Half the counties in California have added assistant county agents to aid in farm bureau work.

A tract of 1,200 acres developed in the Holland district will be irrigated from Sutter Slough.

Membership drive in Placer County farm bureau will be continued through December. Present membership is 465.

A new center of the farm home department of Alameda County farm bureau has been organized at Townsend.

The Berkeley Olive Growers' Association is developing 600 acres of olive orchard in Table Mountain district north of Oroville.

Petitions are being circulated in Levee District No. 1 of Sutter County commending trustees for refusal to permit cutting of levees.

Reports of California Fruit Distributors show that of 48,343 cars of deciduous fruits shipped East during May-November, 37,069 were of grapes.

Over 400 Butte County prune growers last week attended a banquet at Hotel Oaks, Chico, given under auspices of the Prune Growers Association.

The California Cattlemen's Association met at the Palace Hotel, San Francisco, December 8 and 9, in sixth annual convention.

The California Development Association is collecting what it characterizes as the most extensive data that have ever been compiled on the state's resources.

Forty counties in California have installed county agents. The three latest additions are San Benito, Inyo and Lassen. In these 40 counties are 90 per cent of the farms.

Deciduous fruit shipments from California north of Tehachapi for the season to November 30 totaled 49,394, over 9,000 cars more than in 1921, despite transportation difficulties.

E. A. Bailey, flood control engineer of the state reclamation board, has been examining the new and old levees on the Feather River below Yuba City to determine advisability of razing the old levee.

With 15 charter members the Orland Fig Growers Association has been organized. Members all raise Kadotas and are uniting in a marketing and general organization. Clarence Wood is president.

Jolly Christmas carols will ring from the State Ferry building at San Francisco during the coming holidays where a shining Christmas tree, 35 feet in height, erected in the upper lobby of the building, will welcome the visitors to California.

The Sonoma County Grape Growers Protective Association is discussing means of improving transportation facilities next season. It is reported that eastern concerns are already outfitting refrigerator ships to handle the 1923 crop via Panama Canal.

## Central California

Orange picking is nearly over in Tulare County.

A poultry department is being organized in the Stanislaus County farm bureau.

Lindsay will this year ship 175 carloads of olives. Last year's shipments totaled 154.

Nearly 300 visitors in one day was the record established at Don Pedro dam recently.

The agricultural department of the Kerman Union High School is making survey of vineyards in that district.

Concrete highways in Stanislaus County will be built from Westley to the county line and between Oakdale and Escalon.

The Stanislaus County calf club is conducting a membership drive. A meeting of all interested will be held at Modesto, January 17.

Orange pruning demonstration, December 23, at Jasmine, Kern County by W. R. Schoonover, extension specialist in citriculture of U. C.

Watsonville members of the California Berry Growers Association held meeting last week to discuss plans for next year's marketing and shipping.

In November the Tulare Poultry Association marketed $4,000 worth of eggs and $6,000 worth of poultry and distributed $7,000 worth of feed and supplies.

There was an attendance of 500 at the annual meeting of the Tulare farm bureau when H. E. Martin was reelected president, R. C. Sturgeon, vice-president and Albert Crawford, secretary.

Owners of 60,000 acres in Tulare Lake district have joined in suit to protect their right to 30,000 acre feet of water from the lake from encroachments of companies which propose to erect levees.

Santa Cruz strawberry growers made cold storage shipments by fast freight to Chicago last season and are planning use of cold storage vans to take berries into the San Joaquin Valley next summer.

The Farm Bureau Marketing Association sold at its hog auctions in the four years closing October, 1922, 179,224 hogs for a total of $4,478,410.06. Sales in Tulare County brought in the largest sum, $1,660,936.48.

Deciduous tree demonstrations are being held today, December 23, at Tehachapi, Kern County. At its ninth annual meeting Kern County farm bureau elected L. B. Nourse president and J. W. Coulter vice-president.

Pacheco Pass, the first lateral highway unit connecting San Joaquin Valley with the coast will be completed in 1924 according to the report of the state highway commission. Bids for the unit from Califa on the state highway to the Madera-Merced line were opened on December 18.

Records of temperature in the citrus belt, with tests of a variety of frost prevention apparatus, are to be made during the winter in the Porterville district. The tests will be made by E. S. Jones of the United States weather bureau but half the cost will be paid by the California Fruit Growers' Exchange.

## Southern California

The Highland district last week shipped 15 cars of new Navels.

The Saticoy district of Ventura County put out a 300 ton crop this year.

Palo Verde levees are to be repaired, bonds have been sold and contracts awarded.

Imperial County cow testing associations have secured services of a third tester.

A third ferry is planned to connect the Palo Verde Valley with Arizona, to be located 2½ miles below the Ripley ferry.

The Escondido chamber of commerce arranged a big picnic and tour of inspection at Henshaw dam, December 1.

The Irwindale Citrus Association shipped 137 cars of fruit during last season. A $9,000 fumigating equipment was purchased.

Roy Beard of Escondido won first prize on Muscat grapes at the fruit show of the college of agriculture held recently at Berkeley.

The Glendora Citrus Association and the Glendora Heights Orange and Lemon Association have voted to withdraw from the A. C. G.

The Imperial Valley Vegetable and Melon Growers Association has already signed up 50 per cent of lettuce growers for the shipping season.

Farm center meetings in Imperial County at McCabe, December 20; Imperial, 21; Acacia, 22; Eastide-Sunset, 26; Alamo-Verde, 27; Niland, 28.

P. B. Easson, extension poultry specialist gave illustrated talks on poultry problems at the December 5 meeting of the Escondido farm bureau.

Apricot growers of Ventura County held a series of meetings last weeek to hear reports from W. R. Kingston of the California Apricot Growers Association.

A one week tractor school is announced for Los Angeles County, January 15-20. Exact location to be chosen within a few days, probably at Covina.

A boys beekeeping contest has just closed in Antelope Valley, John Ritter taking first place for production of 883 pounds honey. Plans are being made for a 1923 contest.

It is reported that the agricultural appropriations committee in congress has restored appropriation for continuance of frost forecasting work by the weather bureau in California.

Two automobile quarantine inspectors started work at Colorado City, the California side of the Yuma bridge across the Colorado river, and a third inspector is to be put on as soon as possible.

Construction work on what will be Ventura County's largest irrigation project is under way in the Las Posas. Between 35,000 and 40,000 acres will be put under irrigation. Zone No. 1 and No. 2 Water Companies are joining in the work.

New directors of the San Diego County farm bureau are John Lamb, Fallbrook; F. L. Cooper, Valley Center; C. M. Pilgrim, Oceanside union; C. O. Higley, Escondido; Ban Van Amersforth, Encinitas; Paul Hartley, Otay; J. Aker, Lakeside; William Stead, Jamul.

## The Coast and General

Farmers of Baker County, Oregon, have persuaded county board to appropriate funds for salary of county agent.

Modern stockyards, the first of their kind, have been established at the City of Mexico by an American company.

The apple packing season has ended in the Okanogan district of Washington. A few growers are holding Winesaps for spring packing.

The National Wool Growers Association will convene at Spokane, Washington, January 24-26. Washington wool growers meet at same place January 22-23.

The Washington irrigation institute at Yakima, November 24-25 gave expression to a unanimous sentiment that there was need for vigorous extension of reclamation activities in the Northwest.

The National Grange held its 55th annual session at Wichita, Kansas, November 15-24. An appropriation of $10,000 was made to finance a great membership campaign the coming year.

Standardizing and stabilizing the potato industry of the Pacific Northwest were the outstanding themes of the Northwest Potato show and conference at Spokane, Washington the last week of November.

Nine hundred selected lambs were recently purchased in Kittitas County, Washington, for the Prosser branch experiment station by Superintendent Roy P. Bean, for use in continuing a series of experiments with feeders.

Seattle is preparing for a northwest poultry show to be held January 3 to 7. It is expected that birds will be on exhibition from Washington, Oregon, California, British Columbia, Idaho, Montana, Wyoming, North and South Dakota.

Wenatchee, Washington, apple shippers have suffered much loss from failure to secure cars for transportation and from damage by cold in transit. Storage space has been insufficient to care for the large amount of fruit held back by car situation.

The first starch factory in Washington will be in operation at Toppenish this month. About 800 tons of cull potatoes have been contracted. About 10,000 tons of potatoes are going into storage in warehouses and a large part of them will be available for the starch factory.

A steamship, just leaving Portland, Oregon, for London, Liverpool and Glasgow, carried 30,000 boxes of apples, booked by the Fruit Export Corporation, which had already sent two consignments of fruit to England. The fruit will go on the refrigerator service at the 90 cent rate fixed recently. The apples are largely from Hood River, comprising Ortleys, Delicious, Jonathans and Spitzenburgs.

W. H. Paulhamus, president of the Puyallup and Summer Fruit Growers' Association of Washington, announced recently that the price of evergreen blackberries of shipping quality for the season of 1922 has exceeded by an average of two cents a pound the price received by the members of that organization in 1921. The net average to the grower is this year $1.62 a crate. Deducting the association charge of 6 cents per crate, covering cost of handling the business, leaves a net return to the grower of $1.56 per crate.

# The Cherry in California

By Leonard Coates

THERE is a renewed interest in cherry growing in California, owing to the generally good prices obtained and the universal appreciation of the quality of this most popular fruit. And it is, perhaps, literally the most popular of all fruits during its short season, but in California the season for even the cherry is lengthened to fully two months by reason of our wide topographical and climatic variation. For instance, while from Vaca Valley and some parts of the Sierra Nevada foothills we get ripe cherries early in April, the same varieties in Alameda or Santa Cruz Counties would not be ripe before the middle of May, and in Napa or Sonoma Counties between these two dates, and this fruit may be found in the market until July.

The area for the profitable commercial cultivation of the cherry is rather limited, being confined mainly to the valleys in the Coast Range either immediately north or south of the Bay of San Francisco, some portions of the Sacramento Valley, and the eastern foothill country. This implied area is extensive enough, but soil and moisture conditions must also be suitable.

For the best results a deep, sandy loam is required, such as is found along the river and creek bottoms where the largest trees are always to be found. It is an open question, however, whether it is desirable to have the largest trees, the expense of harvesting the crop being increased in proportion. What is essential to cherry culture is applicable to all fruits, though in a less degree, and that is perfect drainage, and the deeper the soil under such a condition so much the larger will the tree grow. Unless the requirements of soil and moisture are present, the cherry tree will fail absolutely while other fruits are not so arbitrary in their needs.

### Stocks for the Cherry

What is known as the Mazzard, a cherry growing wild in the Eastern states, is most generally used, not only in California but throughout the United States, as a stock for the sweet or Bigarreau cherries. There are one or two species of wild cherries in Europe which are similar in habit and which are no doubt imported and used very considerably under the name of Mazzard. Another species, a native of Europe, known as Mahaleb, is quite distinct in appearance and in habit of growth, having small, shiny and roundish leaves, the growth of the tree being much more spreading; the wood also is harder. This stock, being of slower habit, will dwarf the trees to some extent. Undoubtedly it is hardier, and more capable of enduring extremes of moisture or aridity and therefore is recommended where the soil and moisture conditions are not congenial for the Mazzard. For this reason again, and because trees on Mahaleb root come into bearing sooner, it is generally the better stock for cherries for the home orchard or town lot.

### Cultivation and Diseases

The cherry tree in California is usually, and preferably, planted at one year old from the bud or graft. Planting directions for any tree are often given, and nearly as often unheeded, but careful attention thereto is none the less imperative. The hole should not be less than two and a half feet deep and the same width. If the subsoil is heavy it is better to blast in the fall while the ground is still dry. If this is done no digging will be necessary, but any "pot-hole" that may be formed must be filled and earth well tamped in. Spread the roots well and firm in the soil very thoroughly. If soil is sandy no harm will result if trees are set a little deeper than they stood in the nursery; neither will it do any good. If soil is heavy and trees are planted too deep they will be stunted, perhaps permanently; in this case a percentage also will fail to grow, and yet there are growers who persist in setting their trees several inches too deep. Perhaps they are right and the tree in error not knowing where to place its roots or its stem.

It is better to leave at least two feet of stem above ground after first pruning and the next year select three shoots, five or six inches apart if possible as a foundation for the future tree and cut them back one-half. By so doing there will be less liability to gumming in the crotches. The year after these main limbs will have branched into two or three more to each one. Thin these out and leave six or seven, so divided that the center of the tree is open or goblet-shaped. These may again be cut back, leaving three or four feet of growth to each. Afterwards, merely thin out where growth is too dense and keep laterals well cut back, which will then soon develop furit spurs.

It is very difficult to prevent buds on a young cherry tree from being broken out. For that reason alone it is always advisable to leave two feet or even three feet after planting. If many of the buds are broken so that there will not be leaves on the main stem to shade it, it will be necessary to use some other method of shading, strips of burlap, loosely wrapped around being the best. The bark of a newly planted cherry tree is very susceptible to changes of temperature, being burned by the rays of the hot sun or affected similarly when the weather turns suddenly cold and frosty in the spring. Apparently, the flow of sap is checked and "gumming" ensues. This gum should be cut out at once or it will increase the affected area. These conditions are worse where soil or atmosphere are not suitable.

What is known as the pear slug, a small, slimy worm which hatches and feeds on the upper surface of pear, cherry and plum leaves, sometimes becomes a serious pest. It is easily controlled by dusting the leaves with a fine, gritty dust, which adheres to the worm or by an arsenate of lead spray which poisons the leaves on which it feeds. Gophers are very troublesome in the cherry orchard and must be fought incessantly by means of traps or poisoned bait, or by smoking or the use of carbon bisulphide.

The cherry delights in a uniform degree of moisture during the growing season in both soil and atmosphere, but abhors the dry heat of the interior, although in the river bottoms of the Sacramento Valley it occasionally flourishes. In Southern California the cherry is not a success, the climate being too uniformly warm and dry.

### Species and Varieties

The Mazzard cherry has its origin in Prunus avium, or bird cherry, a species native to Northwestern Europe. There it often grows to a height of 50 to 60 feet when sheltered by other trees and makes a valuable timber. It is in fact distinguished from other species by its upright habit and large leaves. Cultivated types have been arranged into four groups:

The Mazzards, which yield in some cases fruit which is used for preserves and for flavoring in certain liquors.

The Heart cherries, of which Black Tartarian and Rockfort are examples, being more or less heart-shaped and soft in texture.

The Bigarreaux, heart-shaped, but of firm, solid flesh, like Royal Ann and Bing.

The Dukes, of which May Duke is a familiar example, soft-flesh and slightly acid.

Prunus cerasus is another species, of more spreading and dwarf habit, its cultivated forms being:

Amarelles, light-colored sour cherries, such as Early Richmond.

Morellos, dark-colored sour cherries. Seedlings of these are used for stocks for the sweet cherries, giving them a dwarfer habit, but prunus mahaleb, another European species, is more generally used.

The Dukes and Morellos are not cultivated commercially in California as they do not ship well, but a few trees should be found in every home orchard.

The principal commercial varieties of cherry grown in California are Black Tartarian, Royal Ann (or Napoleon Bigarreau), Bing, Chapman, in largest quantities, but very many others of domestic and European origin are grown also.

# Discussion of Irrigation and Cover Crops

By Leroy Anderson

THE habit, or faculty, of believing things which are not true is not nor has it ever been confined to farmers alone. If we read history aright, the world was believed to flat for a longer period than it has been known to be round. Causes of disease were for centuries attributed to the vengeance of God or to witches, while the generally accepted germ theory is of comparatively recent knowledge. For a generation or more we were taught by agricultural investigators and teachers concerning virtues of humus. Now we are told that "there ain't no such thing as humus." If there is such a substance we don't know its function or value, and instead of humus we should think in terms of organic matter. Likewise, the same scientific men have drummed it into our heads how soil moisture moves in all directions in the soil by capillarity. More recently evidence is brought forth tending to show that, while soil moisture may move downward by capillarity, largely assisted by gravity, its movement laterally and upward is too slight to be of any practical moment.

This fact, or theory, concerning soil moisture is of the utmost satisfaction to the farmer who depends upon irrigation as an important source of soil moisture. I remember being told only a few days ago when irrigating by the border check method that possibly 50 per cent of the water is lost by evaporation. Thus we would hurry to cultivate after irrigating and frequently get onto the soil when too damp for the good of its physical well being. However, if surface evaporation is too small to be seriously considered, we may let the soil stand until it is dry enough to cultivate without injury to its texture.

My experience in the irrigation of prune trees, which is the subject under discussion today, began with the crop season of 1919. I became possessor of my present orchard in the spring of 1914. In January of that year, in April, 1916, and in March, 1917 the orchard was irrigated from creek flow. In May 1918 an irrigating well was installed, since which time all irrigation has been by pumping. In September, 1918, a rainfall of over six inches within 24 hours rendered unnecessary any fall irrigation.

### Type of Soil

Speaking as a farmer raised in New York I would say that my soil is a clay loam with a little gravel. The federal soil survey classes it as Yolo gravelly loam. The texture is apparenty quite uniform to a depth of about four feet, below which the proportion of clay seems to be greater. The log of a well kept by the driller, but not a soil expert, reads "surface soil first 13 feet."

### Time of Irrigation

In seasons of normal or well distributed rainfall I irrigate twice, once in May or June and again as soon as possible after the prunes are harvested. Before I was so fortunate as to possess a pumping plant I noticed that orchards which were irrigated at the times mentioned bore uniofrmly the best crops in the district. My own experience shows a marked improvement in crop yields since following similar practice. The rain of September, 1918 added its testimony to the value of fall irrigation. Professor Veihmeyer holds that the summer irrigation should be applied as late as possible before the fruit is ready to be harvested. There are practical considerations which prevent a very late irrigation, such as getting the soil into good condition for picking, putting up props before the trees break, etc. But, further, I do not believe it is essential to crop yield nor to tree growth to delay the irrigation into July for instance. I see no harm in the trees wilting at harvest time. In fact, it seems to me a normal condition for the prune. Professor Veihmeyer advocates also delaying the summer irrigation until the trees have practically exhausted the moisture from the winter rains. If I did that my soil would be so dry and hard that

I could not get the irrigation water down as deep as the roots go. (The root stock is almond). Thus it seems to me better to apply the water while the soil is still moist enough to readily let the additional moisture go to a depth of six or eight feet. However, this may be another case of believing what is not true.

### Method

I use the border check method because it seems to give a more even distribution of the water and compels the water to go down where it is needed. I try to apply from five to seven acre-inches, using the larger amount on the summer application and being quite content if the smaller amount is attained in the fall application.

### Cultivation Following Irrigation

This cultivation is aimed at the objective of loosening and drying the soil as deep as necessary and of leaving a fine smooth surface for prune picking. Loosening of the Yolo loam type of soil while drying is essential because if it dries while packed it becomes too hard to permit of making sufficiently large ridges for the fall irrigation. Thus, following the summer irrigation, when the soil is sufficiently dry I level the ridges with a cultivator and a spring tooth harrow hitched tandem. Then I go over the entire surface with a deep tillage cultivator running from five to eight inches or as deep as possible without tearing up too many roots. This work is done in two directions and is later followed by a double disking also in two directions. If these four times over the land are separated by long enough intervals, when the last disking is completed the soil will be dry enough to run over with the smoother. Two weeks may be required for this drying and loosening operation, but the period of completion is governed by weather conditions as well as by the cultivation. The principle involved in this practice is to do the minimum amount of cultivation to secure the optimum result. Since Professor Veihmeyer assures us that we need not worry about evaporation from the surface there is no need of cultivation after this top layer of soil has become dried and loosened. Concerning methods of cultivation following the fall irrigation I will speak under the subject of cover crops.

### Cover Crops

My orchard when purchased had a fairly good natural seeding of bur clover and alfileria and my handling of the soil has been with the view to perpetuating the bur clover. That is, the plowing has been delayed in the spring as late as practicable in order to insure the ripening of the clover. At the same time the alfileria has also ripened and caused the difficulty I am now facing in the fall of 1922.

To insure the maximum growth of any winter cover it seems essential to start the seed as early as possible. In 1919, which was the first year I have irrigated in the fall, I began the formation of the seed bed by leveling the ridges and cultivating the entire surface before seeding. I soon discovered that the soil texture would be injured in the many damp places and that the packing and fining of the soil to make a good seed bed for melilotus would send the soil into winter quarters in an unfortunate state. Thus I stopped the general cultivation when four acres had been seeded and on the remainder leveled and cultivated the ridges only and seeded that portion with melilotus. As it was rather late in the season a satisfactory crop was not secured, but the unmolested bur clover and alfileria grew abundantly.

In the fall of 1920 and 1921 I broadcasted melilotus after first stirring the soil with a spring tooth but did not attempt to cover the seed. Then ridges were made and the orchard irrigated. When sufficiently dry the ridges were leveled and vetch or peas sowed thereon, broadcasting the seed by hand and covering with a harrow. The peas made a poor stand and would probably have done better if put in with a drill. I am inclined to think the same may be true with vetch. These two seasons came through with a fairly good cover crop.

I think I have been given credit for growing better cover crops than I really have. Practicing the method described for 1920 and 1921, the ground begins to become green about a week after the water is applied. This is due to the alfileria and bur clover, chiefly the former. In fact the alfileria has grown so luxuriantly as to smother the melilotus in many places. By spring time the orchard has a mass of cover crop consisting of alfileria, bur clover, melilotus and vetch, and possibly there is enough of the legume to satisfy nitrogen requirements. However, it seemed wise to discourage the alfileria and with this end in view I did not this season sow any legume before irrigating in the orchard so richly seeded with alfileria. Irrigation was begun on September 25 and ended October 9, but the fall has been so damp as to atmosphere that it was not until November 1 that we could begin to level the ridges and start killing the alfileria. Now with a rain of about three and one-half inches, that beautiful plant is thanking us for thinning its stand so nicely and stirring the soil about its roots and it is smilingly growing faster than ever. With the ground so wet at this late date I am yet undecided concerning the further procedure.

On a small block of prunes I tried this season the plan of covering melilotus before irrigating. The packed portions of the soil were loosened with a spring tooth followed by a smoothing harrow. Then the clover was broadcasted and the ground gone over with the smoothing harrow. Indications at present point to a more uniform germination of the melilotus than when it is not covered, since when lying on the surface it may be washed about by the irrigating water.

This brief outline of practice will indicate that I am yet in the learning stage. I have no set convictions as to the best procedure and doubtless I am often an enigma to my neighbors because in some things I never do twice alike. My notion is that to reach any degree of success the farmer must always be possessed of an open mind, ready to adopt or try any new plan which seems practicable.

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# Almost 20,000 Tons of Walnuts

THIS year's crop of walnuts is the biggest ever and almost the earliest sold. Excepting the culls now being cracked and packed there is hardly a car of California nuts available. In reviewing the season's work Manager Thorpe of the association calls attention to the quickness with which all the offerings were absorbed and to the further fact that an early final settlement will be possible with the members. Best of all the market warehouses do not contain a pound of holdover which will be embarrassing to the 1923 crop. Mr. Thorpe says:

"As a result of this strong market situation, the California Walnut Growers Association immediately started paying the locals 75 per cent of full opening prices as each car of walnuts was shipped, and toward the middle of October raised this percentage to 90 per cent and at that time brought the payment on all back shipments up to a basis of 90 per cent of opening prices, thus making possible the distribution of substantial partial payments by affiliated locals to their growers from time to time during the harvesting and shipping season. It is now assured that final settlement on the first pool, which closes November 20, will be made within a week after the pool closes, or not later than November 27.

"As most of the local associations have this year adopted a uniform accounting system by which individual growers' accounts are kept posted daily, and as under this system practically all of the local association's work is done during the shipping season, it should in turn be possible for the locals who have installed the system to make final settlement with their growers on first pool stocks early in December, a record for prompt final settlement which heretofore has never been equalled.

"The final estimate of association's shipments under this season's crop will reach the huge total of 19,680 tons as against 15,265 tons for last year. This is the largest tonnage ever handled by the association with the exception of the season 1919 when our pack broke all previous records by reaching a total of 19,847 tons, or only about one per cent more than was handled this season, although in that year the state's crop totaled 27,000 tons as against an estimate of 24,000 this season. Incidentally, it may be observed that the percentage of total crop handled by the association has considerably increased since 1919.

"The crop this season was more spotted than usual. The northern counties (Santa Barbara and Ventura) produced a tremendous crop, smashing all previous records. Los Angeles, Orange and Riverside Counties, however, fell considerably short of an average production, due to the heavy dropping of nuts from one cause or other during the spring and summer. A further contributing factor to the shortage in the southern counties was an unusually heavy damage by the excessive heat wave of September 16, 17 and 18. Many of the kernels in the nuts were shriveled and dried up by this hot spell, which also caused a considerable percentage of mould, thereby making a much larger percentage of culls than usual, which incidentally made necessary more labor and more expense in the local packing houses in sorting out this unusually large quantity of off quality nuts.

"Some growers in the districts most severely affected by the heat wave will probably feel that the grading at the local plants was too severe. To these growers let us emphasize the fact that the trade is paying a high price for our product. It is only willing to continue paying a high price because it has confidence in the association's policy of always maintaining a uniform high standard for the goods packed under the Diamond Brand. If we lower our standards to a very considerable extent the trade will lose this confidence and it will take us years to regain it.

"Those of us who have occasion to continually observe the quality of foreign deliveries, know that often the imported walnuts are of easily as fine quality as a good average pack of Californias; still, these foreign goods will sell at from two to ten cents per pound under our prices. This may seem strange but in the end it is perfectly logical. The only answer is that some seasons certain varieties of these foreign nuts run to exceptionally good quality. The very next season that same variety may be of the poorest quality of any nuts imported. Again, in the same season, one shipment of a certain variety of foreign nuts may be of excellent quality and the next shipment very unsatisfactory, or even within one shipment of, say a thousand bags, seven or eight hundred may be excellent and the other two or three hundred of very poor quality. In other words, there is a lack of uniformity from year to year and from lot to lot of most of the imported goods and it is this lack of uniformity that causes such general trade dissatisfaction as to make the difference of from two to ten cents between the price of imported goods and Diamond Brand goods, or on the other hand, it is the trade confidence in our uniform quality that enables us to persistently obtain a considerable premium for our brand."

## STATE SCRIP TO BE SOLD AT PUBLIC AUCTION

A public auction sale of state scrip will be held by Surveyor General W. S. Kingsbury, at the State Capitol, Sacramento, Tuesday, January 2, 1923, at ten a. m. State scrip is the cheapest land scrip on the market today. Scrip can be purchased only by citizens of the United States who are residents of California, and can be located on any vacant non-mineral unreserved United States government land in California.

Homestead and desert land entrymen can relinquish their entries through the surveyor general's office and acquire title to the land by the purchase of scrip, provided the land is not withdrawn by the federal government for public purposes prior to the date the land is scripped. The applicant need not live on or improve the land. State scrip is not transferable.

Scrip is sold in 40 acre lots for cash, personal checks received, but no purchaser can buy more than 640 acres, and the surrender of the scrip is payment for an equal acreage of government land.

At the last auction sale of state scrip the price received averaged $6.93 per acre.

All money received from the sale of state scrip goes to the support of the public schools of the state.

For circular giving information concerning state scrip, address State Surveyor General, Sacramento.

# California's Agricultural Wealth Approximates

# Three Billion Five Hundred Million Dollars

Here are facts about California which should make every one of her citizens prouder than ever before of this Commonwealth.

And they should be sent broadcast over the United States so that citizens of other States may more fully appreciate the wonders of California.

Here is a State that is 780 miles long and from 150 to 350 miles wide, with a total area of 158,297 square miles, nearly as great as the combined area of New York, Ohio, Maine, Vermont, New Hampshire, Massachusetts and New Jersey.

Within its boundaries lie the highest and lowest points in the States. Mount Whitney rises 14,502 feet above sea level, while Death Valley sinks almost 400 feet below sea level.

And here are mountains, rich in mineral and timber resources, valleys of amazing fertility, world-famous harbors, cities teeming with industrial activity, lovely homes and contented people.

## Agricultural Income $700,000,000

Of the fourteen leading counties in the United States in total value of crops, seven are California counties.

The total annual income from the field and tree crops of this State is $587,600,591. Dairying adds an income of $99,004,358.

Though probably as famous for her oranges as for any other single product—California's oranges bring her over $50,000,000 annually—this State also raises many millions of dollars' worth of peaches, prunes, apples, apricots, walnuts, pears, plums, lemons, cherries, almonds, grapefruit, figs and olives.

Here grow the *earliest* and *latest* fruit crops of the country; and more winter fruits and vegetables than in all the rest of the United States combined.

California's vineyards return to her citizens over $92,000,000 per year for raisins and grapes.

California's field crops bring great wealth, too. California has been the leader in the raising of barley since 1852, and her annual income from this crop aggregates nearly $30,000,000.

California is the second largest hay and rice growing State in the Union. The former returns over $100,000,000 a year and the latter over $11,000,000.

Great crops of wheat, corn, oats, beans, cotton, tobacco, hemp, rye, potatoes, sugar beets, melons and garden truck are harvested every year and add their millions to California's wealth.

## Farm Values Increasing

A study of comparative figures reveals the fact that though the average size of farms is decreasing, the average value of farms is rapidly increasing. Note these figures:

| | 1920 | 1910 | 1900 |
|---|---|---|---|
| Average acreage per farm: | | | |
| All land | 249.6 | 316.7 | 397.4 |
| Improved land | 100.9 | 129.1 | 164.9 |
| Average value per farm: | | | |
| All farm property | $29,158 | $18,308 | $10,980 |
| Land and buildings | 26,122 | 16,447 | 9,759 |
| Implements and machinery | 1,156 | 414 | 294 |
| Live stock | 1,879 | 1,447 | 928 |

Another important factor in California's agricultural wealth is an enormous investment in live stock which totals over $200,000,000. The investment in poultry runs over fifteen million dollars; more than eight million dollars' worth of eggs alone were shipped from California in a recent year.

Three billion five hundred million dollars is the agricultural wealth of California and she has great additional wealth in her natural resources and her growing industries.

## Serve Your State This Way

This advertisement is one of a series of three, the first devoted to telling of California's agricultural wealth, the second to California's natural resources, and the third to California's industries. These are facts of which you can well be proud.

Beautiful booklets and descriptive literature about California have been prepared by such organizations as Californians, Inc., San Francisco, by the All-Year Club of Southern California, Los Angeles, and by the San Diego-California Club, San Diego.

There are thousands of people in other States who have no conception of California's greatness. Some of them are your friends. Help us tell them.

If you will send to the Southern Pacific Company a list of the names and addresses of your friends, living elsewhere, whom you would like to have receive this series of advertisements as well as the California literature prepared by these organizations, which have for their sole purpose the advertising of California, we will see that your friends get this California literature.

Simply attach your list to the coupon below and send it to us—no obligation on your part. Do it today before you forget. In this way you will help to spread this message of California's greatness throughout the land and perform a valuable service not only to your State but to yourself and to your community.

# Southern Pacific Company

Send Your List Today

Z

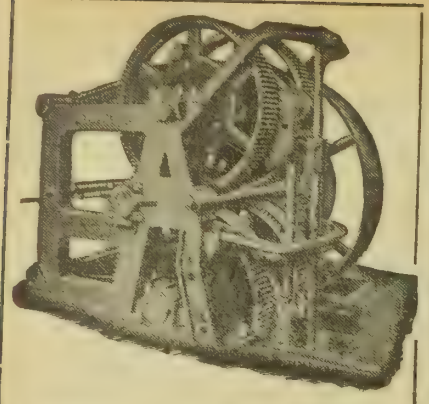
CHAS. S. FEE, Passenger Traffic Manager,
Southern Pacific Company,
Dept. K San Francisco, California

Please send to the people whose names and addresses are attached:

1. This series of advertisements.
2. Booklets prepared by Californians, Inc., by the All-Year Club of Southern California, by San Diego-California Club.

Name.....

Address.....



THE POMONA

Duplex Plunger Deep Well Pumps

are solving the pumping problems for many users during the period of low water levels. They will lift the water to the surface, and, if desired, deliver it to high elevations above ground and at lower power cost than any other system of pumping water.

Pomona Manufacturing Co.

POMONA, CAL.

Manufacturers of the

POMONA Irrigation Gates and Valves



MONEY MAKING MACHINERY

Compressors—Transmission—Pipe—Fittings—Supplies

Machine Tools—Woodworking and Construction Machinery

Whenever Pump Users Get Together To Talk Shop Certain Pumps Stand Out.

GOULDS PUMPS

Lead in the conversation because they are

LEADERS

In their line

WHAT ARE YOUR REQUIREMENTS?

Exclusive Distributors

SMITH-BOOTH-USHER CO.

San Francisco 50-60 Fremont St

Los Angeles 228-238 Central Av.

Pumps—Engines—Motors



"THE BOSS"

TREE PROTECTOR

Made of Yucca Palm

Color light. A perfect Protection against Rabbits, Grasshoppers, Heat of the Sun, Borers and Frost. Allows free circulation of air. Ready for immediate use. Can be easily taken off to spray the trees. Method of tying guaranteed not to girdle or injure trees. Not affected by rain.

Cheap, Durable and Guaranteed to give Satisfaction. No tree should be planted without protection. Send for free sample.

Yucca Manufacturing Co.

1380 Willowa St. Los Angeles, Cal.


The California Cultivator is only One Dollar Per Year.

# Protecting Newly Planted Trees

By W. R. Wood

ANOTHER planting season will soon be here, and the present indications are that many thousand acres will be planted to both citrus and deciduous orchards. Every one of these trees needs some protection from the sun while getting sufficient top growth started to shade the trunk. It must be remembered that while nursery stock is practically all grown in the open field and unprotected from wind or sun, it protects itself more or less by its own foliage as it grows and, the trees being so close together in the rows and the rows never more than four feet apart, they afford protection for each other; therefore they are not sufficiently hardened up to stand the direct rays of the sun to which they are subject during our long summer days following their first season in the orchard. Many planters seem to be under the impression that newly planted trees will do better if allowed to go unprotected and that the sun will harden the bark so that they will be bettetr able to stand other adversities. One has but to watch the efforts of a newly planted tree striving to protect itself by putting out new growth (commonly called suckers) up and down its trunk in an effort to afford shade from the sun, to be convinced that were artificial protection given this growth would go into the top where it belongs.

It has always been a mystery to me why planters will endeavor to buy the best quality of trees regardless of price, use every care in planting them and then neglect the all important matter of affording them protection from the sun and ravages of squirrels, rabbits and other pests, for the sake of saving a few cents in material and labor. I have always contended that the labor expended in suckering unprotected young trees would exceed the cost of tree protectors and the time of applying them and that they were actually a saving in that respect to say nothing of the benefit in the growth and future welfare of the tree. There are thousands of trees lost each year from sunburn and thousands of others that are permanently injured, and eventually die, from the effect of borers and other causes due to their having been sunburned when first planted out. Many others are lost annually from the work of squirrels and rabbits. Practically all of these could be saved by the use of tree protectors, yet there are a lot of people who condemn their use and say young trees are better off without them.

Most of this prejudice I think is probably due to earlier experiences in wrapping young trees with newspapers, burlap, sacks and other materials that did not afford proper ventilation and oftentimes not only smothered the trees but caused the bark to become so tender that they were more susceptible to damage after the material was taken off than if they had been left unprotected from the start.

My experience with such materials cost me many dollars yet were there nothing better available I would still use them rather than let my trees go unprotected. However, with the different types of protectors being manufactured at the present time there is really no excuse for any one letting his young trees go without protection.

The Yucca tree protector made from the wood of the Yucca palm of the desert is very good. Being porous and light it affords ventilation and at the same time gives adequate protection from the sun, and rabbits or squirrels will not molest it.

Another protector made from heavy paraffined paper and perforated so as to afford proper ventilation is giving satisfactory results. It not only affords all the protection necessary but usually outlasts the Yucca protector and for that reason is preferred by many planters. It is not however quite as good a protection against squirrels as the Yucca.

The tar paper protectors are really the best protection against squirrels and rabbits but are objected to by some orchardists on the ground that is true where unperforated tar paper is used, and trees have been injured the black tar paper draws heat. This by its use. However, experiments made with perforated tar paper protectors have proven that they will not damage the trees even in the hot interior valleys. From my experience with these different protectors I believe that for ordinary protection against sunburn the paraffine paper protectors are the best, but where rabbits or squirrels are bad the tar paper protectors can be used to advantage on the first three or four rows next to the uncultivated land from which these pests may come. Do not depend on protectors alone, however, but get busy and poison them.

Squirrels will quite often climb over the protectors and work in the tops of the trees, and to prevent this I have painted the protectors with heavy crude oil which will keep them off until it dries, which will be in from two to three weeks, when they will have to be painted again.

All of these manufactured protectors have wire fastners, and in putting them on the trees it is only necessary to bring them together around the tree and make one turn of the wires. It is then quite easy to remove the protector for the purpose of cutting off any suckers that may appear on the trunk of the tree.

Most all nurserymen carry a stock of these protectors on hand or can direct customers as to where they can be purchased so when you place an order for trees, whether it be few or many, do not fail to include enough protectors to cover them all. They are inexpensive and will insure your trees against sunburn, besides increasing their growth and vigor.

## FARRAND MADE GENERAL COUNSEL OF CALIFORNIA FRUIT GROWERS

The California Fruit Growers Exchange has appointed George E. Farrand, for several years head of the law department of its Los Angeles office, general counsel for the entire institution, including legal supervision over the 220 local associations, 20 sub-exchanges and 60 division offices of the exchange.

Manager Dezell points out that this will centralize handling of legal affairs of over 10,500 citrus growers in California who are members of the exchange. He adds: "Perhaps no other one man in the state has had more to do, or been in closer touch, with the cooperative marketing movement in California and the nation than George E. Farrand."

## REGIONAL CONFERENCE AT AUBURN

The Directors of the Sixth Farm Bureau Regional district will meet in Auburn January 3. This district comprises the Counties of Placer, Nevada, El Dorado, Butte and Yuba. Problems peculiar to those counties are considered at these regional meetings as well as projects which are common. When necessary or expedient problems are carried up to the state federation. The meeting will be especially important because of the attendance of the new state president, A. C. Hardison of Santa Paula, who is making a tour of the state, acquainting himself with the problems of the different sections and getting in personal contact with the different farm bureau leaders.

## VALUE OF TOBACCO WASTE

A Canadian government chemist has made chemical analyses to determine manurial value of waste from tobacco factories, such as tobacco dust, stalks, etc. Potash and nitrogen are the chief nutritive substances present. Potash was found as high as 7.70 in some stalks of the "Burley" variety, and the nitrogent content was 2.90. Some of the tobacco dust contained much sand and ranged as low as 0.65 in potash and 0.60 in nitrogen.

Krogh Pumps

Turbines Centrifugals

If you need any type of pump you will find it to your advantage to write giving all information possible. Without cost to you, our engineering department will recommend the best pump for your service.

Our bulletin 85B describes our turbines. Bulletin 82B describes our horizontal pumps. If you need a horizontal pump direct connected to motor, ask for bulletin 82A.

Krogh Pump & Machinery Co.

151 Beale St., San Francisco, Cal.

Water and Oil Wells

drilled to a depth of 1500 feet and 3 to 26 inches in diameter.

Call at Our New Location

216 Wilhart St.

Between North Main and North Spring Sts. or Phone Lincoln 544

Southern California Well Drilling Corporation

Los Angeles, Calif.



BUFFALO PITTS TRACTOR

A Real One Plow Farm Tractor

For

California Truck Garden, Orchard or Vineyard Work

For years California Ranchers and Orchardists have wanted a small riding or walking tractor with sufficient power to do all the operations of preparing the soil. Plowing, furrowing, harrowing, discing, cultivating. The Buffalo Pitts Tractor fills this demand.

POWER—EFFICIENCY

ECONOMY—DURABILITY

This tractor has an all steel frame, six horse power, one cylinder, four cycle valve-in-the-head motor, high tension magneto, splash system lubrication, thermo-syphon cooling, belt driven fan, weighs 1135 lbs., 8 ft. 10 in. over all, 4ft 2 in. high, width 2 ft. Enclosed crank case, gears running in oil, bull wheels 26 in. high, 5 in. face. The Buffalo Pitts comes complete — no extras to buy.

Write for Booklets and Free Demonstration

BUFFALO PITTS CO.

Mort Finch, Manager

211 No. Los Angeles St., Los Angeles, Cal.

# Legal Queries

Louis B. Stanton, attorney, 243 Wilcox Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Stanton is paid. When queries are wished in Cultivator address query to 317 Central Ave., Los Angeles.

### Road Right of Way

I purchased half a ten acre tract. The road is now going through along the other half, which requires 30 feet off of my neighbor's five acre tract. Can I be required to give my neighbor 15 feet so as to equalize the easement for the road?—Subscriber, Ontario.

When the easement for the road is taken your neighbor is presumed to be satisfied by payment to him of whatever the value of the easement taken for the road may be. Consequently he has no claim against you for any portion of the roadway which he is forced to give up.

### Replacing Fence

Adjoining neighbor wishes to put new fence around his place. The present fence is satisfactory to me and I do not wish to go to the expense of a new one. Can he compel me to share the expenses?—Subscriber, Nevada City.

Such a question raisies a pure question of fact as to what is substantial fence. If the present fence is a substantial fence, certainly you could not be compelled to pay half the expense of a new fence, such as the fancy of your neighbor might dictate. On the other hand, if the present fence is not a substantial fence, that is, such as would keep out ordinary trespassing animals, then, no doubt, your neighbor would have a right to require you to contribute to the expense of such substantial fence. There is a law which is applicable to such supervisorial districts as elect to have it operated in such districts, which defines a substantial wire fence as one which has three tightly stretched barb wires securely fastened to posts of reasonable strength firmly set in the ground not more than one rod apart, one of which wires shall be at least four feet above the surface of the ground.

### Wife's Separate Property

May a husband, without the wife's consent, lease land acquired by her before their marriage? In case such lease is given, in which the husband signs his wife's name and his own as her agent, could she take action against the lessee and compel him to vacate? Does the husband have the legal right to control separate property of wife?—Subscriber, Del Mar.

The husband is in no sense by the terms of the law, made agent for his wife. It is only with her consent that he becomes such agent. In case the real property stood in the wife's name, such lease would be entirely invalid and would in no wise bind the wife unless she, with knowledge of the existence of the lease, took the rentals therefrom and thus ratified the action of the husband. An agreement for the leasing for a longer period than one year of real property, if made by agent of the party, is invalid unless the authority of the agent is in writing, subscribed by the party sought to be charged. The wife may, without the consent of her husband, convey or deal with her separate property and the husband has no legal right to the control thereof.

### Partnership in Water Ditch

Four parties purchased water from the water company and run this water through the same ditch. One party has done no work upon the ditch, which, for five years, has been cared for entirely by the other three. Have we any right to require him to pay for his portion of the upkeep?—Subscriber, Bakersfield.

Where two or more persons are associated by agreement in the use of a water conduit or are using such conduit or any part thereof for irrigation or other lawful purpose, to the construction of which they or their grantors have contributed, each is liable to the others for the reasonable expenses of maintaining and repairing the same and the distributing of such water in proportion to the share to which he is entitled in the use of the water. If any one of them neglects, after demand in writing, to pay his proportion of such expenses, he is liable therefore in an action for contribution, and in any judgment obtained interest from the time of the demand must be included. Such action may be brought by any or all the parties who have contributed more than their just share of the expenses and plaintiff may recover his costs and reasonable attorney's fees, to be fixed by the court.

### Filing Homestead

Can a wife file a homestead on community property without the husband's knowledge? What rights does this give her, and what redress has the husband?—Subscriber, Watsonville.

In case the husband has not made a homestead selection the wife is empowered by law to make and file such declaration, and such action upon her part is entirely valid. From the time the declaration is recorded the premises described constitute the homestead if made from the community property or from the separate property of the spouse making the selection or joining therein. Land so selected, on the death of either of the spouses, vests in the survivor, exempt from the ordinary community debts. Thereafter the property can be conveyed only by instrument in which both husband and wife join. The husband is given no redress in such instance other than such moral persausion as he can use with the wife. The purpose of the provision, of course, is that the wife may secure the home property from difficulties in which the husband may become involved.

### Defective Pump

My neighbor and I put down a water well. We bought a pump from a concern dealing in pumps and paid for it. The pump company installed the pump and guaranteed it for one year. After the first run it stopped pumping. We hired a well driller to sand pump the well. When the pump was pulled out we found that the bottom portion of it had dropped off into the well. On notification the company's agent came and took what remained of the pump away, and we have heard nothing from it. Can we require the seller of the pump to clean out the well or pay for its loss?—Subscriber, Pomona.

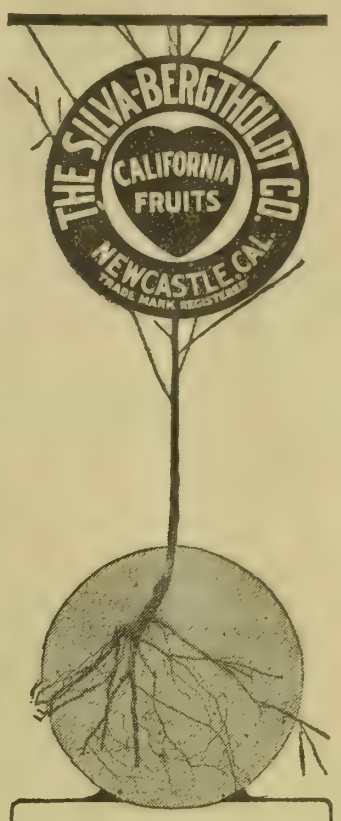
You could not compel them to perform the physical operation of cleaning out the well, but undoubtedly you are entitled to an action for damages against them, first, for the value of the pump, and, second, for compensation for the loss incurred by your effort in good faith to use the pump. This undoubtedly would include the expense to which you were put in employing the well driller, any expense in clearing out the well, and any damage you may have suffered by reason of the failure of the water. If the well is a total loss you very probably could obtain damages for the expense of a new well or for the money which you have expended in putting down this well.

### Probate in Missouri

Married man with no children lives in Kansas City. In case of death without will how would his property be distributed?—Subscriber.

The probate laws of the different states vary considerably as respects distribution in case of death without will. It appears that the law of Missouri provides that in such case as that mentioned the widow is first entitled to all property which came to the husband through her and to all personal property which came to the husband with her written consent; likewise to one-half of the real and personal property belonging to the husband at the time of his death. She, however, is given the right of election to take as just stated, or she can take a life estate in one-third of all the real estate which the husband possessed


# Plant an Orchard




**Note the Roots—** the foundation of your tree—such as are grown only on our foothill soil. Trees are hardy, with well toughened fiber. These qualities spell success to your planting.

I have done some constructive work to safeguard the industry in my promulgation of the "Bergtholdt Plan," *vital to the State and to every fruit grower.*

Copies of my four announcements of 1921, and my three announcements of 1922, will be mailed on application.
J. E. B.

Your success and that of your children is assured in commercial fruit growing. No other farming is as profitable—none so congenial.

If you have fruit land that you now employ in growing wheat, barley, alfalfa or any other farm crop, every year that you defer planting an orchard, you suffer an annual loss of income—the state, an economic loss.

*Prunes, pears, plums, apricots, almonds, table grapes, clingstone peaches and freestone peaches,* according to the adaptability of your location, will pay you more money than any other farm crop, besides enhancing the value of your acreage two dollars for every one dollar you expend in making your orchard.

The success of your orchard investment depends on the planting of good trees, reliably grown.

Our trees are propagated from buds and scions furnished by the Nurserymen's Buds Selection Association. They are well and carefully grown, and they will make good.

Trees are selling out fast and assortments are being rapidly depleted. Submit a list of your tree wants to us today while our foothill-grown trees are still available to you.

Send for our catalog of practical, accurate horticultural information and suggestions.

J. E. Bergtholdt
Secretary and Manager

## The Silva-Bergtholdt Co.

Newcastle, California

S-02:11-4

## USE GYPSUM LAND PLASTER AS A FERTILIZER

GIVES DIRECT AND IMMEDIATE FERTILIZATION

Iucreases Your Alfalfa Yield at a Minimum Expense

**LAND PLASTER**

Greatly increases the growth and nitrogen fixation of leguminous crops. It preserves the volatile nitrogen of manure. It is a natural rock fertilizer containing two essential plant foods, calcium and sulphur.

Write for Booklet

**Pacific Portland Cement Company, Consolidated**

Pacific Building San Francisco, California

## FRUIT TREES

*Price List and Descriptive Catalogue Mailed FREE*

**The Fresno Nursery Co.**

FRESNO CALIFORNIA

during marriage and to which she has not relinquished her dower right. She also has a right to a family allowance of one year and a certain amount of the furniture of the home. The other half of the estate descends to the father, mother, brothers and sisters or their descendants in equal parts, or if there be no such mentioned relatives, then to the wife.

### Lease Affected by Foreclosure

In case of the foreclosure of a mortgage is an unexpired lease affected? May the lease holder move away the growing crops? How long do foreclosure proceedings continue before ownership changes?—Subscriber, Skull Valley.

If the lease was executed and recorded prior to the time when the mortgage was recorded, then the mortgage interest is subsequent to that of the lease. Otherwise it is prior, and the lessee takes subject to the mortgage. The rules in regard to foreclosure of mortgages vary somewhat in the different states, but it is believed that the laws of most of the western states rather closely follow the California law. Under the law of California the mortgagor has a year from the date of sale under the mortgage within which to redeem. During this period either he, if in possession of the property, or his tenant, are entitled to remain upon the property. The purchaser at the sale is entitled, however, to receive from the tenant in possession the rents of the property or the value of the use and occupation which are required to be credited upon the amount due to redeem from the foreclosure sale. At the expiration of the redemption period, if no redemption has been made, the sheriff issues his deed to the purchaser and after that time he can oust any person remaining upon the land without his consent. Thus, any lease holder would have ample time within which to harvest any growing crops, and, in fact, to plant and harvest crops for another season in the usual course of events.

### Trespassing Hunters

Upon the opening of the deer season and the closing of the quail season there is a continual trespassing of hunters. What can be done to stop this?—Subscriber, Hemet.

There are several provisions in the Penal Code which are applicable. Section 384 C. provides that any one who while hunting upon inclosed lands of another, kills or wounds an animal, is guilty of a misdemeanor. Section 602 provides that any one entering into any inclosure occupied by another for the purpose of hunting game thereon without first having obtained permission from the owner, is guilty of a misdemeanor. These sections apply to inclosed lands and require no posting of signs or other notice. The owner of the land undoubtedly would also be entitled to a civil action against any hunter for trespass and likewise to recover any damage which might be caused through injury to property or animals of any nature on the place.

**Potato Growers**

Cut Cost of Cutting 1-2 to 2-3 or More

and at the same time cut your seed just the way you want them—halve, quarter, and cut through seed end. Insures from one to two good eyes on each piece by using one of YOUNG'S POTATO CUTTERS.

One man can easily cut 30 to 40 sacks a day. Price only $13.00 F.O.B. Guaranteed to please or your money back. Order direct from

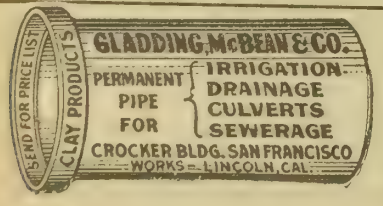
F. S. YOUNG MFG. CO.
Bloomington, California

**Berry Plants** Our Specialty Also **Fruit Trees**

Send for Price List

**M. J. MONIZ**

Sebastopol P. O. Box 264 California





### Larceny?

A party delivered to me hay in consideration of my services in thrashing his grain. We now find that he had given a chattel mortgage upon this hay and the mortgagee claims it. What can be done?—Subscriber, Buellton.

If the chattel mortgage given upon the hay was recorded prior to delivery to you the mortgagee certainly can foreclose his mortgage and take the hay. Of course by this sale the party giving the hay to you has very probably violated the provision of the Penal Code prohibiting the sale of mortgaged property and is subject to punishment as for larceny.

### Tax Title

When is a tax title safe from litigation?—Subscriber, Fallbrook.

About the best means to settle a tax title is to obtain a Torrens title upon the land. This involves a judgment which is good against everyone that the title of the land is valid.

### Payment of Taxes

A party sold land in September. The vendor thereafter leased the land and deducted from the rent the amount of taxes which were payable in December. Did he have a right to do this?—Subscriber, Hemet.

If the title was one of grant, the use of that word in the conveyance implies that the conveyance contains, as if set forth therein, a covenant that the estate granted is at the time of execution of the conveyance free from encumbrance and that the grantor has not theretofore conveyed the property or any interest therein to any person other than the grantee. Unless the deed contained a reservation of taxes for 1921, which became a lien upon the property on the first Monday in March, the grantor would be obliged to pay such taxes and could not deduct them from rentals. If the deed, however, contained the usual reservation for taxes, then he would be entitled so to do, as taxes would have to be paid by the grantee.

### Inheritance

Can a father leave all of his property to a second wife and her children by former marriage when he has children by the first marriage? The bulk of his estate was accumulated during his first marriage.—Subscriber.

The children, as such, have no vested interest in any property of the father or mother. Upon the death of the wife the whole of the community property goes to the husband without the necessity for administration. Upon his marriage to a second wife, all of this property being acquired prior to this second marriage, would be his separate property. He would, therefore, be entitled to dispose of it by will as he may see fit. In fact, he might give the whole property to some stranger. It is only in case a party dies without leaving a will that the children have a vested right in the inheritance. In case he died without will, then the second wife would have a one-third interest in the property, and the children the other two-thirds interest, to be divided amongst them. The children of the second wife by her former marriage would, of course, inherit nothing. Such will, however, which by its terms practically disinherits his own children, would, necessarily, have to mention such children as, if they are not mentioned, they would inherit under the laws of administration.

### Japanese Land Owners

Are alien born Japanese allowed to own land in California? If they did own land prior to the enactment of recent legislation, what becomes of this land?—Subscriber, Sierra Madre.

The laws pertaining to the ownership of land or any interest therein by persons ineligible to become citizens of the United States were in no sense retrocative. That is to say, they did not, in any manner, affect land which was held prior to their enactment, and as to any land then held by Japanese, they were entitled to continue to own it. There is no prohibition against other Japanese owning land in California. The alien land act provides, however, that in case such alien ineligible for citizenship acquires land or any interest therein, it is subject to escheat to the state of California upon action brought by the state against the party holding such interest, and judgment being obtained therefor.

### Return of Enlisted Man

We have a son in the marine service of the United States. He enlisted in Omaha. On the expiration of his term of service where will he be returned?—Subscriber, Tujunga.

According to the general rule, an enlisted man is returned to the point of enlistment. Many times, however, different arrangements can be made if suitable application is made to the navy department.

### Inheritance Tax

A sister living in another state has left her brother the income of certain property as long as he lives, and then the principal goes elsewhere. Is inheritance tax to be paid on this, and, if so, what amount?—Subscriber, Sierra Madre.

The inheritance tax, whatever it might be, would be payable by the executor of the estate in whatever state the will was probated. Whether or not such inheritance tax would be paid at all would depend on the laws of such state.

### Half Interest in Mortgage

Can a man convey a one-half interest in a mortgage held jointly by himself and wife without his wife's knowledge or signature?—Subscriber, Orland.

There would seem to be no reason why he could not convey such interest. However, of course any party taking the interest which he would convey would take it subject to the terms of the instrument. If it was a true joint tenancy, that is to say, if the survivor obtained the whole, the party purchasing it might or might not get anything.

### Interest in Contract

Husband and wife are making monthly payments upon certain property. If either dies, does the property go to the other?—Subscriber, Claremont.

As the property is community property, upon the death of the wife the whole of the property goes to the husband without administration, and upon the death of the husband without heirs, one-half goes to the wife and the balance is distributed as the separate property of the husband.

### Joint Deed

If there is a joint deed to husband and wife and either dies, what becomes of property? If there is a child? No will?—Subscriber, Claremont.

In the case of a true joint deed, upon the death of either of the parties the whole of the property goes to the survivor. There can be no administration upon this property because, upon the death of the party, he ceases to have any interest in it, and the survivor obtains the whole of the estate. The child, therefore, has no interest. There might be only a simple proceeding to declare of record the death.

### Husband's Debts

Can the separate property of a wife be taken for the debt of a husband? For how long does a judgment run?—Subscriber, Claremont.

In the case of a gift from the husband after marriage, separate property thus acquired may be held for the payment of debts contracted by the husband or wife for the necessaries of life furnished to either of them while they are living together. Otherwise, such separate property is not subject to any debts incurred by the husband. There is no statute of limitations which applies to judgments. Execution may be obtained thereon at any time within five years from the date of the judgment, and after that time, execution may be obtained by filing an affidavit with the court and having the court order such execution.

### House Affixed to Land

I purchased land on an installment contract and placed a house on the land. Can I now remove this house without the consent of the seller of the land?—Subscriber, Arcadia.

Under the terms of the question the title to the land remained in the seller. It was, therefore, his property, and when a person affixes his property to the land of another without an agreement permitting him to remove it, the thing affixed belongs to the owner of the land unless he chooses to require the former to remove it. This rule, of course, may be changed by agreement between the parties such as is frequently done in the case of leases.

### Grazing Claim

What are the provisions concerning grazing claims?—Subscriber, Goshen.

Undoubtedly, the questioner refers to stock raising homesteads. The act providing for these stock raising homesteads went into force in 1916. Under this act the secretary of the interior is authorized upon application to designate as stock raising lands those which are chiefly valuable for grazing and raising forage crops, do not contain merchantable timber, are not susceptible of irrigation and are of such character that a section is required for the support of the family. When anyone who is qualified to make entry, makes application accompanied by a properly corroborated affidavit showing that the land is of the character contemplated, the land therein described shall thereafter be suspended from entry until it is determined if it actually is of such character. No right to occupy the lands shall be acquired, however, until the land department has actually designated the applied-for land as stock raising land. Any qualified homestead entryman may make entry under the homestead laws of the lands so designated as stock raising lands, not to exceed 640 acres, and secure title thereto by compliance with the terms of the homestead act. A former homestead entry of land of the character of stock raising land is no bar to the entry of a tract within a radius of 20 miles from the former entry which, together with the former entry shall not exceed 640 acres. In the case of such additional entry, no residence upon the newly acquired entry is required if the entryman owns and is residing on his former entry. Instead of the cultivation required by the homestead rules the entryman is required only to make permanent improvements upon the land entered before final proof is submitted, tending to increase the value of the same for stock raising purposes to a value of not less than $1.25 per acre, and at least one-half of such improvements shall be placed upon the land within three years after the date of entry. A homestead entryman of land of a character suitable only for stock raising, who has not submitted final proof on his existing entry, has the right to enter contiguous land under the provisions of the act to such amount as, with the amount embraced in his original entry, shall not exceed 640 acres. Residence upon the original entry shall be credited upon both entries, but improvements must be made on the additional entry equal to $1.25 for each acre. Persons who have submitted final proof or received patent for grazing lands under the homestead laws and own and reside upon the land so acquired, may make additional entries for and obtain patent to contiguous stock raising lands which, together with the area theretofore acquired under the homestead law, shall not exceed 640 acres, on proof of the expenditure for permanent improvements on the additional entry. The commutation provisions of the homestead laws do not apply to entries made under this act. A party who has entered a homestead tract, may, if he is unable to exercise the right of additional entries for his lands, or, properly speaking, grazing lands, may, on proof that he resides therein and that there are no encumbrances against it, reconvey his entry and enter a section of the grazing lands within the same land district. Lands entered under this act are all subject to a reservation to the government of all coal and other minerals therein, together with the right to prospect for, mine and remove

such coal and minerals. The time for which the homestead settler has served in the army, navy or marine corps of the United States shall be deducted from the time required to perfect title. Of if discharged on account of wounds and disability, then the term of enlistment shall be deducted without reference to the length of time he may have served. However, any such party who is a homestead settler must reside upon, improve and cultivate the homestead for a period of at least one year after he shall have commenced his improvements.

# Queries Answered

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Sowing Vegetable Seeds

When is the best time to plant seeds for the following, in this locality, that is, when do producers of these sow the seeds in a cold frame—tomato, eggplant, pepper?—Subscriber, Fallbrook.

If in hotbed, seeds will need six to eight weeks; if in cold frame, eight weeks. You should be able to plant with safety about the first week in March. Of course, seasons vary, but Fallbrook is generally pretty fairly free from spring frosts and you should be safe any year by March.

### Girdled Peach Trees

I have some two year old peach trees that the jack rabbits got at and barked pretty bad. It happened after the trees were dormant. I painted them with a can of roofing tar as I had no grafting wax. Will they amount to anything or had I better dig them out and replant? There are about 20. Will the bark heal over small cuts that are tarred?

If your peach trees are not completely girdled they will probably recover. Grafting wax or some form of pruners compound would be more desirable for painting over these cuts but the roofing tar may answer the purpose. If trees are completely girdled the best thing to do will be to pull them out and plant new ones in the spring.

### Weight of Graded Olives

Can you tell me how many olives it will take to a pound after grading, in different grades from 10/16 up to 14/16? (Mission olives)?—Subscriber, Exeter.

The following table was given in the June 15, 1916 issue of the Cultivator: 11¼ to 12½/16—90 to 93 olives per pound; 12½ to 13½/16—72 to 75 olives per pound; 13½ to 14/16—60 to 65 olives per pound; 14/16—50 to 55 olives per pound. The variation in number is no doubt due to the olives not always being of the same shape and also to different degrees of ripeness.

### Birds Ate Almond Buds

I have five almond trees five years old but as big as eight or nine year old trees. Last spring when the buds came out something ate a hole into the center of the buds, and the buds fell off. Could this be something other than birds, as I have an apricot tree and plum tree that were in blossom at the same time that weren't touched. The birds go for the almonds more than the other trees.—Subscriber, Exeter.

Your almond buds were no doubt eaten out by birds as we know of nothing else that attracts them. For some reason the birds prefer almond buds to anything else. Whether this is due to any particular flavor or to the fact that the almond buds become edible for the birds earlier than any others, we do not know.

### Pollenizing Cherries

I have ten acres of cherries at Beaumont and have four varieties, viz. Bing, Black Tartarian, Royal Ann and Lambert. Have I sufficient varieties for pollenization? If not what varieties do I need? Will you answer in columns of Cultivator?—Subscriber, Riverside.

We know of no better arrangement of varieties for pollenization than you have planted and you should not need any others for this purpose. The Royal Ann is the only weak variety you have, all of the others being especially recommended to strengthen this one.

## U. S. WORLD WAR VETERANS, ATTENTION

Isn't it a strange fact that many of us neglect to do the things of most vital importance to ourselves and to those who may be dependent upon us? During the rush of modern life how few men stop to think what would happen were they suddenly stricken with disease or death and their families thrown upon their own resources. Congress realized what this would mean to the country and to our people and so, at the time of our entry into the World War, passed a bill providing for the protection of every man and woman who served in that great conflict, should they or their families be deprived of support through their total and permanent disability or death. This bill is known as the war risk insurance act. It contains many valuable features, some of which seem to have been overlooked by a very great number of World War veterans, and it is the purpose of this article to again present to them and to the public, the privilege they have of obtaining at less than cost government insurance to protect their earning power and their dependents who would be affected most seriously by their loss.

The war risk insurance act permitted all persons engaged in the active military or naval service to take out insurance protection for an amount not less than $1,000 nor greater than $10,000. This was known as term insurance and called for the payment of a very small premium. The bill further provided that this term insurance might be converted into permanent legal reserve insurance within five years from the declaration of peace under any of the following six forms of policies: Ordinary Life, 20-Year Payment Life, 30-Year Payment Life, 20-Year Endowment, 30-Year Endowment, and Endowment maturing at age 62.

All six policies contain such liberal features as 31 days of grace for the payment of premiums without interest; participation in dividends earned from gains and savings; loan, paid-up and extended insurance value after the policy has been in force one year, no restrictions as to residence, travel, occupation, military or naval service; change of beneficiary or change to other forms of policies; total permanent disability benefits; payment at death in one sum or in installments at the option of the insured. No additional charge is made if the insured engages in hazardous employment, nor for the total permanent disability benefits. Premiums are charged at net rates according to the American Experience Table of Mortality and 3½ per cent interest, and these rates are lower than those charged for any other participating insurance with similar benefits.

During the war period approximately 4,500,000 men and women in the active military and naval service applied for and were granted insurance, but on release from the service the large majority dropped their insurance, in most instances because of a failure to understand or to appreciate their rights. However, the number of veterans actively carrying government insurance has since increased to over 500,000, representing approximately $3,000,000,000 insurance protection.

The ex-service men and women who have permitted their insurance to lapse are offered the opportunity to regain this valuable protection at a very small outlay of money. If the veteran is in good health it will only be necessary for him to pay two monthly premiums on the amount of term insurance he reinstates. This reinstatement is permitted in amounts of $1,000 up to the full amount carried during his service. Should the applicant's health be impaired by reason of disability or sickness incurred while in active military or naval service, insurance may be reinstated by payment of premiums in arrears with interest, provided the applicant is not permanently totally disabled. The final date for the reinstatement of term insurance or conversion of it to the permanent forms has been fixed by law as of March 3, 1926.

Further information may be secured by writing to U. S. Veterans' Bureau, Washington, D. C.

## COOPERATION IN AGRICULTURAL RESEARCH

The close and varied relationships which exist between the United States department of agriculture and the state agricultural colleges and experiment stations in agricultural research and education are strikingly brought out in the report of the director of the states relations service for 1922, just issued.

"There is", according to the report, "hardly a branch of agricultural inquiry in which there is not some form of cooperation." Altogether there are now 140 different research projects, involving 274 separate cooperative agreements between the department and the stations. The general effect of such cooperation has been to make agricultural research more efficient from a national standpoint.

In the interest of simplicity of administration the cooperative extension work of the department was reorganized during the year. Approximately 4,000 persons are now employed in the cooperative extension service and it is estimated that 2,500,000 farms and farm homes were reached through this means during the past year. The enrollment of farm boys and girls in club work was 491,000, 58 per cent of whom completed the required work and reported over $7,000,000 worth of club products. Especially gratifying progress is reported in the extension work organized for the benefit of the negro farmers of the South. There are now 270 negro field agents engaged successfully in this work. As a result of the work new homes are being built, old ones improved, and orchards, gardens and livestock are becoming the rule rather than the exception on farms owned by negroes.

### COMING EVENTS

**(Corrections and Additions Requested.)**

**Short Courses,** Davis, October 2-February 15; Dairy Manufacturers' Short Courses: Buttermakers and Creamery Managers, February 5-15.

**Berkeley,** November 13-February 8. Canners, January 2-6, 1923. Land Settlement, February 4-8, 1923.

**Sixth Farm Bureau Regional District Conference,** Auburn, January 3.

**Grape Institute,** Fresno, January 17-19.

**State Fig Institute,** Merced, January 19.

**Annual Convention American National Livestock Association,** Los Angeles, January 30-February 1.

**National Orange Show,** San Bernardino, February 16-26, 1923.

**Canned Foods Week,** U. S. A., March 3-10, 1923.

**Raisin Day,** Fresno, April 30, 1923.

**COAST AND GENERAL**

**Fourth Annual Livestock Show,** Ogden, Utah, January 2-6, 1923.

**Northwest Poultry Show,** Seattle, Washington, January 3-7.

**National Western Stock Show,** Denver, Colorado, January 13-20.

**Annual Convention of American National Wool Growers Association,** Spokane, Washington, January 24-26.

## SAN FERNANDO VALLEY GRAPES

Professor F. T. Bioletti and his assistant, Mr. Jacobs, will hold two grape pruning demonstrations in the San Fernando Valley, January 16. During the forenoon one will be held at the Johnson ranch, Owensmouth. In the afternoon the other will be on the Budau ranch, San Fernando. At both places special attention will be paid to the cordon or espalier system. Some of this work was started by Prof. Bioletti last year, so that visitors will be able to see the results of one year's training under this system. On the 19th a pruning demonstration will be held in the Antelope Valley.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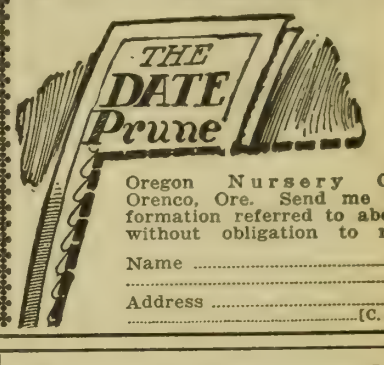


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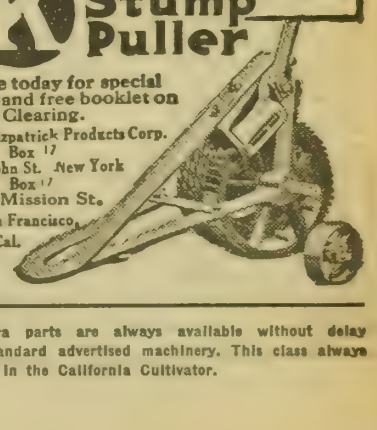

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# Household Department

### A CHRISTMAS CAROL

There's a song in the Air!
There's a star in the sky!
There's a mother's deep prayer
And a baby's low cry!
And the star rains its fire while the Beautiful sing,
For the manger of Bethlehem cradles a king.

There's a tumult of joy
O'er the wonderful birth,
For the Virgin's sweet boy
Is the Lord of the Earth.
Ay! the star rains its fire and the Beautiful sing,
For the manger of Bethlehem cradles a king.

In the light of that star
Lie the ages impearled;
And that song from afar
Has swept over the world.
Every hearth is aflame, and the Beautiful sing,
In the homes of the nations, that Jesus is King.

We rejoice in the light,
And we echo the song
That comes down thru the night
From the heavenly throng.
Ay! we shout to the lovely evangel they bring,
And we greet in His Crade our Savior and King.

—J. G. Holland.

### THE GIFT

A mother was watching on Christmas night
Rocking her babe by the candle light,
And she lifted her eyes in the gath'ring gloom
For the Christ stood in her lowly room.

"What shall I give to thy child," he said—
Softly caressing the sleeping head
"Nay, said the mother, "O Angel guest,
Give her whatever thou deemest best."

"What shall I give her, O mother mild?
Ask what thou wilt for thy little child.
Shall I kiss her brow that her eyes may shine
With a beauty that men will call divine?"

"Shall I touch her lips that they may flow
With songs the sweetest the world may know?"
"Nay," said the mother, "that will not stay;
Songs are forgotten and hair turns gray."

"But what shall I give her?" he said
"Ask, and thou shalt not ask in vain."
And the mother lifted her eyes above,
"Give her purity, truth, and love."

And the Christ-child turned to her soft and mild
"Thou hast chosen the best for thy little child,
Be not afraid, tho' life be sore
I shall be with her forever more."

### SILENT NIGHT

Silent night, holy night,
All is calm, all is bright;
Round Thy children, Father on high.
Beams the light of Thy starry sky,
Sleep in heavenly peace.
Sleep in heavenly peace.

Silent night, holy night,
Shepherds pray at the sight,
Glories stream from heaven afar,
Golden beams from the eastern star;
Clomes the glorious morn,
Comes the glorious morn.

Silent night, holy night,
God on high, love's pure light
Radiant beams from Thy holy face,
With the dawn of redeeming grace,
Peace and heavenly love,
Peace and heavenly love.—Joseph Mohr.

### THE CHRISTMAS TREE

The trees were whispering soft and low
Together in the night:
"My fruit," observed the apple tree,
"Gives all the world delight."
"I feed the little squirrels," said
The hickory with pride;
"And I," the maple boasted, "shade
For man and beast provide."
"My boughs," proclaimed the fir, "are green
Through all the winter snow."
"I cradle," cried the ancient oak,
"The treasured mistletoe."
"Most blest am I of forest folk,
The children worship me,
Great is my glory," sang the pine,
"I am the Christmas tree."

"There is nothing that people will thank us more for at Christmas-time than a little pains taken to understand them and a little sympathy with what they are. If we give, let us give to them, and not to ourselves through them. For whether we give or not, it is sympathy, the capacity to see others as they see themselves, and do or feel for them what they want done or felt —that makes A Merry Christmas."

### THE EMPTY HOUSE

By Eveline Nutter in Successful Farming

IT was next to the lonesomest day in the year. Other homes were gay with Christmas greenery and the music of children's laughter. But this was no home, only an empty, empty house, where even the servants seemed to tread softly on the heavy rugs, for fear the sound of their footsteps would echo through the emptiness.

Dr. McLean himself felt the loneliness of it, as the trim maid led him to Mrs. Lanier's room, and the memory of the rogueish little girl who in the old days had filled the house to overflowing with love and happiness, caused him to sigh wearily. But there was not a sign of this momentary sadness in his voice as he closed the door behind him and held out his hand to the slender, dull-eyed woman sitting rigid and tense on the edge of a chair drawn up close to the open fire.

"Well, well, Margaret, how are you?" he inquired.

She disregarded the genial pleasantry of his greeting with a nervous shrug of her shoulders.

"I want some more powders, Dr. McLean. You'll have to give me morphine, or something—someway you'll have to help me through tomorrow.

"Is it that bad, Margaret?" he asked her gently.

"If I were just dying," she told him bitterly, "I wouldn't care—I'd be glad, I think. But—it's my mind." Her voice grew husky. "All the time I see little Alice, the way she looked, you know, all crushed." She shivered and drew her chair closer to the fire. "I can't sleep! I can't stop thinking, can I? I'm about half insane now."

Dr. McLean laughed. It was a nice, comfortable, reassuring laugh, the way one laughs at the groundless fear of a small child. But it did not deceive Margaret Lanier. Oh, no. She had heard him laugh that way before.

"Please," she begged, standing up and looking at him beseechingly, "you know it's true! Can't you do anything to save me?"

He looked at her again, at the dark shadows under her lusterless eyes, at her slim, restless hands. He wasn't laughing now. His shaggy gray brows were drawn down over his keen, narrowed eyes.

"I can't do anything," he growled, "because you are too pigheaded to take your medicine!"

Mrs. Lanier gasped. "You mean—?"

"Listen to me, Margaret Lanier, will you?" he boomed on, stamping around the room. "You are a spoiled baby. Until last summer you had everything you wanted, always. Health and money and friends—" Suddenly his voice softened. "And then the loveliest child I ever saw."

"And now," she moaned, burying her gray face in her hands, "and now I—have—"

"Your daughter is dead," Dr. McLean hastened on sternly, "your grief is natural enough. But you are so selfish, so insanely selfish, that you have not thought of your husband—I'm mighty sorry for Tom—you haven't thought of anyone but yourself. Look here girl! If you could see what I see every day—people, little children, suffering, starving, freezing to death. Bah! What do you know about life?"

He stopped and shook his fist almost in her face.

"You think I ought to give you morphine, do you? You warm, cozy petted, silly—little poodle dog!" he exploded.

Then at last the red flamed into her cheeks, and she sprang to her feet, with her eyes blazing, and faced him. She was very angry.

"How dare you talk that way!" she cried.

Dr. McLean only grunted, but a close observer might have mistaken it for a sigh of relief.

"I'll talk any way I want to," he snarled. "No, of course I haven't given you up. I'll stop in again some time this evening and for heaven's sake, woman, have your hair combed by that time!"

An hour later Margaret Lanier stood looking out into the softly falling snow. Her slim body, under the trailing folds of silk, was tense. One white hand was clenched so that the nails bit into the soft palm. Somewhere a clock chimed, and before it stopped, she heard old Dr. McLean's voice in the hall below, boisterous, rollicking, and following close upon it, mingled with it—children's laughter. It was unbelievable. No child was there, of course. Tom, the servants, no one would permit such a thing. For ever since little Alice had died, the sight of a child made her shiver. Had her last shred of reason gone? She went deathly cold. Then the sound came again,


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and her heart began to beat once more. She turned and ran to the stairway. On the landing she paused, staring with wide incredulous eyes at the scene below.

Tom Lanier, his fair face quite red with excitement, was expostulating with Dr. McLean, who was obviously ignoring him, his whole attention being given to the task of divesting two rosy, squirming little boys of tiny overcoats and mittens.

"I tell you, Tom Lanier," the Doctor roared, straightening up and shaking his fist under the young man's nose, "I tell you these children shall stay here until Thursday, and Alice has got to brace up—"

Then it was true. She was sane enough. She caught her breath with a moan and both men looked up to where she stood, leaning against the bannister.

In three strides her husband had reached her.

"Margaret dear," he tried to explain, taking both her cold hands in his, "Dr. McLean had hoped—but if you feel this way about it—I knew it was the wrong idea. I'll take them straight back to the orphanage myself."

"Silence, young man! You'll do no such a thing," stormed the old doctor, looking very ferocious.

Again he gave his attention to the children, who were looking around with eager, wistful eyes, not at all alarmed by his angry voice.

"Good night, David," he said cheerfully, to the older boy. "I hope you'll have a Merry Christmas."

Then he picked up the other, a plump, round-eyed baby, and tossed him high into the air.

He turned gravely to the man and woman on the stairway.

"Tom," he said, "I told Margaret plainly this afternoon that her chance of sanity lies in facing things as they are. Good night!"

Margaret gently drew her hands away from her husband.

"He means it kindly, I suppose," she sighed in a lifeless way.

"But does he think these little boys can take Alice's place? Tonight, of all nights—Christmas Eve—Oh, he is so foolish! So cruel!"

(Continued Next Week)

### A CHRISTMAS CAROL

God rest ye merry gentlemen; let nothing you dismay,
For Jesus Christ our Savior was born on Christmas Day.
The dawn rose red o'er Bethlehem, the stars shone thro' the gray
When Jesus Christ our Savior was born on Christmas Day.

God rest ye, little children; let nothing you affright
For Jesus Christ your Savior was born this happy night;
Along the hills of Galilee the white flocks sleeping lay
When Christ the Child of Nazareth was born on Christmas Day.

God rest you, all good Christians; upon this blessed morn
The Lord of all good Christians was of a woman born;
Now all your sorrows He doth heal, your sins He takes away;
For Jesus Christ our Savior was born on Christmas Day.

—Dinah Maria Mulock (1862).

## CRANBERRIES FOR THE HOLIDAYS

By Ramona Cordero

THE holidays are with us again, and it means we must think and plan for the holiday dinners. Cranberries can be used in many different ways. They are very successfully canned, which brings them on our table most any time of the year. Spiced cranberry jelly for instance served on slices of orange, arranged on lettuce leaves and garnished with cranberry cherries.

### Cranberry Cherries

Select large perfect berries. Pierce each berry with a large needle, make a thick syrup, using twice as much sugar as water, and boiling till it spins a thread. Remove the syrup from the fire and drop the berries into it slowly. Stir the syrup gently until each berry is covered. Do not add the berries so rapidly that the syrup begins to bubble, and do not add any more berries than the syrup can cover. Place the berries over the heat and bring to boiling point. Take off fire at once and set aside to cool. Repeat this process twice more, then remove the cooled berries from the syrup and drain on oiled paper.

### Candied Cranberries

Two cups large berries, 2 cups sugar, 2/3 cup water. Wash and dry the berries, pierce each one with a large darning needle, then spread the berries in single layer on large baking pan. Boil the water and sugar slowly for 5 minutes. Pour the syrup over the berries and place in a very moderate oven until transparent. Dust with pulverized sugar.

### Cranberry Sauce

One pint cranberries, 1 cup boiling water, 1 cup sugar. Cook the cranberries in the water until the skins are broken, press through a colander, add sugar, return to fire and let simmer for 5 minutes. Serve when cold. It can also be canned by placing in clear hot jars.

### Spiced Cranberries

One pint cranberries, ½ cup water, 1 cup sugar, 5 cloves, 1 allspice, 1 stick cinnamon 1½ inches long. Wash the berries, add the water and spice tied in a piece of cheese cloth. Cook till tender. Remove the spice bag, press the berries through a colander, add the sugar, and cook 10 minutes. Place in jelly glasses and when cold pour hot paraffin over top.

### Cranberry Ice

Four cups cranberries, two cups water, 2½ cups sugar, ½ cup lemon juice. Pick over and wash berries, add the water and cook till soft, press through a colander, add the sugar and lemon juice. Stir well together, and freeze.

### Cranberry Salad

One tablespoon Jell-O softened in 4 tablespoons cold water, 1½ cups thin cranberry pulp, ½ cup sugar, 1 cup thin sliced celery, ¼ cup chopped walnuts. Combine Jell-O, sugar and cranberry pulp, bring to boiling point. Set aside to cool. When mixture begins to harden, add celery and chopped nuts. Serve with sour cream dressing.

Sour Cream Dressing—One-half cup thick sour cream, 1½ tablespoons vinegar, 1 tablespoon sugar, a good dash of salt, paprika and mustard. Whip cream with Dover egg beater, add the vinegar and the dry ingredients slowly. Beat till thick and smooth.

### Cranberry Pudding

Two cups berries, 1 cup seeded raisins, 1 cup chopped suet, 1 cup bread crumbs, ½ cup sugar, 1 cup flour, 1 teaspoon salt, ½ teaspoon cinnamon, ½ teaspoon cloves. Select large berries, wash and cut in halves, mix all ingredients together and add just enough water to make a very stiff mixture. Stir well and place in tight can and boil in hot water for 3½ hours. Serve with plain vanilla sauce.

"A Bible entry: 'Born, a girl,'
A knitted shoe, a golden curl,
A woolly lamb, gay colored blocks,
Some wee worn garments in a box,
Some dog-eared books, a pair of skates,
Old photographs of all her mates,
Boarding school letters full of jokes,
And 'love to all the dear home-folks,'
A glove, a program from a dance,
A rose pressed in an old romance,
A rain of rice along the hall—
Tears on my cheeks and that is all!"


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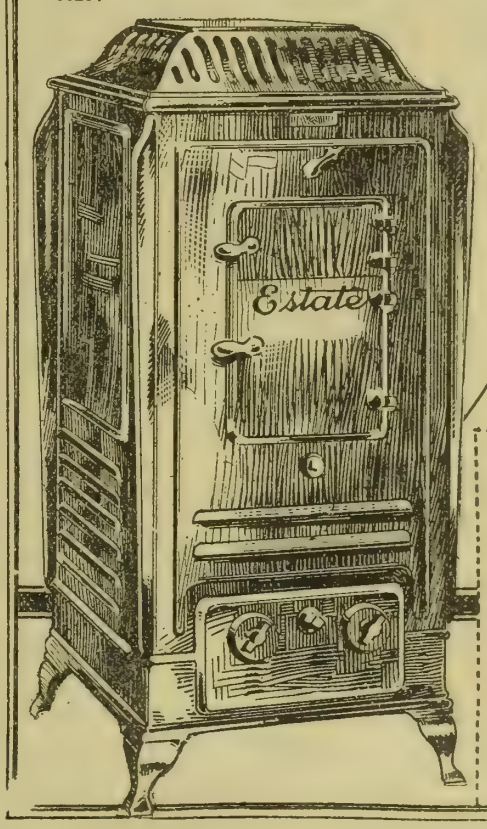


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**4188. Girls' Dress**—Cut in 4 Sizes: 4, 6, 8 and 10 years. A 6 year size requires 3 yards of 32 inch material. Price 10 cents.

**4180. Ladies' Apron Dress**—Cut in 4 Sizes: Small, 34-36; Medium, 38-40; Large, 42-44 Extra Large, 46-48 inches bust measure. A Medium size requires 4⅝ yards of 32 inch material. The width of the skirt at the foot is 2¼ yards. Price 10 cents.

**3438. Two Dainty Aprons**—Cut in 1 Size: Medium, No. 1 will require ⅞ yard of 36 inch material; and No. 2 will require 1¼ yards. Price 10 cents.

**4172-4174. A Stylish Street Costume.**—Coat 4172 cut in 7 Sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It will require 3½ yards of 44 inch material, for a 38 inch size. Skirt 4174 cut in 7 Sizes: 25, 27, 29, 31, 33, 35 and 37 inches waist measure. The width at the foot is 2⅝ yards. To make this style for a 31 inch size will require 3⅜ yards of 44 inch material. Two separate patterns 10 cents for each pattern.

**3841. Girls' Dress**—Cut in 4 Sizes: 6, 8, 10 and 12 years. A 10 year size will require 2¼ yards of 27 inch material for the guimpe and 3¼ yards for the dress. Price 10 cents.

**4183. Ladies' Bloomers.**—Cut in 4 Sizes: Small, 27-29; Medium, 31-33; Large, 35-37; and Extra Large, 39-41 inches waist measure. A Medium size requires 1⅞ yard of 36 inch material. Price 10 cents.

**3770. A Dainty Boudoir Set**—Cut in 3 Sizes: Small, Medium and Large. The Cap No. 1 will require ¾ yard of 27 inch material. No. 2 will require ⅝ yard. One Pair off Slippers will require ⅜ yard for a Medium size. Price 10 cents.

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PATTERN DEPARTMENT
California Cultivator Los Angeles

## HOUSEHOLD QUERIES

### Potatoes au Gratin

Kindly print recipe for potatoes au gratin.—Subscriber, San Diego.

Cut cold boiled potatoes into dice, season with salt and pepper and place a layer in baking dish. Sprinkle with fine crumbs and one tablespoon finely minced onion, 2 tablespoons finely minced parsley. Add a second layer of the diced potato and season, then pour over 2 cups white sauce. Sprinkle with fine crumbs and a little grated cheese and bake in moderate oven 25 minutes.

The white sauce is made by melting in saucepan over slow fire 2 tablespoons butter, adding 2 tablespoons flour, mixing to smooth paste, adding gradually 1 cup milk or mixed milk and water. Cook, stirring constantly until mixture thickens. Boil a few minutes to thoroughly cook the starch, taking care that it does not scorch. Add more milk or water if thinner sauce is desired.

### Uncooked Candies

Will you please print in the Cultivator recipe for cold candies? I wish some uncooked candies for Christmas and I am sure I will find help in the Cultivator.—Subscriber, Porterville.

Uncooked Fondant—Beat the white of one egg and add to it one teaspoon of cream. Roll and sift one pound of powdered sugar, and stir into the egg and cream mixture to make a stiff cake; a trifle more may be necessary for molded shapes. Divide the cake into several pieces, and add to one a little melted chocolate and vanilla to flavor. To another part add a few drops of fruit juice and flavor with rose Color another part with a bit of yellow vegetable coloring paste, and flavor with lemon. Mints are made by using green color paste and a drop or more of oil of mint. This simple recipe will furnish employment of a pleasant sort for a tableful of children. When the candy is molded, lay it on greased paper, cover with another paper and put in a cool place.

Candy Loaf—Into a square tin that has been dipped in cold water pack a layer of white fondant and press it down firmly and evenly. On top of the layer of white place a layer of pink; press into place; on top of the pink layer place another of chocolate or yellow. When ready to unmold and cut sift confectioner's sugar over the top and sprinkle it over the hands; then run a sharp knife around the edge of the tin to loosen it and turn out on a board dusted with sugar.

Plum Pudding Bars—Chop very fine two ounces each of candied orange peel, currants, Sultana raisins and dates. Beat the white of an egg slightly, add a tablespoon of water, and mix all together until smooth, add enough confectioner's sugar to form a stiff paste. Mold into a loaf, and brush over with melted chocolate. Let the mixture dry for at least two hours. When dry turn the sweet over on a greased paper, and brush the other side with chocolate. When set, cut up into neat bars with a knife.

Nut Creams—Shape a stiff paste or fondant into small balls between the fingers and press between halved walnuts. Dates or small pieces of fig or candied cherries may be used in the same way.

Chocolate Creams—Form firm balls of good stiff fondant between the fingers, place on a greased paper and set away to dry. Melt confectioner's chocolate over hot water and dip the balls in.

Orange Strips—Chop crystallized orange peel into small pieces. Mix with fondant. Cut into long strips, wrap in yellow paper or tie with orange colored baby ribbon. Chopped figs, dates, nuts and coconut may be substituted.

Fruit Paste—Put one cup raisins, one cup stoned dates, one cup figs, and two cups mixed nuts through the food chopper twice. Mix with enough confectioners' sugar to make a dough sufficiently firm to roll on a board sprinkled with confectioners' sugar. Knead as you would bread. Then roll out one-half inch thick and cut into squares. Dust with the sugar and lay away in tin boxes lined with waxed paper.

Date Dainties—Stone dates, stuff with tiny rolls of peanut butter, walnut meats, pecan halves, bits of candied ginger, pineapple or cherries, roasted almonds or fondant flavored with lemon juice. Then roll in pulverized or granulated sugar.

Note directions in last week for making California Christmas Loaf.

### Raisin-Nut-Jels

If it would not be too much trouble would you kindly send me the recipe for raisin-nut-jels which you published in your list of candies for Christmas last year.—Subscriber, Bakersfield.

Soften two tablespoons gelatin in half cup of cold water and add juice of one lemon, juice and grated rind of one orange. Heat one cup sugar in half cup water, and when it boils add the gelatin and juices. Boil ten minutes, add cup raisins or ground dried fruit and boil ten minutes more, stirring. Take from the fire and add one cup nut meats and pour into a shallow greased pan; square, if you have a square pan. Stand over night, cut in squares and roll in powdered sugar.

### Chicken Mincemeat

Please give me through the Cultivator recipe for mincemeat where chicken is used instead of beef.—Subscriber, Selma.

Half cup suet, half cup grated carrot, 6 cups apples chopped fine, 2 cups seeded raisins chopped, half cup cooked chicken chopped, half cup citron chopped fine, half cup orange peel chopped fine, 2 tablespoons cinnamon, half tablespoon nutmeg, 1½ cups molasses, 1 cup boiled cider. Mix in order given; pack in bowl or crock, cover closely and set in cold place until used.

### Fruit Cakes

Please publish recipe for fruit cakes as were published last year in the Cultivator, as we lost our last year's Cultivators in moving and would like to have the recipe.—Subscriber, Santa Cruz.

Old English Plum Cake—Three-quarters of pound of sifted flour, one teaspoon salt, one teaspoon each of nutmeg, cinnamon and mace, three-quarters pound butter, three-quarters pound sugar, eight or nine eggs, two and a half pounds raisins, three-quarters pound citron, half pound shelled almonds, half pound Brazil nuts, three-quarters cup apple cider, half cup dark molasses. Pass flour, salt and spices together through a sifter, then rub the butter thoroughly into them. Place the sugar (dark brown) in another bowl, add yolks of eggs and beat until thick. Add this to the flour and butter and again mix well. Then put in the raisins, add the almonds blanched and cut and the nuts chopped. When all are well blended mix in the molasses and the cider and lastly fold in the well beaten whites of eggs. Line cake tins with greased paper, pour in cake batter and bake in a very slow oven. If it is all in one cake, bake four hours. If possible make cake some weeks before using, so as to give it time to ripen before cutting. This is an excellent recipe.—Mrs. C. R. Valentine, Triumfo.

Dried Apple Fruit Cake

Soak three cups of dried apples over night in cold water enough to swell them; chop them in the morning and put them on the fire with three cups of molasses; stew until almost soft; add a cup of seeded raisins and stew a few minutes; when cold add three cups of flour; one cup butter, three eggs and one teaspoon of soda. Bake in a steady oven. Raisins may be omitted; also spices may be added to taste. This is not an expensive but a delicious cake.—Mrs. Ben H. Norton, Artesia.

Fruit Cake

One pound butter, one pound sugar, one cup molasses, one cup coffee (one tablespoon coffee to a cup of water), seven eggs, six teacups flour, two pound currants, half pound raisins, half pound citron, one nutmeg, one teaspoon cloves, one teaspoon cinnamon. Beat butter and sugar to a cream. Add yolks of eggs, spice, coffee and molasses, beating well, then add beaten whites of eggs and fruit. When eggs and butter are high priced we substitute for butter cooking oil (two cups for seven eggs) and two eggs, adding one cup corn starch and one glass jelly. Be sure to have batter as stiff as can be stirred with spoon. Best when steamed or baked in fireless cooker, but may be baked in oven.—Margaret Cuddebach, Sanger.

Aunt Hannah's Fruit Cake

Six eggs, two cups light brown sugar, one cup molasses (preferably sorghum) one and a half cups butter, one cup sour milk, five cups flour, two level teaspoons soda, one and a half pounds raisins, one and a half pounds currants, three-quarters of a pound of citron or candied orange peel, half tablespoon cloves, half tablespoon cinnamon, half tablespoon allspice, one nutmeg. Currants and raisins must be washed thoroughly and dried then floured before being added to the cake. Steam three hours, then dry half hour in moderate oven.—Mrs. H. L. Summers, Bozeman, Montana.

Good Fruit Cake

Eight ounces seedless raisins, eight ounces currants, eight ounces sugar, four ounces candied peel, eight ounces butter, 16 ounces flour, one teaspoon baking powder, half teaspoon salt, one cup milk, two tablespoons corn syrup, four eggs, nutmeg to taste. Cream butter and sugar, add fruit. Stir well, add flour, baking powder and salt sifted together alternately with eggs, breaking one egg at a time into the cake. When it becomes too stiff to stir add milk. Bake in moderate oven. —Mrs. Charles Smyth, Hemet.

Fruit Cake

Two cups sugar, five eggs, beaten separately. half cup butter, one cup sour cream, one level teaspoon soda, one level teaspoon baking powder, half pound seeded raisins, half pound currants, quarter pound citron, one teaspoon ground cloves, one teaspoon ground cinnamon, one teaspoon ground nutmeg, three level cups flour. Cream butter and sugar together. Beat eggs separately, add yolks. Dissolve soda in a little water, add to the sour cream. Sift flour with baking powder. Add fruit and spices. Dredge the fruit with flour to prevent settling to bottom of cake. Beat well. Add the flour and lastly the whites, beaten well. Line a tube cake tin with well greased paper. Bake in a slow oven one hour. Cover when cold with boiled icing.

This cake took the first premium for years at a Kansas county fair and always found ready sale when the fair was over.—Mrs. A. H. Stewart, Visalia.

Christmas Fruit Cake

So often one hears the objection that fruit cakes are not only expensive, but rich and indigestible. The following recipe makes an excellent cake which is neither costly nor too rich. Sometimes in place of currants I use chopped dried figs. One cup butter, one cup brown sugar, half pint cooking molasses, two eggs, one cup sour milk, one teaspoon soda, one pound flour, one pound dried currants, one and a half pound raisins, a little citron.—Mrs. Floy Crosby Smith, Fairoaks.

Eggless Fruit Cake

This is a good recipe for eggless fruit cake. We like it better than the other kind and it doesn't cost so much. One cup sugar, one teaspoon lemon, half teaspoon cloves, one teaspoon nutmeg, butter the size of an egg, one cup of flour to make dough as for cake, half cup raisins, half cup currants, half cup nuts, one-third cup citron (or any kind of peel), one cup of sour milk in which you put one and one-third teaspoons of soda. Then stir in cake. Bake in round cake pan until well done.—Mrs. Peter Esordi, Glenburn.

### Glazed Oranges

Can you please publish in the household queries directions for glazing oranges, that is coating the whole sections with candy?—Subscriber, Covina.

Peel oranges and divide into sections, carefully removing every bit of white inner rind but leaving the thin membrane enclosing sections unbroken. Dissolve 1 pound sugar and 3 drops lemon juice over slow fire, cooking until slightly straw colored. Put on back of stove or slightly warm place and with fork dip each section separately, turning till evenly coated. Place on waxed paper in cold place to harden. Nuts or grapes may be coated in same manner.

## FRUIT GROWERS AND FARMERS GATHER IN 55th CONVENTION

(Continued from Page 659)

the public and lead to acts of violence. We strongly recommend legislative or other actions that can and will prevent strikes affecting the transportation facilities of the United States. It is also the sense of this convention that regional labor boards should be appointed by the administration or congress to take up and pass upon any question of wage or other disputes between executives of railroads and their employes and that their decision should be final and accepted by both parties.

Resolved: (a) That this convention opposes on principle the horizontal method of increasing freight and express rates.

(b) It believes that the remainder of the last 33 1/3 per cent advance in freight rates and the 26 per cent advance in express rates on interstate shipments of fruits and vegetables should immediately be eliminated.

Resolved: In view of proposals made to this convention having in prospect the inauguration of supplemental waterway service for the transportation of our agricultural products to the consuming centers of Atlantic seaboard, and believing that the installation of such service would in large measure relieve the difficulties heretofore experienced and likely to occur in the future in rail transportation, due to greatly increasing tonnage which calls for movement, we commend to the growing and shipping interests of the western coast states support and encouragement to the realization of a permanent efficient waterway service to meet existing and future demands of western farmers.

The following is a list of delegates, members of the committee, who drafted the above resolutions: Thos. O'Neil, president, California Vegetable Union. C. O. Cornwell, Traffic Manager California Fruit Distributors. M. E. McKirahan, Traffic Manager, California Fruit Distributors. H. E. Cole, Traffic Manager, California Fruit Exchange. Frank R. Spinning, Department of Public Works, Olympia, Washington. W. E. Miller, Traffic Manager, North American Fruit Company, Wenatchee, Washington. J. M. Wade, Wells & Wade Fruit Co. (Shippers) Wenatchee, Washington. O. B. Shay, Fruit Growers, Wenatchee, Washington. W. J. Urquhart, Manager Yakima Valley Traffic & Credit Association, Yakima, Washington. H. O. Berger, Department of Public Works, Olympia, Washington. George E. Erb, President Public Utility Commission, Boise, Idaho. A. V. Kipp, Representative Chamber of Commerce & Commercial Club, Salt Lake City, Utah. J. N. Burns, Northwest Canners Association, Portland, Oregon. A. W. Stone, General Manager Apple Growers Association, Hood River, Oregon. Representative of Hood River Traffic Association.

* * *

The best expression of the work of the three days is given in the resolutions which follow. These are almost every one given in full exactly as passed.

### RESOLUTIONS

**Water Transportation**

Whereas, the California fruit and agricultural industries face large increases in production and possess possibilities of tremendous expansion providing adequate transportation facilities are available to transport our products to world wide markets; and

Whereas, great benefits have been derived from increased water transportation facilities and low rates to East Coast and foreign ports; and,

Whereas, if there are to be increases in shipping facilities and maintenance of low rates for water transportation, American shipping must be encouraged and supported by governmental interest and action; and,

Whereas, the president of the United States has recommended such governmental action and support and urged the congress of the United States to pass legislation to such effect, which legislation is now before the United States senate:

Now Therefore, Be it Resolved that the 55th convention of Farmers and Fruit Growers heartily endorses such legislation in support of American shipping interests and commends it to our senators, the Honorable Hiram Johnson and the Honorable Samuel M. Shortridge, and urges them to actively support and vote for the adoption of the pending legislation on this subject.

**New Quarantine Regulations**

Whereas: the growing of fruits and vegetables is California's greatest industry and an industry of very great proportions in other states, and

Whereas: improvements in ocean transportation with particular reference to movement under refrigeration have made possible shipments of fresh fruits and vegetables for distances that were unthought of when present quarantine regulations were enacted, and

Whereas, we are convinced that under present quarantine regulations the Mediterranean and other fruit flies might gain entry into the United States; now therefore be it

Resolved: That the fruit growers and farmers of California assembled on the occasion of the 55th Fruit Growers and Farmers Convention at Sacramento, December 14, 1922, do most earnestly urge the federal horticultural board to enact new quarantine regulations that will prevent shipment into the United States of any host fruits of the Mediterranean or other fruit flies and that will also protect the fruit growers and farmers of the nation against all other destructive pests.

**Congressional Aid to Keep Out Fruit Fly**

Whereas, it is the unqualified opinion of the members of this convention that the Mediterranean fruit fly and other species of fruit flies present a grave menace to the fruit industry of California; and

Whereas, Secretary of Agriculture Wallace has issued a notice of public hearing to be held in Washington, D. C., on December 19, to consider the advisability of restricting or prohibiting the entry of all fruits and vegetables from all foreign countries on account of fruit flies; and

Whereas, this public hearing is of the utmost importance to California, and California must be forcefully represented at the hearing to conserve the interests of this state;

Now, Therefore, Be it Resolved that it is the sense of this convention that the United States senators and members of congress from California can render no greater service to California than by being present at the hearing to urge the extension of the fruit fly quarantine to exclude all host fruits of all species of fruit flies from all countries where fruit flies exist.

Be it Further Resolved, that this resolution be sent to all United States senators and members of congress with the urgent request that they be present at the hearing to support California's interests.

**Frozen Oranges**

Whereas: Great harm has come in the past to our citrus industry and to our state, and is likely to come again by the shipment into the markets of citrus fruits injured by frost, and

Whereas: a portion of the state regulations providing for the exclusion from such markets of such frosted fruit have been declared by the courts invalid, now therefore be it

Resolved: that this convention approves the purpose embodied in such void regulations and recommends the enactment at the approaching session of our state legislature of appropriate legislation to secure such exclusion.

**Efficiency of State Department**

Whereas: our present state department of agriculture has been developed so effectively and accomplished such splendid results far in advance of anything done heretofore in this direction, under the leadership of Director G. H. Hecks, now therefore be it

Resolved: that this 55th State Fruit Growers and Farmers Convention expresses its satisfaction and approval of the accomplishments and his administration of this important department.

**In Memoriam**

Your resolution committee suggests that the director of agriculture appoint a committee to draw up resolutions in relation to deaths of G. Harold Powell, Col. Harris Weinstock and Dr. J. C. Whitten.

**Thank Chamber of Commerce**

We wish to express our appreciation of the efforts of the chamber of commerce towards making the convention a success. Never has a city been more openly hospitable and free with the resources at its command than has Sacramento during this week; and be it further

Resolved that we express our appreciation of the work and interest of the individual members of the various organizations which have aided in this work; especially do we thank Senator C. B. Bills whose untiring efforts have helped to make this 55th State Fruit Growers and Farmers Convention one of the most successful in the history of state conventions.

### CONVENTION NOTES

Secretary Dudley and Senator Bills proved royal hosts and were at every point where service could be rendered.

President Sheehan of the Grape Growers is enthusiastic on water transportation. Possibly his enthusism comes because of the fact that he has tried it and failed to the extent of a loss of over $2,000. But he still insists that the lessons of the failure convince him that water transportation will yet lift the load from the railways until refrigerator cars available will be sufficient to move California's fruits.

It was announced during the convention that steps are being taken to organize a company which shall be capitalized and made strong enough to put forth persistent effort to equip ships with modern refrigeration for handling California products. This company will not only take up consideration of transportation matters but terminals and the working out of other details for the eastern end.

George Ashley of Lodi made statements showing rank discrimination against Tokay shippers. Where some sections were given more cars than they had last year Lodi fell short something more than 40 per cent of last year's allotments. He insisted that "Troubles are not all because of the action of eastern terminal lines."

There was unanimity of belief by fruit producers attending the convention that some force strong enough to care for the products of the country must be raised or the permanent prosperity of the producing sections of California will be jeopardized.

Wilmer Sieg, manager California Fruit Distributors, suggested that much of the transportation troubles is due to dilatory and inefficient service. Cars loaded with California fruits required 21 days for delivery where half that should have been sufficient. This caused loss because of deterioration of the fruit and greater loss because of the car being held out of commission when it should have been in active service.

The railroad men present insisted that the other fellow was to blame, and this caused a tart retort from a Seattle delegate who insisted that railway officials are always passing the buck to the other fellow, not one ever being willing to take responsibility for failure.

President Sproul of the Southern Pacific was not present but Vice-president McCormick made eloquent defense of the railways.

As a rule the shippers gave credit to the Southern Pacific for giving the best service possible and admitted that the greater part of the trouble was due to indifference of eastern lines in refusing to move out empties, even worse, of confiscating western cars and in pressing into use on eastern roads.

Interstate Commerce Commissioner Campbell begged attendants at the convention to consider the transportation question as a national issue. "It concerns every shipper, whether in Maine, Florida, California or Michigan, and you must not try to secure relief by making it a local or coast issue."

J. A. Gilkey of Corvallis, Oregon, was present and said that he was the packer of one of the first full cars of fruit sent from California. This was in 1872, the car going by express at a cost of $1200. It was shown afterwards, however, that there were several hundred cars shipped out of California before that date, some 600 having been forwarded in 1869.

### COUNTY HORTICULTURAL COMMISSIONERS

The state association of county horticultural commissioners held its annual meeting during convention week at Sacramento. The work of the week was partly given up to the study of efficiency and discussion of the problems of more effective law enforcement. Amongst other addresses before the commissioners was one by J. A. Story, public service commissioner of Queensland, Australia. Mr. Story is in the United States studying fruit growing problems and investigating as to quarantine regulations.

Officers elected for the coming year are: President, Fred P. Roullard, Fresno County; vice-president, John P. Coy, San Bernardino County; secretary-treasurer, A. H. Call, Ventura County.

### BARLEY CARRY-OVER LIGHT

According to the figures compiled by the California Farm Bureau Exchange, the carry-over of the 1922 barley crop will probably not exceed 35,000 tons. Considering that there were 100,000 tons carried over last year, this looks fairly good for the grain men. Another very encouraging feature is increased consumption of barley as feed for livestock. This would tend to indicate a very wholesome condition of the barley market.

Riverside district's pre-holiday shipments of Navels have averaged nine cars a day.

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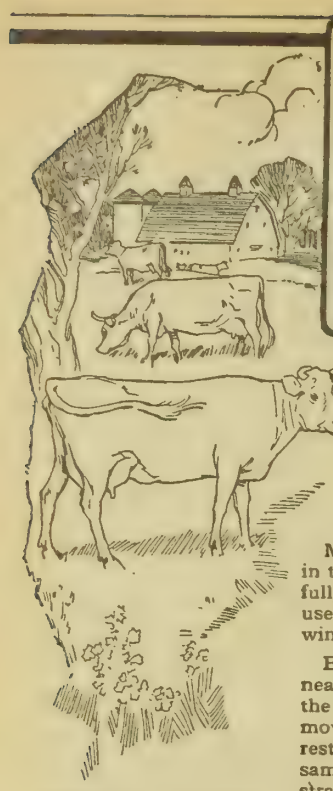

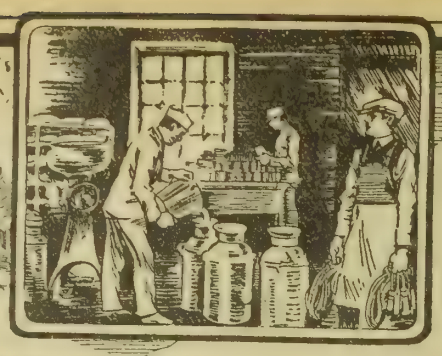

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Maybe you have been a regular user of Kow-Kare in treating cow diseases, but you may have never fully realized that this famous cow medicine is being used regularly in thousands of dairies to increase the winter milk yield.

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# Livestock News Notes

At a recent meeting of the board of directors of the California Holstein-Friesian Association plans were completed for holding the 1923 Guaranty Sale in Tulare the first week in April. This will be the sixth annual Guaranty Sale held by the Association, which has come to be one of the big annual events in the livestock circles of the Pacific Coast. This season the association officers are planning to make the event of special interest to breeders by offerings of high class Holsteins far above any other Pacific Coast sale. The selection committee will go into the best herds of the state and select animals with the richest pedigrees, great production records and highest breed conformation. It is not expected that this year's average price will reach that of past Guaranty Sales, but the breeder who is after foundation blood lines will have a chance to select the best at this sale at reasonable prices. As on previous years this sale will be under the management of Secretary Chas. L. Hughes and a committee of the association and conducted by the California Breeders Sales and Pedigree Company with Col. Ben. A. Rhoades on the block.

Prof. William M. Regan, in charge of the dairy production work of the University of California, met with the directors of the California Holstein-Friesian Association, at Modesto, December 4. Professor Regan is planning an active campaign in this department during the coming year and is getting in touch with the dairymen of the state with a view of finding their needs and how they may best be served by this department. The directors went on record as approving the campaign outlined by Professor Regan and passed a resolution not only indorsing it, but going farther and asking the state legislature to provide funds for at least one more dairy extension expert to work directly under the animal division of the college of fagriculture at Davis farm.

Ferdinand R. Bain, owner of La Lomita Rancho, Palms, has added 16 more top notch registered Jerseys to his already famous herd. The above mentioned string of good ones came from the Ogden Mills' Inkerkill Farm at Staatsburg-on-the-Hudson, one of the great Jersey herds of the world. Mr. Bain was fortunate in securing three daughters of Sybil Gamboge, the Jersey sire that sold last season for $65,000. The shipment also included a son of this famous sire.

Harry L. Millerd, a successful dairyman of Long Beach, purchased during November two registered Holstein-Friesian cows from Ralph Marr of Chino. Both of these cows are of excellent breeding and have made creditable records for Mr. Marr. Johanna Pontiac Idyl is a splendid cow sired by that good bull Sir Pontiac Konig Lyons and is out of the producing cow Netherland Johanna Idyl. The other cow, Gem Lyons Konig, is also an outstanding individual sired by the same bull and out of a record cow. Last summer Mr. Millerd purchased a young bull from the California Junior Republic herd. This bull is out of a 28 pound three year old and sired by the Republic's grand champion bull. Mr. Millerd expects to work his entire herd into purebred Holsteins and has a splendid start in the animals already purchased.

The directors of Calfoirnia Holstein-Friesian Association met at Modesto on December 4 and acted upon a number of important matters. Nine new members to the state association were admitted. Favorable action was taken upon a recommendation that the California college of agriculture employ an additional dairy extension specialist, and that all dairy extension men work under the direction of the division of animal husbandry, University Farm, Davis. April 4, 1923, was set as the date for the next annual guaranty sale, and Tulare designated as the place of sale. The board also went on record as favoring an active urge upon all Holstein breeders in California to put as many of their cows on semi-official test in Division B as possible in addition to those they regularly carry on semi-official in the regular classification. Division B is the classification which admits records made on two time a day milking, and it is felt these records will be valuable particularly in providing bulls out of tested dams for grade dairy herds.

A cow owned by Fred De Vries made 104.4 pounds fat in November and headed the list of the Southern L. A. County testing association. The high herd average was 50.9 pounds on the herd owned by P. T. Dykenel.

Two records recently completed by registered Holstein cows in the George Junior Republic herd at Chino call for much more credit than the bare records indicate. Juliana Darington of Rock, mature age, made 819.9 pounds butter from 19,948.9 pounds milk, and Queen Canary Lyons Segis, a senior three year old, made 649.98 pounds butter from 19,849.9 pounds milk, and records for 365 days. Both cows were milked and cared for by boys under 16 years of age as part of a high school project, thereby making a splendid educational contribution in addition to the substantial merit of their production.

Stella Burke Colantha, a first calf 3 year old daughter of El Prado Wayne Colantha, owned by H. G. Ball, Tulare, recently made 19.45 pounds butter from 419 pounds milk in seven days.

M. P. Christensen, Norwalk, has completed some excellent records in his small herd of high class Holsteins. Melba Hengerveld, possibly the best known 30 pound daughter of Arcady Pontiac Wayne Hengerveld, becomes a 30 pound repeater, by producing 30.41 pounds of butter from 601.7 pounds milk in 7 days at 11 years of age. Her granddaughter, Eldorado Veeman Segis, that is out of a daughter of Sir Veeman Korndyke Pontiac, and is herself sired by King Sadie Vale Idyl Segis, calving at 3 years 2 months, made 31.20 pounds butter from 527.8 pounds milk. Marken Louise, with a previous record of 35.50 pounds butter in 7 days, repeated with 34.20 pounds butter from 629.9 pounds milk.

Miss Alcarta Pontiac Segis, a second calf daughter of the famous King Segis Alcartra Prilly, at 3 years 6 months has made 29.52 pounds butter from 568.9 pounds milk in 7 days. This record was made three weeks after she completed a 365 day record of 723.9 pounds butter from 18,737.4 pounds milk, as a junior 2 year old, carrying calf 251 days of test. She is owned by Bridgford Holstein Co., Patterson.

Lady Veeman Happy Thought, a senior 3 year old daughter of Sir Veeman Korndyke Pontiac, owned by Earl Graham Compton, becomes the California state record senior 3 year old for both milk and butter production in the 305 day division with 828.34 pounds butter from 17,492.4 pounds milk. S. V. K. P. Melba of Sunnyside, another daughter of Sir Veeman Korndyke Pontiac and the 30 pound cow Melba Hengerveld, made 28.19 pounds butter from 563.8 milk in 7 days as a senior 4 year old. Miss Segis Pontiac Walker, a junior 3 year old daughter of King Pontiac Netherland Segis 3d, finished a 305 day test with 776.9 pounds butter from 17,573.8 pounds milk.

Mona's Eurybia owned by Winsor Ranch, Bonita, is the new champion senior 4 year old of the state. She started her test at 4 years 6 months of age and in one year her production totaled 10,262 pounds milk and 570.98 pounds butter fat. Five of the months on test her production exceeded 50 pounds of butterfat.

A new California state record holder has been developed at Santa Anita Rancho, Santa Anita, in Isabella Korndyke Pontiac Walker that has just finished a 305 day record of 852 pounds butter from 21,345.8 pounds milk, as a

senior 2 year old, her butter record being a state record in class and division. She proved a remarkably persistent producer, her best day's milk being 79 pounds and only once during the ten months did she fall below 60 pounds. Her half sister, Anoakia King Korndyke, made 24.43 pounds butter from 497 pounds milk in 7 days as a junior 4 year old. Both of these good heifers are sired by the noted King Korndyke Pontiac 20th, the $12,000 son of Miss Valley Mead De Kol Walker now owned by Sargent Bros., Tulare, and both heifers have just been sold to D. L. Wright & Son, Pasadena, as additional foundation material for the high class herd they are assembling. Other records recently completed at Santa Anita Rancho include Miss Riverside Walker Wase, a daughter of Prince Riverside Walker that made 797 pounds butter from 18,393 pounds milk in 365 days as a junior 3 year old. Burbank Mabel De Kol Niko, a senior 2 year old daughter of the 1,000 pound cow Mabel De Kol Niko 2nd, finished with 784 pounds butter from 17,642 pounds milk. Her dam is again on test and is quite certain to pass the 1,100 pound mark this year. A senior 2 year old daughter of Prince Walker Cornucopia, he a 36 pound son of Prince Gelsche Walker, is now in her ninth month and promises to exceed 1,000 pounds butter and 27,000 pounds milk.

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P. M. Longan, Tulare, has purchased one-third interest in the great young sire Sir Aaggie Mead, previously owned jointly by W. J. Higdon, Tulare, and F. S. Borror & Son, Tipton. This materially widens the opportunity he will have, as he will now see heavy service in three of California's choice herds.

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The foundation of Mr. Longan's herd was selected with great care, and official testing has just now commenced. Brinka Pontiac Hengerveld, a junior 4 year old, made 29.22 pounds butter from 538.6 pounds milk in 7 days, and 115.59 pounds butter from 2350.5 pounds milk in 30 days. California Juliana Bess, a six year old cow, made 27.3 pounds butter from 534.3 pounds milk in 7 days and 99.75 pounds butter from 2318.3 pounds milk in 30 days. She is a three-quarter sister to the noted three full sister "Agnes" heifers now making splendid yearly records at University Farm, Davis. Manteca Colantha Korndyke Walker, a junior 4 year old daughter of King of the Black & Whites, made 25.54 pounds butter from 547.4 pounds milk, right out of pastures, and has milked as high as 96.6 pounds. Hertinga Willis Pontiac a senior 2 year old daughter of King Korndyke Pontiac 20th and the 1,000 pound cow Hertinga Willis, made 19 pounds butter from 430.1 pounds milk in 7 days. Leah Abbekerk, a junior 2 year old daughter of Segis Pontiac Abbekerk, made 21. pounds butter from 452.9 pounds milk in 7 days. Four other 2 year olds made from 14.47 to over 17 pounds butter in 7 days and out of this lot of good producers Mr. Logan was fortunate enough to secure a splendid percentage of heifer calves sired by Sir Aaggie Mead.

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J. A. Brown of Capitola is having no trouble in disposing of his young Guernsey males as most of them are from A. R. dams and his herd has never had a reactor. P. L. N. Larsen of Petaluma recently bought a bull out of the cow, Imp. Nancy II of Les Merriennes who has a record of 672 pounds fat. John Rapp of San Francisco bought one out of Imp. Carmencita Vivandiere who has just finished test with 577 pounds fat in class AA.

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The initial sale of Poland China hogs held at the Gemmill Ranch near Chino under the auspices of the Southern California Poland China Breeders Association was very satisfactory. The price ranged from $50 to $100 on sows and from $25 up on gilts, the price being governed largely by whether they were bred or not. The association expects to hold a sale each year.

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Navy Boy, the Poland China boar bred by Fred Gatewood of Fresno and owned jointly by Gatewood and Stevens, was made grand champion boar at the International. Navy Boy has never been beaten in class and was junior champion of the 1920 state fair and grand champion in 1921-22. If a California bred boar can win at Chicago, which is the center of the hog industry, then California breeders need not worry about having the right type of hog as Navy Boy has had, considerable competition every time shown here.

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## LOS ANGELES STOCKYARDS

The Los Angeles Union Stockyards has reached the age of one month and is proving to be a rapidly growing and healthy youngster. During the month of November 11 selling agencies handled a total of 13,506 cattle, 2,810 calves, 5,820 hogs, 6,565 sheep and lambs.

The big end of the cattle came from Idaho, Wyoming, Montana, Utah and Colorado, with Texas, Arizona and California furnishing a substantial number. Inyo County had some top lambs and steers on the market. There is nothing unusual in the origin of the receipts from the north. That is where the bulk of the supply has come from at this season of the year for many years past, but this year the owners came to market, fraternizing with the business interests of Los Angeles.

The purchases were made largely by the 11 local packers and a scattering of small killers located within a radius of 15 miles of the yards. About 1,500 out of the total number of cattle went to feed lots as far north as San Luis Obispo and will eventually find their way back to the market. A large number of feeder hogs also went into the country for finish feeding and will likewise come back to the market. The small feeder is rapidly finding out that he can get a few or many of the kind he wants on the market. The offering of feeder lambs and the prices paid for fat lambs illustrated the opportunity for profitably feeding a few on every ranch, to say nothing of the value of the sheep in trimming up vegetation, cleaning out irrigation ditches and fertilizing the soil. The small producer is also finding out that he can get under competitive bidding at the market just as much as the bigger shipper, and that this is a growing market.

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## MINNESOTA HOLSTEIN BREAKS WORLD RECORD

Another world's champion has been added to Minnesota's list of high producing Holstein cows. She is Mamsell Johanna owned by C. L. Spaulding of Warren. As a junior four year old she has just completed a 365 day semi-official test period with a record of 31,515.9 pounds milk containing 1,054-.03 pounds butterfat equivalent to 1,317.53 pounds butter. This excellent record has earned for Mr. Spaulding's cow the high honor of being the world's champion milk producer for her age. She also stands third in her class among the world's greatest butter producers. As she carried a calf for 221 days during her test period her performance is all the more remarkable and one of the greatest ever made by any cow.

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## COTTAGE CHEESE EASY TO MAKE

Cottage cheese contains all of the proteins of milk and a little fat. It contains more protein than most meats and the cost is very slight. Each pound of cottage cheese contains about one-fifth of a pound of protein, most of which is digestible.

This food alone is delicious and palatable and it may be made more so by adding a little sweet or sour cream, salt, chopped onion, and pimentos. It may be used in sandwiches and salads, and served with fruits, jellies and nuts. As a meat substitute cottage cheese rolls make a pleasing dish.

Cottage cheese may be made easily by permitting the milk to sour naturally until it curdles or clabbers. Cut the curd into fine pieces with a knife and cook slowly over a slow fire, preferably at the back of the stove, until the curd contracts and wheys off. Remove the whey, wash with cold water to firm the curd and wash out some of the acid taste. Place in colander or hang in a cloth sack to drain. Many prefer to cook it very slightly, leaving some of the whey, adding butter or sour cream, salt and pepper, and eating while still warm and fresh.

From GRASS to DRY FEED

Now, the pasture field and range must give way
—to the stall and manger, the feed lot and self-feeder, the barnyard and fodder rack.

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Then you are all set for heavy feeding, a good yield of flesh and milk throughout the winter.

Tell your dealer what stock you have. He has a package to suit. GUARANTEED.

*I spent 30 years in perfecting this Tonic.*
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25-lb. Pail, $3.50 100-lb. Drum, $12.00

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You have seen his dam and know that she is the type you want his daughters to be.
Or you have seen a good picture of her with a close-up picture of her udder.
She is a big producer of milk with a high percentage of fat.
Our cows are the tops of all the big sales in the state for the past three years.
Practically all of them have high 7 day and yearly records. They hold 4 world's records.
Our herd bull is Aaggie De Kol Mead, whose five nearest dams average 1130.64 pounds of butter in a year testing over 4%.
You should have one of his sons out of a high record dam.
Call or write for our long-time, easy payment plan.

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It Runs in the Family—Do You Know

That the Highest Record Daughter of King Korndyke Pontiac 20th, with 1158.2 lbs. Butter and 27,481.3 lbs. Milk as a 3-year old, is a half sister to our Junior Herd Sire, King Korndyke Pontiac Mead, from a daughter of our Senior Sire, King Segis De Kol Mead, or practically the same cross we are now using as the main framework of our herd?

Can you think of a better strain from which to select your future herd leader than this proven nick within the wonderful Valley Mead strain?

Los Angeles County Farm, Holstein Breeders, Hondo, Calif.
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**For Sale**—For 18 years we have produced the best White Leghorn chicks. All the best blood of the world is represented in our flocks. Chicks grow into exceptional layers. Last season our customers had almost no death loss in their brooders. We delivered every order in full and on time. Send for new circular. We ship everywhere. Leghorns, Rocks and Reds $15.00 per 100. P. Cook Chick Ranch, 1717 Valley Blvd., Alhambra, Calif.

**Hoganized White Leghorn Baby Chicks**—The first of September we start on our 15th year hatching. Will have chicks every week until June. All our hatching eggs come from one flock of 5000 Hoganized hens. Mated to male birds raised from the best layers in the flock. Shipped by Parcel Post, guaranteed to arrive alive and strong. Lyon Hatchery, Gardena, California.

**Baby Chicks** that are strong, healthy and easy to raise are hatched in Oakland Electric Hot Water Incubators and hovered in Oakland Electric Brooders. By selling direct we can save you money. SOLD ON A TEN YEAR GUARANTEE. We pay the freight. Write for catalogue. OAKLAND INCUBATOR CO., 1411 40th Ave., Oakland, Calif.

**Baby Chix Electric Hatched**—Booking orders for 1923 delivery. R. I. Reds, Barred Rocks. Our S. C. White Leghorns are from hens of George England strain mated to cockerels from the A-1 matings of the trap-nested stock of the Bonnie Brae Farm at Burbank. Write for price list. RED LOCK HATCHERY, 305 North Main Street, Artesia, Calif.

**The Parent Stock from Which** we get our day old chicks, is selected for vitality and laying capacity. We specialize in White Leghorns, but will furnish other desired breeds. Our capacity being limited by the necessity of carefully selecting only the best stock, orders should be sent in promptly. THE STEVENSON HATCHERY, Watsonville, Calif.

**Poultrymen Attention.** We are now booking orders for hatching eggs, baby chicks and 8 weeks old pullets, from our well selected and culled heavy laying utility stock. S. C. White Leghorns exclusively. Only a few more dates open for hatching eggs. All our cockerels are from trapnested stock. Pine Tree Poultry Farm, Los Gatos, Calif.

**For Sale**—Pedigreed White Leghorn Cockerels—Mother laid 252 eggs at Santa Cruz egg laying contest. Father's mother laid 306 eggs, grandmother, 312 eggs. The egg habit can not be fed into a hen, it must be bred in. California Poultry Farm, R 1, box 160, Modesto, California.

**Weis Farm Baby Chicks** are produced from the world's best laying strains. Cockerels used with the breeders this year come from hens with records up to 312 eggs. 25 chicks, $4.00; 50 chicks, $8.00; $15 per hundred. Weis Farm, P. O. Box 351. Petaluma, Calif.

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**Baby Chicks of Seven Varieties.** Order now for early Spring delivery from Fresno headquarters. Rohrs & Anson, 2028 Belmont Avenue, Fresno, California.

**Watch Us Grow Quality Chicks.** Booking orders now for the season of 1923. Brown and White Leghorns, Barred Rocks, Rhode Island Reds and Anconas. Order early. Ohlen's Hatchery, Campbell, California.

**White Leghorn Baby Chix** for summer and fall months from stock Accredited by Sonoma County Farm Bureau. We guarantee safe arrival. Write for prices and literature. The Pioneer Hatchery, 409 Sixth Street, Petaluma, California.

**Santa Cruz Chicks** from my heavy laying strain of White Leghorns that are hatched right and prices are right; 12 years experience at hatching and breeding in Santa Cruz, Calif. T. E. Blake, Oak Knoll Poultry Ranch.

**S. C. White Leghorn Baby Chix** from our own bred-to-lay stock. Our prices are right. Model Poultry Farm, W. C. Smith, Prop., Corning, Cal. Established 1904.

**For Sale**—3 Buff Orpington Cockerels, ten months old. Sunswick strain, each $15.00, f. o. b. Ontario, Calif. Address M. James Kennedy, Box 331.

## POULTRY

**Officially Certified White Leghorn Baby** Chicks hatched in the world's largest electric hatchery. Choice free range, high egg producing breeding flocks inspected and accredited by the Sonoma County Farm Bureau. Write for prices, literature and booking dates for spring delivery. Safe arrival guaranteed. Established 1898. A quarter of a century of constructive and efficient service to the poultry industry. MUST HATCH INCUBATOR CO., 438 Seventh St., Petaluma, Calif.

**Hi-Grade Chicks For Less**—We are hatching every Wednesday—Barred Rocks, Reds, Anconas, W. Leghorns. Latest price list just printed, giving lowest prices. We deliver free. We carry full line of poultry supplies at a reasonable price. 580 egg incubators only $68; 500 chick brooders $25; chick boxes 100 size 27 cents; 1000 market egg boxes $10. Sodium fluoride 35 cents pound. Write us your wants, or call and see us. Hargett & Son (11215 Compton Ave.) Route 2, Box C, Compton, Calif.

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First hatch January 1st. We specialize on Hyde and Ramar White Leghorns, "Hill Crest" Reds and Buhrman's White Wyandottes. Also hatching Brown Leghorns, Anconas, Minorcas, Barred and White Rocks, Buff Orpingtons, Cornish Game, Partridge and Golden Wyandottes and Black Cochin Bantams. Descriptive folder gladly sent from The Archibald Hatchery, B. W. Archibald, Soquel, Santa Cruz Co., California.

**Baby Chicks**—Twelfth year specializing on properly incubated chicks—the better grade that live and thrive—White Leghorns, brown and buff Leghorns, Rhode Island Reds, Barred Plymouth Rocks, Anconas, Black Minorcas, Blue Andalusians. Now booking orders for January and later delivery, safe arrival guaranteed. Free circular. Order early and get date wanted. McDonald Poultry Ranch and Hatchery, Route 1, Box 246, King Road, San Jose, California.

**We Want** your January-February baby chick order. We are after it with quality chicks at lower prices. For few weeks will book orders at a big reduction. Mail yours before dates are filled. Select White Leghorns, thousand lots at 14 cents; hundreds, 15 cents. Barred Rocks, R. I. Reds, two cents more. Brown Leghorns, Black Minorcas, White Rocks also reduced. Send for free circular and letter on early chicks. Mission Hatchery, Box 27, Campbell, California.

**Baby Chicks from my purebred flock of** S. C. White Leghorns, a result of 17 years of most careful selecting for laying and standard qualities. Orders taken now for spring delivery 1923. Good, strong chicks of high quality at reasonable prices. J. R. Heinrich Poultry Yards, Arroyo Grande, California.

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**Baby Chicks**—From Hoganized stock. S. C. White, Brown, Buff Leghorns, Rhode Island Reds, Barred Rocks, Anconas, Black Minorcas. Safe arrival and right prices guaranteed. Union District Hatchery, Los Gatos, California.

**White Leghorn Baby Chicks** from my selected and pedigreed stock. I have bred Leghorns since 1908. Write for circular and price. H. A. Schlotthauer, Exeter, Calif.

**For Sale**—Barred Plymouth Rocks, prize winners, some extra fine cockerels for sale now. Eggs for hatching in season. Satisfaction guaranteed. Mrs. J. W. Snodgrass, Los Olivos, Calif.

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**Fine Breeding Cockerels**—White Leghorns, Tancred strain; day old chicks; hatching eggs. Member Santa Cruz Trapnesters' Assn. Write for price list. La Rita Trapnest Farm, Santa Cruz.

**Slighty Used 540 Egg Size Incubators**—Complete in every way. Liberal terms. Fanciers' Exchange, 640 So. Main, Los Angeles.

**Los Gatos Hatchery** is now booking orders for White Leghorn Chicks. Shannon Station, Los Gatos, California.

**For Sale**—Barred Rock Eggs for hatching. 15 for $2.50. Box 1, San Jacinto, Calif.

## POULTRY

**Profitable Poultry Co-Operative Hatcheries.** Capacity 250,000 eggs. Chicks off every week. To date we've quadrupled our bookings over former years. Why? Pleased customers reorder; disappointed customers book ahead to insure choice dates on our superior chick, ducklings, Turks (every year unable to fill many orders). Prices reduced booked ahead. 180-290 egg strain Leghorns, Anconas, Reds, Rocks, Minorcas, Wyandottes, Andalusians, Brahmas, good heavy laying Orpingtons. For quarter century imported, trapnested, selected for vigor, growth, beauty, eggs. Mail address only. Profitable Poultry, 13 North Fair Oaks, Pasadena.

**Santa Cruz Chicks from Bred-to-lay** Stock. For years I have used cockerels from hens with records of 200 to 250 eggs. This year the cockerels in my breeding pens are from hens with official records of 251 to 298 eggs, their sire dam 317, 21 of these males are from the high hen. See my records in three last Santa Cruz contests 2009-2112-2185 for pen of ten hens, chicks from these matings will make layers and payers. January price 20 cents, February 17½ cents, and 15 cents for following months. Order quickly. Twenty-five per cent deposit when ordering. W. J. Neef, Santa Cruz, Calif.

**Baby Chicks of Best Quality,** hatched by experts from Healthy, Vigorous Hens that have been BRED to lay—not forced to lay. White Leghorns 14c each; Barred Rocks and Reds 20c. Strong, vigorous chicks. The kind that live and thrive. Order today! EIEC-CHIC HATCHERIES, Dept. P, Roscoe (via Burbank), Calif.

**Newton Poultry Farm**—White Leghorn Baby Chicks from our well known carefully selected stock. Best strain. Big plant. Order now for Spring delivery. Any number. Los Gatos, California, Dept. 2.

**Write the Santa Clara Valley Hatchery,** Lincoln Ave., San Jose, California, for prices on White Leghorn, R. I. Red and Barred Rock Baby Chicks. Shipping days Tuesday of every week.

**Peacock and Hens For Sale,** young ones, and two pairs old ones. Write to Fair View Ranch, Ducor, California, for information.

**Real He-Cockerels,** February hatch, Single Comb White Leghorns. Looks, breeding and vigor. Write to George G. Barker, 272 Martin Blvd., Santa Cruz.

**Buff Orpington Cockerels.** Famous Sunswick and Owen Farms strains. Purebred Bourbon Red toms. The Ferris Ranch. East Grand, Pomona, Calif.

**Baby Chicks**—Thoroughbred White Leghorns, Hoganized. No dead or weak ones charged for. Schellville Hatchery, Schellville, Sonoma County, Calif.

**For Sale**—Superior Buff Leghorn Cockerels. Excellent strain of prize winners. W. L. Bartholmew, Chino, Calif.

**For Sale—Electric Incubators,** 540 capacity, cheap. Lightening Hatchery, Seabright, Calif.

## FARM LANDS FOR SALE

THE CHARLES WEEKS SYSTEM OF INTENSIVE POULTRY AND BERRY FARMS
ONE ACRE AND INDEPENDENCE
or

The fine art of earning a comfortable living on one acre in California. For those who desire to dwell in sunny California without living up hard earned capital. For 18 years proprietor of the most intensive Egg Farm in the world and Founder of the Famous Charles Weeks Poultry Colony at Palo Alto, California. The Charles Weeks Poultry Colony No. 2 is now being established at Owensmouth, California, 26 miles from Los Angeles. Write for literature. Charles Weeks, Owensmouth, Calif.

**For Sale—A Money Maker.** Can be leased for oil. Fifteen (15) acres nine year old lemon orchard in perfect condition. Splendid crop on trees at present. This grove is 23 miles from the Court House in Los Angeles with two boulevards running to it. The very best of soil. Los Angeles Aqueduct Water. In the strictly frostless foothills of San Fernando Valley. Frost is unknown in this section. Ideal spot for country home and a good income. See OWNER, 1203 Loew State Building, Phone 15118, Los Angeles, California.

BUY DIRECT FROM THE OWNER

Irrigated river bottom lands in Sutter County. Rich, deep soil with a complete irrigation and drainage system. Southern Pacific Railroad and Sacramento River Transportation. Liberal terms, six per cent interest.

Sutter Basin Company,
California Fruit Building,
Sacramento, California.

**570 Acre Ranch in Santa Maria Valley,** 2 miles from Los Alamos, ¼ mile from State Highway, plenty water, 400 acres in crop. All fenced, no brush, first class pasture. Price $40,000.00. Apply direct to owner. J. Grant de Longueuil, 17 Humphrey Road, Santa Barbara, Calif.

**To Close Estate**—200 acres of the best land in California. Situated 1 mile from Chico, on paved road—rich soil 20 feet deep. In 10 acre tracts at $400 per acre. 10 per cent down, small payment each year on principal. 6 per cent interest. J. F. Morehead, Box 611, Chico, California.

**Imperial Valley**—Eighty acres highly cultivated, fruit and vegetable land close to shipping center. Edwin Yawger, Chula Vista, Calif.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**For Sale—Ranches, Homes, Acres, free list. Wilson Bros., Santa Cruz, California.**

## TURKEYS

### GIANT BRONZE TURKEYS

**Large turkeys can be raised at practically same cost as small ones. It is in the strain. One of our toms will give you five more pounds of meat to market in all his get the first year; besides vitality and beauty.**

GOLD NUGGET STRAIN
J. Will Blackman, Originator

**Again prove their superiority by winning at California State Fair, September, 1922. Gold Special Sweepstakes for best turkeys in the show. All breeds competing. In open class they won 1st old tom, 1st and 2d yearling tom, 1st and 3rd yearling hen. This, along with practically every Gold Special Sweepstake at the West's greatest shows since 1915, prove that they have**

AN UNEQUALED RECORD

**Toms and hens for sale. Book orders now for December delivery as each year we are sold out early.**

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**Turkeys**—Purebred Giant Bronze, choice young Goldbank-Copper King stock from our original matings with such imported sires as Goldbank VIII, first cock Madison Square Garden Show (New York) '21; Goldbank Boy, (his son) first cockerel same show; Goldbank King (his grandson) first cockerel same show '22; Copper King's Boy, third cockerel same show '22; Copper King, Jr., first cock California State Poultry Association Show, Oakland. Secure the best blood from prize winners of America's Premier Poultry Show. Reasonable prices. Send for circular. Bronze King Farm, Merced, Calif.

**Mammoth Bronze Toms and Hens,** also eggs in season. Our stock are California State Fair Winners and graded from the best Eastern blood procurable. Twenty years of practical experience with turkeys. We offer good opportunity for turkey raising on this thirty thousand acre range. John G. Mee, breeder of turkeys and herding Collie dogs, San Miguel, Calif.

**Berry's Giant Bourbon Red Turkeys.** A real Western Strain—Giants in size and wonderful color. Sweepstakes winners last two California State Fairs. Write for circulars. J. T. Berry, Oakdale, Calif.

**Purebred Bronze Young Toms** $15.00; young hens, $10.00. Buff Orpington Cockerels, $5.00; eggs, $3.50 per 15. Mrs. M. L. Trewhitt, Route B, Box 47, Hanford.

**Mammoth White Holland Turkeys.** Finest flock of purebreds on the coast. Select stock from Eastern strains at reasonable prices. Earl V. Smith, Loma Vista Ranch, Willows, Calif.

**For Sale—Wild Turkeys**—Best, cheapest, most certain and indispensable producers. Cash deposit secures stock. Blanche Dresser, Route C, Box 194, Tulare, Calif.

**For Sale**—Purebred Bourbon Red Toms from prize winning stock. The best in Arizona. Mrs. L. S. Grosse, Scottsdale, Arizona.

**Bourbon Red Turkeys** from prize winners. Pairs or trios not related. Mrs. John Bernstein, R. A. Box 109, Hanford, Calif.

**21 Years a Specialty Breeder of Mammoth** Bronze Turkeys. Prize winning stock. Mrs. Frank Browning, Nampa, Idaho.

**Turkeys**—Purebred Mammoth Bronze Goldbank Sanders Strain, toms and hens. Mrs. R. M. Osburn, Newman, Calif.

**Goldbank Strain**—Giant Bronze turkeys. Young toms and hens for sale. J. E. Mintun, R. F. D., Livingston, Calif.

**Bourbon Red Turkeys,** Red Carnauex pigeons. Mrs. George T. Smith, Hardwick, Calif.

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

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**Hay For Sale**—First class barley and alfalfa hay; also barley and alfalfa and barley and clover mixed. Apply to Montana Land Co., 2 miles south of Bellflower. Mail address, Hynes, Calif.

**Canco Spray Material.** Absolute control for mealy bug, Black Scale, San Jose Scale, etc. Write for circular. Aurora Seed Mill, Stockton, California, distributors.

**Natural Leaf Tobacco.** Chewing 5 pounds $1.75; 10 pounds $3.00; 20 pounds $5.00. Smoking 5 pounds $1.25; 10 pounds $2.00. Pay when received. TOBACCO GROWERS UNION, Paducah, Ky.

**For Sale**—About 6000 ft. of 54 inch stock fence at 2c, over 1000 ft. 26 in. at 1½c per foot. Posts, hog-troughs, oilers. Chambers Ranch, Route 4, Anaheim.

**Hemstitching and Picoting Attachment** fits all sewing machines. Price $2.00. Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**4 Lbs. Salmon Bellies and 3 lbs. absolutely** boneless Codfish delivered by mail, prepaid, $2.00. Sixth zone and beyond, $2.25. Coffin Fish Co., Seattle, Wash.

**Tobacco**—5 lbs best smoking $1.90. Low grade (mild) $1.25 Postpaid. Aden Francis, Dresden, Tenn.

## HOGS

**Poland Chinas, Big Type**—Straloch Farm 2½ miles of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

**For Sale**—Bred Sows—Choice Durocs and Hampshires Registered. I. N. Cooper, Blythe, California.

### TREES

**For Sale**—Grafted Placentia and Eureka Walnut Trees, on northern stocks. Scions taken from selected bearing trees. Trees grown under expert care and conditions. Any grade from three to twelve feet—twenty-five cents per foot. Fifteen thousand Thompson seedless grape vines, extra heavy, at 5c. General line other stock. Order from this ad. Write today. Miller Nurseries, Joseph Miller, Prop. Ontario, Calif.

**Order Your Trees Now.** We have a large stock of fruit trees of all varieties including Philips and Tuscan cling peaches, Bartlett pears, cherries, plums and prunes, etc. Also all kind of grape vines, ornamental trees and berry bushes. Burke's Nursery, 100 East Lodi Avenue, Lodi, California.

**For Sale—Grafted Walnut Trees,** Placentia, Eureka and Payne, on Northern California black roots. Tuscan and Sims Cling, also Lovell's Peach trees. Stock first class, prices reasonable. Los Nietos Valley Nursery, Downey, California. Phone 692.

**Fruit Trees**—Large stock of all kinds of fruit and ornamental trees, roses, shrubs and vines, etc. Order direct from growers. Most complete line offered in Southwest. Free catalogue, express paid. CONSOLIDATED NURSERIES, Houston, Texas.

**For Sale—Citrus Trees**—1200 Marsh Seedless Grapefruit; 1500 Washington Navels; 3000 Valencia; 500 Eureka Lemons. "Fruit Growers Supply Co." buds used. F. A. Tetley & Son, Riverside, California.

**Apple Trees**—I have a fine block of first class one year old No. 1 apple trees. Will make very special prices on same. Write number and variety wanted for my very special prices. Will ship on approval. Harry Pitts, Healdsburg, Calif.

**Large Stock Grape Vines,** Kadota Fig, Persimmon, Cherry, Apple and other fruit trees. Berry plants, grape cuttings, seedlings, etc. Write for price list. J. F. Miller & Sons Nurseries, Healdsburg, Calif.

**For Sale—Florida Sour Orange Seed Bed Stock** from fruit growers seed. All leading varieties Avocados, grafted Placentia Walnuts. Mathers' Avocado Nursery, 160 Ventura Street, Pasadena. P. O. Box 585, Phone Colorado 6044.

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Grafted trees, 2 to 4 ft. high. Best fruiting types. Sample of processed and dried fruit 25c. Chas. Booth, R 3, Box 53, Chico, Cal.

**For Sale Grafted Walnut Trees** also citrus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E 4th Street, Santa Ana, California. Phone 572-W.

**Walnut Trees**—2000 Placentia Perfection; 1000 Eureka. The scions used came from the celebrated "Fay" grove of Anaheim, California. F. A. Tetley & Son, Riverside, California.

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**For Sale—Pomegranate Trees** (American Wonder). Also several varieties rooted vines. Sam Blumer, Route 2, box 232, Porterville, Calif.

**For Sale—Grafted Walnut Trees** for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. C. W. Story Nurseries, Rivera, California.

**For Sale**—Kadota Fig Trees. Grown from original "Taft Kadota" trees. Write for prices. W. A. Bartley, San Fernando, Calif.

**For Sale**—Hachiya Persimmon Trees, grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E 4th Street, Santa Ana, California. Phone 572-W.

**Hachiya Persimmons**—Wonderful Pomegranates. Circular. Sherwood Persimmon Nursery, Fullerton.

**Trees of Quality** on 3 year roots. Cash Nursery, Sebastopol, California.

### MACHINERY

FOR SALE—TANKS, TANKS, TANKS
Rebuilt WINDMILLS, all sizes, save half.
50 PUMP CYLINDERS
LISTEN
We make TANKS in 10 sizes, 175 to 2000 gal. Better made for less.
A LITTLE ADVICE
Iron, pipe and solder sure going up. Order now, save several dollars. Will be compelled to raise prices soon. DEMMITT CO., 120 N Main. Yard 816 Yale, L. A.

### PIGEONS

**White King Pigeons** unmated pairs $3.00, mated pairs, $5.00, and Pearl Guineas $5.00. Paradise Valley Poultry Ranch, National City, Cal.

### PATENT ATTORNEYS

WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

### HORTICULTURAL PRINTING

**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St., Los Angeles.

### SEEDS AND PLANTS

**For Sale**—Extra fine Malaga rootings. Wendell M. Wilson, Exeter, Calif.

### SEEDS AND PLANTS

**Gladiolus**—Halleys, Kings, Americas, Pendletons, Primilinus Hybrids. Direct from the growers. These bulbs were grown under the best possible conditions which insures our buyers strictly No. 1 stock. State how many you want. Our prices will please you. PACIFIC BULB CO., 137 Pacific Ave., Santa Cruz, California.

BUY YOUR SEEDS NOW
Sweet Clover. White Blossom Per lb. 14c
Red Clover. Fancy, Per lb. 25c
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Alfalfa. Fancy, Per lb. 23c
Prices Subject to change without notice.
NORWALK SEED COMPANY
Norwalk—Box 203—California

**Giant Argentieul Asparagus Roots.** One year, strong, clean, equal in size to average two year roots. Free samples. Per thousand $6.75; 10 M up at $6.50; 50 M up at $6.00; 100 M up $5.00 FOB. Terms: One-fourth cash with order, rest on delivery. Claussen Nurseries, Brawley, Calif.

**Save Money—Better Stock for Less.** Japanese Persimmons, rooted Muscat, Malaga and Thompson Seedless grapes; not rooted Black Monukka cuttings. Kadota and Black San Pedro Figs. Write today. Fred W. Kelsey, Nurseryman, 2 miles west, El Monte, Calif.

**Strawberry Plants, Grape Cuttings**—I can supply any quantity of Ettersburg or Carolina strawberry plants, $5.00 M. Also several thousand Cornichon and Tokay grape cuttings $50 per M. Every plant guaranteed free from disease and true to name. Vollie Tripp, Hemet, Calif.

**Rooted Vines**—700,000 Alicante Bouchet Rooted Vines; hardy and well rooted. These vines have been inspected, certified and guaranteed true to name. They do not require dipping. Direct from Grower to You. F. C. Chapman & Son, Box 906, Modesto, or phone 1372 or 663.

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Recommended by the U. S. Department of Agriculture and Successful Farmers. Apply for Samples and Prices.
E. F. SANGUINETTI
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THE HOME OF HAIRY PERUVIAN

**Raspberry Snell Has It.** The wonderful Giant everbearing Red Raspberry La-France. Many of the berries are one inch in diameter, delicious flavor. Order your plants now from Ralph L. Snell, Mountain View, California.

**Cory's Thornless Blackberries**—One year strong transplants from heavy producing vines. 12—$2.00 postpaid. Wm. Mortenson, Route 4, box 20, Lodi, California.

**For Sale**—Giant Argenteuil Asparagus Roots. Extra large, year old, healthy, inspected. 100 for $1.00; 1000 for $7.00. Write for prices on large quantities. Raymond Henderson, Seeley, California.

**Black Walnut Seed** (Northern California) $8.00-100 lbs. Special price large lots. Grafted walnut, chestnut, filbert trees. Catalog. Felix Gillet Nursery, Nevada City, Calif.

**Cory Thornless Blackberry**—Extra large plants, 12, $2.00 postpaid. Satisfaction guaranteed or your money returned. Illustrated folder. Chas. E. Mortenson, Lodi, California.

**Berry Plants Direct from Grower**—Blackberry (Cory Thornless) Loganberry, Raspberry, Strawberry, etc. Special December prices. Pure Berry Products Co., A. L. Emery, Mgr. Palo Alto, California.

**For Sale**—Thompson Seedless and Sultana Grape Cuttings. January and February delivery. Ten Dollars per Thousand at Ranch. Walter W. Horak, Upland, Calif.

**For Sale—Giant Argenteuil Asparagus Crowns.** Mather's Avocado Nursery, 160 Ventura Street, Pasadena. P. O. Box 585, Phone Colorado 6044.

**Strawberry Plants**—Improved New Oregon, Magoon, Gold Dollar. Five dollars thousand f. o. b. Canby. Plants inspected. Sam Morell, Canby, Oregon.

**Strawberry Plants**—Brandywine, Gibson, Carolina, $5 per M. From new planting, all stock inspected. E. A. King, 1158 W. 4th St., Riverside.

**Carolina Strawberry Plants** guaranteed true to name, $5.00 per 1000 postpaid. Address I. Asbeck, Route 2, El Cajon, Calif.

**For Sale**—Black Monukka Grape Cuttings, guaranteed true to name. Order now for January delivery. Chris Westgard, Brawley, Calif.

**100,000 Inspected Marshall and Kellogg's** Thorobred Gibson Strawberry plants $5.00 per M. Over 10,000 special price. A. Cooley, Delano, California.

**For Sale**—Almeria grape cuttings, $10.00 per 1000. Zante Currant (wine grape) cuttings $10.00 per 1000. E. W. Busch, Lindsay, Calif.

**For Sale — Canna Bulbs** — Red Mammoth King, wonderful foliage and large beautiful flowers. Make me an offer. Mrs. S. V. Tiebsorb, Fillmore, Calif.

**For Sale**—Black Monukka cuttings forty dollars per thousand. Q. C. Webster, Brawley.

**Carolina Strawberry Plants** for sale $5.00 per M, 60c hundred. D. R. Bannister, Box 32, Oakdale, Calif.

**For Sale**—5000 to 10,000 Eureka Walnut Buds if taken soon. Geo. H. Richardson, R. F. D. 1, box 143, Fullerton, Calif.

**We Carry a Complete Stock of Vegetable, Flower and Field Seed. Turlock Seed Company, Turlock, California.**

**Carolina Strawberry Plants For Sale** in large quantities $5.00 per thousand. Postpaid. G. M. Hawley El Cajon, Calif.

**Giant Wonder Strawberry Plants $10 per thousand. M. C. Diffenbacher, San Fernando, California.**

**Get Our Prices First** on new and approved varieties berries, seed, etc. J. L. Lawson, Reliable Dealer, San Jose, Calif.

### CATTLE

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aaggie de Kolb Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys—Grape Wild Farms—Berkshires**—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of both sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Ayrshire Bull Registered.** Born Sept. 1920. Sire, Steybrae Robin's Queechy 21800. Dam, Steybrae Sherley 51323. Price $155. For information write J. Grant de Longueuil, 17 Humphrey Rd., Santa Barbara, Calif.

**Shorthorns bred for range purposes and of Pure Scotch Blood Lines.** Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pounds dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Aberdeen-Angus Cattle**—Registered bulls heifers always on hand. Everything priced to please buyer. Brook Hollow Farm, Hollister, California.

**Breeders of Registered Shorthorns**—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Herefords—"Veramont Stock Farm,"** H. M. Barngrover, Prop., Stockton, California.

**Shorthorns**—Straloch Farm 2½ miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodland, Calif.

**Registered Herefords**—Anxiety 4th strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

**High Class Jersey Bull Calves** for sale, from R of M Dams. Grant A. Brown, El Monte, California.

### WANTED

**Wanted**—Working foreman for large apple and pear ranch in Southern California. Must understand irrigation and general orchard practices. Married man preferred. Answer by letter giving full particulars of experience. Address Thomas Bailie, 670½ S. Berendo Street, Los Angeles, Calif.

**Wanted**—Men with cars in each California County to respresent established farm paper selling and collecting. Turn your spare time into money working part or all time. To responsible persons liberal guarantee, good territory and promotion. Write California Cultivator, 317 Central Avenue, Los Angeles.

**One or Two Thousand Evergreen Trees**—Acacia, Carob, Bottle, Camphor, Casuarina, Lawson Cypress, Arizona Cypress, Monterey Cypress, Grevillea Pepper. Home Nursery, Maywood Station, Los Angeles.

**Wanted—Walnut Meats and cull walnuts.** Fred L. Mitchell & Son, 214 French St., Santa Ana, California.

### DUROC-JERSEYS

**Greenwood Farm Durocs—An especially good lot of spring boars. Witherow & Stafford. Live Oak, California.**

### HORSES

**Five Good Work Horses** and 2 Colts. Harness, wagon for $500. Write J. Grant de Longueuil, 17 Humphrey Rd., Santa Barbara, Calif.

### FOR EXCHANGE

**Trade Income For Ranch**—5 houses and 1 double apartment in thriving Fillmore, Ventura County. Rent for $1650 annually. Always occupied. Price $12,000. Will trade for walnut acreage in Glendale or vicinity Los Angeles. Farmers Realty & Investment Co., Santa Paula, California.

### GEESE

**Geese**—Purebred Toulouse. Two young ganders and two young geese, 1st and 2d prize winners at recent Oakland Auditorium Show, $12.50 each. Bronze King Farm, Merced, Calif.

### GOVERNMENT LAND

**Attention:** Million acres Government land for farming, grazing, timber. Near R. R. Plenty water. Send for folder. Rally 941 So. Union Avenue, Los Angeles, California.

### GOATS

**Goat**—Prize Saanen Buck $10.00. A. L. Swanson, R. 5, Box 147a, Watsonville, Calif.

### SHEEP

**Hampshire Sheep—Straloch Farm 2½ miles west of Davis, Calif., on Highway. C. Harold Hopkins, Woodlands, Calif.**

# Veterinary

Answers in this column by Dr. Wm. Petrie, 2714 South Harvard Blvd., Los Angeles, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Difficult Breathing

I have a large work horse that breathes hard. It sounds as though the air passages in his head or throat were partly stopped up. It is not heaves as I am familiar with that. He has a fistula under the jaw of long standing. Could that have anything to do with his trouble? Working seems to help him as he breathes almost naturally after working. He eats well, is in good condition, too fat and has colic occasionally.—Subscriber, Victorville.

Don't see how the fistula could affect the breathing. It may be caused by indigestion. Reduce the feed for a time and see what that will do. Give these powders to stop the colic: Four ounces powdered gentian, two ounces powdered nux vomica, four ounces bicarbonate of soda and enough corn meal to make one pound. Mix well. Give a tablespoon of it twice a day in the feed.

### PURE BRED ASSOCIATION MEETING

The December meeting of the Southern California Pure-bred Association was held at the Los Angeles Union Stockyards and the topic of the meeting was the help and extension of junior club work. In order that the members get some first hand information regarding the junior activities two of the members of the Chaffey judging team which represented California at Portland and Chicago were present and told how they happened to be on the team and the benefits which they derived from it. Professors Crandall and Hughes of the university were present and assisted the association in its endeavor to line up more closely behind this work. Farm advisers and high school teachers were there also and it was one of the largest and best meetings the association has ever held.

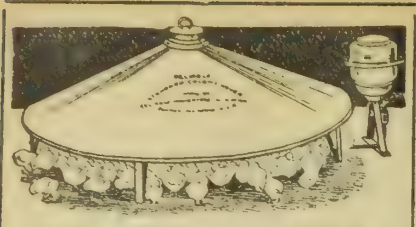
The workings of a central market as exemplified by the Union Stock yards were given in detail by such men as Manager McNaughton; John Knorpp, president of the Southwest State Bank which is located at the yards; and C. H. Hill the president of the Livestock Exchange. This meeting gave the breeders a chance to view the ultimate end of the swine, sheep and beef cattle which they are striving to better all the time, and put them in closer touch with the agencies which are working to provide a better price for the good stock than has heretofore been possible. Before the establishment of the yards cattle of all kinds sold for pretty nearly the same price and there was no incentive for Californians to breed and feed to produce the good animals. In the short time the yards have been in operation the premium for the right kind of cattle has been as high as four cents over the ordinary kind. Better bulls and better cows will produce the kind of stock which when fed properly tops the market and brings home the big check.

### HEREFORDS SELL WELL

"California Lincoln Lad," a Hereford steer exhibited by the University of California at the International Livestock Exposition in Chicago last week, won second prize in a great showing of 24 purebred Herefords from the leading breeders and agricultural colleges of the country. Last year the college won the grand championship on a heifer, "Lula Mayflower," but the strong show by the breeders this year wrested from the colleges the grand championship honors.

All Hereford classes at the International were large and the average quality of the animals shown was said by experts to be better than at any previous show. Large classes of strong individuals made up of the best Herefords from America's leading fairs caused many state fair champions from the fall fairs to drop well down the list of winners. The show was the meeting place of champions and won many friends for the Herefords, now generally recognized as America's leading breed of beef cattle.

The grand champion Hereford bull was "Panama 110th," exhibited by A. B. Cook of Townsend, Montana. "Lady Woodford," exhibited by J. N. Camden of Versailles, Kentucky, was grand champion Hereford cow. The grand champion load of feeder cattle, over all breeds, were Herefords exhibited by H. T. Graber of Kansas, Illinois. The reserve grand champion steer was also a Hereford exhibited by Colonel E. H. Taylor, Jr., of Frankfort, Kentucky. Andrew J. Mettler of Menno, South Dakota, won the sterling silver cup offered by the Institute of American Meat Packers for the best bred carload of Hereford cattle.



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with the New
Improved 1923 Model
Reliable Brooder

Uniform warmth for the chicks, means happy healthy chicks which mature quickly. The new model Reliable Brooder is the most satisfactory brooder you can use. Thousands are in use in Southern California and every owner is a booster.

The Reliable Brooder is the lowest priced quality brooder.

Burns kerosene (blue flame) on an oil level, without valves to clog. No fumes, smoke or gas, and no overflow of burner.

Simple and Sanitary
Easy to Regulate
Lots of Heat
Well Ventilated

42-inch..... 500 chicks or less
52 inch.....1000 chicks or less

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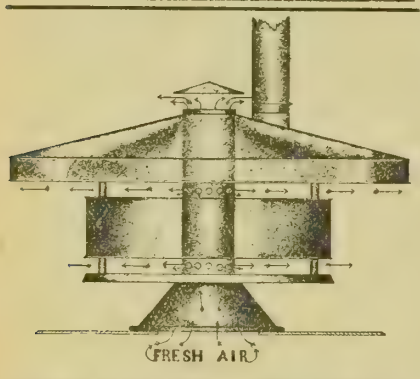


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# Poultry Queries

(Conducted by Jean A. Koethen)

### Weak Legs

If San Joaquin subscriber will stop feeding so much clabbered milk or cottage cheese to his turkeys they will not have weak legs. Give them once or twice a day just what they will eat at once. Keep it away from those that already have weak legs till their legs are well. I have had little chicks, turkeys and pheasants die from eating too much clabbered cheese. The last year I lost only two turkeys out of 75. I fed them clabbered cheese once a day, lots of onions, lettuce and alfalfa, mash and grain We fed more lettuce than any other green to our baby chicks and gave it t laying hens by the sack full, also clabbered milk in the morning with mash, and I got eggs when no one else did. I hope this will help some troubled ones.—Bertha Hemmerling, Anaheim.

### Mating Chickens

How many pullets can I mate to one cockerel? My 18 months old hens are with a rooster hatched in March. Are 15 too many for this mating?—Subscriber, Claremont.

Mate pullets to an old cock and two year old hens to cockerel rather than pullets to cockerel. Fifteen 18 months old hens is a large pen for so young a cockerel. Better make it 10 or 12, at least till later in the season. Fertility is stronger in February and March than in December and January.

### Hatching Eggs

How long should eggs be kept before incubating? Should they be turned every day? Can you tell me where I can get an Old Trusty incubator? I do not want t wait to get it from the factory—Subscriber, Claremont.

Eggs should never be kept longer than 10 days, and the regulations of the Sonoma County farm bureau hatchery project limit the time to seven days. The sooner you set eggs after hatching the more likely they are to hatch. Turn them every day. This may not be always necessary, but it is safe. Can some reader tell Claremont Subscriber where a second hand incubator of this make may be had?

### Price of Hens

Please tell me why colored hens bring a higher price than white. I am thinking of raising chickens for market and do not understand what makes the difference.—Subscriber, Delano.

It is a question not of color but of weight. Heavy hens bring a better price because they have more meat in proportion to the amount of bone than Leghorns. The meat is also of better quality. I think you will find that white Wyandottes and White Rocks bring just as good a price as R. I. Reds and Plymouth Rocks, though the latter are generally kept for table purposes. If you are going to raise market poultry you should keep one of the three American breeds — Reds, Rocks or Wyandottes.

### Cure for Blackhead

Please let me know a cure for blackhead in turkeys.—Subscriber, Upper Mattole.

I have received some reports of excellent results from the use of the olive oil treatment which was recently recommended by Mrs. Monroe of Burbank. Two tablespoons of olive oil are given the morning of the first day. The next morning, if the bird does not eat, give two or three pills of the following mixtures: one-third teaspoon each of red pepper and charcoal, one cup clabbered milk, a little chopped onion, thicken with toast or corn bread and mould into pills than can be easily swallowed. Feed this three or four times a day.

### Weak Legs

What is the trouble with turkeys when they lose control of their legs, seem weak and limp?—Subscriber, Upper Mattole.

Weak legs in turkeys are generally the result of a too fattening ration with too little exercise. Feed more oats, especially sprouted and rolled, and plenty of bran and greens. Please note Mrs. Hemmerling's reply to San Joaquin subscriber.

### Growing Mash

Will you kindly tell me whether the following growing mash is good or not, and how it can be improved: 10 per cent wheat bran, 5 per cent middlings, 5 per cent corn meal, 2 per cent ground oats, 60 per cent meat scraps with an addition of charcoal and bone meal?—Subscriber, Lankershim.

What you give here figures up to only 82 per cent. Is the other 18 per cent charcoal and bone meal? In any case 60 per cent meat scrap is far too much. It is better to figure a formula in pounds than by per cent, because measuring by bulk (i. e. quarts or gallons) and measuing by pounds bring entirely different results. Compare the above with the Cornell mash for growing chicks, which is 3 pounds bran, 3 pounds corn meal 3 pounds middlings, 3 pounds beef scrap; or with the following which was given me by an expert: 880 pounds bran, 140 pounds low grade flour, 200 pounds corn meal, 100 pounds each of ground milo, ground wheat and ground oat groats, 75 pounds meat scraps, 75 pounds ground green bone, 35 pounds charcoal, 10 pounds salt. Your easiest course, since you have bran, corn meal, middlings and ground oats, is to follow the Iowa experiment station formula: corn meal, 3 parts; middlings, 2 parts; bran, 1 part; ground oats, 1 part; beef scrap, 1 part; ground bone, ½ part. This is by measure, I think.

### Stunted Chicks

The heads of my young chickens become fiery red and they look as if they had been chopped off behind. They are thin, though they have plenty to eat and a good range. I have lost 60 per cent of them. They look twice as old as they really are.—Subscriber, Elsinore.

I do not know what can make their heads red, but that "chopped off behind" appearance and old look both belong to young stock that has been stunted in some way. Perhaps they were chilled when first hatched. Perhaps they have been worried by lice and fed on at night by mites. Possibly the breeding stock was weak or sickly. Maybe they have not had the right kind of feed. My advice is: First dust well for lice and make sure there are no mites in their houses; second, put them on a mash of coarsely ground feed meal with 10 per cent beef scrap added, with wheat and cracked corn or milo for grain, and fatten them up for fryers. Those that have that "chopped off" look will never be fit for anything else. Be sure they are not crowded at night. This is very hard on growing birds.

### Ipecac for Blackhead

Please tell me how to use ipecac as preventive and cure for blackhead.—Subscriber, Orland.

The ipepac treatment, as recommended by the Doctors Wegeforth of San Diego, consists in separating the sick birds from the flock and giving them 10 drops of fluid extract of ipecac three times a day for 3 days, then twice a day for 3 days and finally once a day for 3 days. As a preventive a teaspoon of powdered ipecac was given twice a week in the food for each unit of 20 turkeys.

### Beans for Hens

Are cooked beans good for laying hens?—Subscriber, Gridley.

Cooked beans are excellent in the ration because they contain a large amount of protein. If you find the birds do not eat them readily mash them in their soup and thicken with bran or with the laying mash.

### Chicken-pox

Some of my White Leghorn pullets have scabs on their combs and one eye becomes greatly inflamed and closes entirely. The trouble is confined to one eye. There is no sign of roup or any other common poultry disease or injury.—Subscriber, Fullerton.

Those scabs on the combs would seem to indicate chicken-pox, possibly in a mild form. Isolate all affected birds, wash out the sore eyes with boracic acid solution twice a day and anoint the scabs with carbolated vaseline. By prompt isolation you may keep the disease from spreading. I am unable to say why only one eye is affected.

## ATLANTIC COAST POULTRY PRODUCERS

To meet competition in New York and Eastern markets with eggs shipped from California and other Pacific states the Atlantic Coast Poultry Producers' Association (cooperative) has been formed.

Territory in which the new association will operate includes New England, New York, New Jersey, Delaware, Maryland, Virginia, Pennsylvania and Ohio. At present the association maintains offices and salesrooms at 14 Jay Street, New York. Branches will be established in other Eastern cities from time to time.

The first officers of the Atlantic Coast Producers are: President, James Whetsel, of Vineland, New Jersey; vice-president, Harry H. Ober, of Lakewood, New Jersey; secretary, Frank App, professor of farm management at the New Jersey state agricultural college; treasurer and general manager, Herman B. Walker. All the officers and directors, with the exception of Dr. App, are practical poultrymen.

## POULTRY PRODUCERS DIRECTORS

Directors selected for the Poultry Producers of Central California are:

Sonoma and Marin Counties district: John R. Denman, D. R. Walls, J. J. Bergsteds, H. W. Richardson, C. J. Sutton.

Alameda and Contra Costa Counties districts: Eric Ruus, Jr.

Santa Cruz district: Geo. W. Wood.

Santa Clara and San Mateo Counties district: E. R. Lam.

Sacramento Valley district: Joseph Broadley.

## FARM BUREAU EGG LAYING CONTEST AT SANTA CRUZ

The second month of the California Farm Bureau Egg Laying Contest at Santa Cruz closed with a production of 39 per cent for the 60 entries. This is equivalent to a monthly average of 39 eggs per 100 hens daily. The fowls ate 3 pounds of grain and 9 pounds of greens per 100 hens per day.

It is interesting to note that the states of Oregon, Washington and Missouri and Michigan are well represented in the present contest, and applications are now coming in from all parts of the country for entry in the 1923-24 contest.

### High Pens

L. A. Thornewill, Santa Cruz, 514⅓; Alex Stewart, Santa Cruz, 453⅓; V. H. Guthrie, Petaluma, 399; Belknap Leghorn Farm, San Jose, 383⅔; Leon J. Wolf, Monterey, 353⅓; B. C. Young & Company, Bellingham, Washington, 347⅓; Sunrise Poultry Farm, Santa Cruz, 337⅔; John L. Davidson, San Francisco, 331; Sea Breeze Poultry Farm, Capitola, 319; H. H. Corbett, Santa Cruz, 316.

### High Hens

L. A. Thornewill, 57; L. A. Thornewill, 53; L. A. Thornewill, 52; L. A. Thornewill, 51; L. A. Thornewill, 51; Wire & Son, Newberg, Oregon, 51; Alex Stewart, 51; Alex Stewart, 50; Sunrise Poultry Farm, 50; L. E. Stickles, Santa Cruz, 50.

### High Pens for Month

L. A. Thornewill, 257; John L. Davidson, 242; Alex Stewart, 237⅓; B. C. Young & Company, Bellingham, Washington, 209; Belknap Leghorn Farm, San Jose, 207; Inwood Poultry Farm, Corvallis, Oregon, 199.

So long as the United States exports half of its cotton crop, one-fourth of its wheat and one-fourth of its pork products to Europe, the American farmer is vitally interested, not only in the agricultural policies of Europe, but also in other national policies that directly affect their exchange and their buying power of our products.—E. G. Montgomery, chief foodstuffs division, department of commerce.

Poultry Supplies
Incubators
Hovers
Brooders, Feeds

# Poultrymen's Guide

The value of chickens and eggs produced in California (1919 census) was $34,727,935.00. There is poultry on 92,409 farms in the state—78.5 of all farms. January 1, 1920, poultry of all kinds on farms in California numbered 10,811,183, a gain of 4,723,916 since 1910, indicating the rapid and important development of the industry. At the present prices of eggs, hens and baby chicks and the big demand upon hatcheries for more stock it is wise to order early. The representative advertisers whose announcements appear below are recommended to prospective purchasers.

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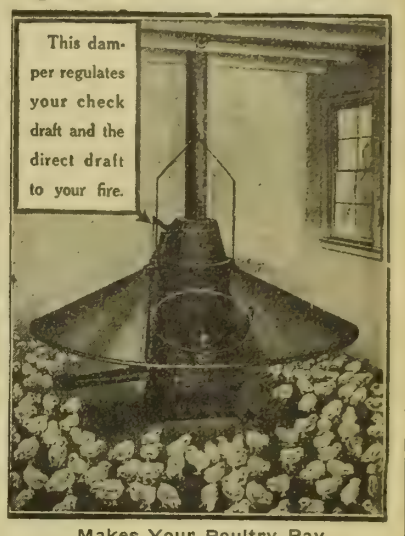


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# Los Angeles Markets

Los Angeles, December 20, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price, 50 cents.

Prices extra past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| December | 13 | 14 | 15 | 16 | 18 | 19 |
| '22 | 54 | 54 | 53 | 53 | 50 | 50 |

### CHEESE

Brokers' prices:
California flats, 24.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 50; case count, 47; pullets, 48; pewee pullets, 34.

Prices extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| December | 13 | 14 | 15 | 16 | 18 | 19 |
| '22 | 55 | 55 | 55 | 55 | 55 | 50 |

### POULTRY

**Price to producers L. A. produce exchange: Hens, 20; colored, 28; broilers, 30; roasters, 26; old roosters, 14; fryers, 26; ducks, old, 20; ducklings, Pekin, 3½ up, 26; others, 22; geese, 25; turkeys, live, young toms, 33; dr., 38; old, live, 31; dr., 36; hens, live, 32; dr., 37; small hen and tom, 15; squabs, 25@50; capons, 30@35. Belgian hares, 12@18; old, 8.**

### LIVESTOCK

Weekly summary, Tuesday, December 19, 1922, furnished by Federal-State Live-

Cattle: There was a strong tone to market at last week's close, but part of the advance was lost Monday and Tuesday. Good "Christmas" steers reached 8.65 Friday. There were 96 horned Herefords from Visalia, California, averaging 1216 pounds, in the string. Two loads of 1150 pound Idaho bullocks brought 8.50 Saturday. Other good lots ranged from 7.85 to 8.25, two strings of northern steers going at those prices Monday. Common steers went at 5.75. Practically no Arizona or Mexican steers arrived.

Beef cows reached 6.25 Monday, averaging 1090 pounds. Good California heifers same price. Most of the beef cows ranged from 5.00 to 6.00, trashy Mexican canners 1.50. Bulls, 3.00 to 4.00.

Demands good for feeders at steady prices. Good, northern selling 6.00 to 6.75, others 5.50 to 6.00. Arizona yearlings at 5.00.

Calves: More life to calf market. Most of supplies from Arizona and New Mexico, selling 5.00 to 6.50. Choice light vealers, 7.50 or better.

Hogs: With light supplies, the hog market shows some improvement. Top on light hogs Tuesday 9.60, with 170 pound averages, 9.50. Killing pigs brought 9.25. Packing sows, 6.00 to 7.00.

Sheep: Receipts sheep and lambs light, nothing choice. Medium half fat Inyo lambs 11.25 Tuesday, averaged 92 pounds. Choice light lambs, 14.00.

Daily Livestock Market Summary, Tuesday, December 19:

Cattle: Beef steers steady. Monday, 400 medium to good Nevada steers, averaging 1131 pounds, brought 7.85; medium Colorado Tuesday, 7.25; common tailenders, Arizona, 5.75. Good feeders on hand but not sold up to late hour. Good cows brought 5.75 and medium 4.75. Load of Arizona yearling stockers sold at 5.00.

Calves: More action to calf market. Common to medium Arizona and New Mexico calves, averaging 240 to 300 pounds, sold from 5.50 to 6.50.

Hogs: Quick clearance on light supply hogs at steady prices. Four loads of good light hogs brought 9.60, with 169 pounders at 9.50 and 465 pound packing sows at 6.00.

Sheep and Lambs: Market steady. Band of 233 medium quality Inyo lambs sold at 11.25, averaged 92 pounds.

Quotations, based upon actual sales at the Los Angeles Union Stockyards, follow:

Cattle: Beef steers, good grade, 7.75@8.50; medium grade, 7.00@7.75; common, 5.50@7.00. Beef cows, good grade, 5.25@6.25; medium grade, 4.25@5.25; common, 3.50@4.25; canners and cutters, 1.50@3.25. Bologna and butcher bulls, 3.00@4.50. Feeder steers, 5.00@6.75.

Calves: 150 to 200 pounds, good and choice, 7.00@7.50; 200 to 250 pounds, 6.00@7.25; 250 to 300 pounds, 5.25@6.25; over 300 pounds, 5.00@6.00.

Hogs: 150 to 200 pounds, 8.25@9.60; 200 to 250 pounds, 9.00@9.50; 250 to 300 pounds, 8.25@9.00; over 300 pounds, 7.50@8.00; smooth sows, 7.00@7.50; rough sows, 6.00@7.00. Feeder pigs, 7.50@8.00.

Sheep and Lambs: (Full wooled) lambs, good and choice grades, 13.25@14.00; medium grade, 12.00@13.25; ewes, medium grade and good, 5.75@6.50; yearling wethers, medium and good, 8.50@9.50; aged wethers, 7.00@7.50.—Nelson R. Crow, local representative.

Supplementing the government market report the Cultivator will hereafter endeavor to secure and publish a report of the daily sales of carload lots at the Los Angeles Union Stockyards, giving number of animals, average weight, point of origin if possible, and price. These figures have to be obtained from the separate commission firms and a full report is not always obtainable. Sales since December 12 are:

Dec. 12: 25 good steers, 1050, 7.75; 12 calves, 160, 7.00.

Dec. 13: 13 steers, dehorned, good, 1060, 8.00; 27 cows, 820, common, 4.00; 9 cows, good, 1140, 5.40; 68 calves, 320, 6.25; 18 calves, 240, 7.50; 53 calves, 280, 5.50.

Dec. 14: 260 stocker calves, common, 292, 5.60.

Dec. 15: 53 good Colorado steers, 1035, 8.25; 110 good Wyoming steers, 1025, 8.00; 28 good steers, 1040, 8.00; 21 medium steers 890, 7.00; 138 common steers, 1050, 5.75@7.50; 24 Idaho cows, medium, 1060, 5.25; 11 Idaho cows, 845, 5.75; 152 good calves, 300, 6.75.

Dec. 16: 92 prime California steers, 1225, 8.65; 54 Idaho steers, good, 1030, 7.60; 15 calves, 200, 4.00; 642 wethers, 13.00.

Dec. 18: 68 good Nevada steers, 1115, 8.00; 410 good Nevada steers, 1125, 7.85; 58 good steers, 1030, 7.60; 49 feeders, 6.25@6.50; 30 cows, 1090, 5.75; 29 cows, 1070, 5.50; 33 good cows, 1160, 6.25; 41 medium cows, 1050, 5.40; 68 calves, 300, 6.50.

### POTATOES AND ONIONS

These are the actual prices obtained Tuesday, December 20, 1922, furnished by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Northerns: Rivers, 1.50@1.75; poor, low as 1.40 cwt. Idahos: Russets, 1.50@1.75. Sweet Potatoes: Locals, Nancy Halls, 2; Jerseys, 2@2½ lb. Northerns: Nancy Halls, 2½@3 lb.

Onions: Stockton Browns, 2.25@2.50; Whites best, 4.25@4.50; poorer, 3.75@4.00 cwt. Locals: Yellows, 75; Spanish, 1.00 per lug; 3.00 per cwt.

Garlic: Mex. and Northern, best, 8@10; poorer, 7.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, December 20, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Artichokes, 1.50@1.75 doz.; small, 1.00@1.25 doz.

Beans: Kentucky Wonders, 13@15. Limas, 8@9.

Bunched Vegetables: Per dozen bunches: Turnips, beets, 30@35; carrots and spinach, 25; parsley, 15; onions and radishes, 10@15 ;parsnips, 40.

Cabbage: Local and Northern, best, mostly 2.

Cauliflower: Per doz., 75@1.00.

Celery: Wide range in quality and prices. Locals: best, 3.00@3.25; poorer, 2@2.50. Northerns: 3.00@4.00 per crate according to quality.

Cucumbers: Southern, 1.85@2.00 per flat; 3.00@3.25 per lug.

Eggplant: Local, 5@7 lb.

Lettuce: Local, best, 1.25; ordinary, 75@1.00 per field cr.

Peas: Orange County and Carlsbad, best, 10@12; local, 8@10; Imperial 14@15.

Peppers: Locals: Bells, mostly, 6; Chilis, 6; Cherry Chili, 16@18.

Sacked Vegetables: Per sack. Beets and Carrots, 1.00; Turnips, 1.25@1.50.

Squash: Summer best, 1.50@1.60 lug; Hubbard, 1½@2; Cream, 3@3½.

Tomatoes: Local: lugs, ripe best, 1.50@1.75; poorer, 1.00@1.25.

### FRESH FRUIT

These are actual prices obtained December 19, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Northerns: Bellflowers fancy, 3½ tier 1.25@1.35; 4 tier 1.35@1.40. Utahs: Jonathans loose, 3½@4 lb.; poorer, 3; Delicious, 7 lb. Idahos: Jonathans loose, 3@4; Ganos, 3 lb. Washingtons: Jonathans packed, extra fancy, 2.00; fancy, 1.75@1.85; Delicious, extra fancy, 2.40@2.65; Yellow Newtowns, fancy, 1.60@1.75 per box. Oregons: Spitzenburgs extra fancy, 2.10@2.25.

Cranberries: Cape Cods: Late Howes, 18.00 per barrel; 9@9.25 per half barrel crate. New Jerseys: Late Howes, 18.00 per barrel, crates, 9.00.

Grapes: Locals and Northerns: Malagas, best, 7@8; poorer, 4@5; Red Emperors, 5; poorer, 3@4 lb.

Pears: Northerns and Locals: Bartletts, best, 7½; poorer, 5@6.

Persimmons: Lb., 10@12; poorer, 7@8.

Pomegranates: Lb., 6@8; few large, 9.

### CITRUS FRUIT

Grapefruit: Arizonas: 64-96 sizes, seedless, 4.75@5.00 per box. Imperial Valley, special brands, 5.50@6.00 per box. Northern, 3.00@3.75 per box.

Lemons: Special brands, fancy 7.50@8.50; choice, 6.00@7.00 box; market pack, 3.50

Oranges: Northerns: Special brands, Navels, 4.25@5.00 per box, market pack, 3.25@3.50 per box.

### BEANS

California Lima Bean Growers Association estimates regular Limas remaining in California by January 1, 1923, 420,000 bags, from which seed must be deducted.

Prices quoted Dec. 10:

| | |
|---|---|
| Limas | 8.50 |
| Baby Limas | 10.50 |

### HAY

**Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:**

A slightly weakened condition obtains because of increased receipts, but it is thought to be only temporary.

| | |
|---|---|
| Tame Oat | 22.00@24.00 |
| Barley Hay | 16.00@18.00 |
| Rabbit Alfalfa | 24.00@26.00 |
| No. 1 Dairy | 22.00@24.00 |
| Standard Alfalfa | 16.00@18.00 |
| Wheat Straw | 10.00@12.00 |
| Barley Straw | 9.00@11.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around 25.00@27.00 as a fair average. No. 1 dairy is varying from 15.00@18.00 with 16 as a mean or average price. Standard, 10.00@12.00.

### GRAIN

Prices L. A. Grain Exchange, December 19:

Milo, 100 ton lots, January del., 1.97¼. Barley, 100 ton lots, January del., 1.67¾.

Cal. Farm Bureau Marketing Exchange reports December 19:

Heavy market accumulations of barley have cleaned up. L. A. market is below Eastern. It is dangerous to ship wheat in here unless sold. Good seed wheat is bringing 2.25; good milling, 2.35.

Barley is stiffening up; arrivals very light last week. Selling 1.65@1.67½. Eastern higher.

Milo arrivals too liberal to bring up market, selling 2.00@2.10 according to quality.

Corn cheaper at L. A. than for shipment because of heavy arrivals. 1.73¾@1.76¼ for No. 2 bulk grain; for shipment prices would be nearer 1.80.

S. F. market prices for barley about 7½ below L. A.; all others about same level.

# San Francisco Markets

San Francisco, December 19, 1922.

### BUTTER

**Sales on Dairy Exchange:**

**Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:**

| | |
|---|---|
| Extras (Dec. 20) | 50 |
| Firsts (Dec. 20) | 49 |

Extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| December | 13 | 14 | 15 | 16 | 18 | 19 |
| '22 | 53 | 51½ | 51 | .... | 51 | 50 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats (Dec. 20) | 25 |
| Oregon Trips | 26½ |
| Oregon Young America | 28 |
| Cal. Y. A. fy | 28½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras (Dec. 20) | 54 |
| Extra Pullets (Dec. 20) | 49½ |
| Undersized | 47 |

Extras past week:

| | | | | | | |
|---|---|---|---|---|---|---|
| December | 13 | 14 | 15 | 16 | 18 | 19 |
| '22 | 57 | 56½ | 54½ | .... | 53½ | 54 |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of December 18, by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers: 1 to 1¼ lbs., 33@35 per lb.; 1½ to 1¾ lbs., 30@32 lb. Colored, 25@27 per lb.

Fryers: Leghorn, 2 lbs., 26@28 per lb. Colored, 2 to 3¼ lbs., 25@27 per lb.

Young Roosters: Colored 3½ lbs. and up, 25@27 per lb. Staggy, showing spurs, 21@23 per lb.

Old Roosters: Colored, 17@18 per lb. Leghorn: 14@15 per lb.

Leghorn Hens: 2½ to 3 lbs., 18@20 per lb.

Large Colored Hens: 26@28 per lb. Off stock 23@25 per lb.

Ducks: Young, 18@20 per lb. Off stock, 15@18 per lb.

Geese: Young, 20@25 per lb., according to quality.

Live Turkeys: 32@35 per lb.

Dressed Turkeys: Fancy, 38@40 per lb. Off stock, 25@35 lb.

Belgian Hare: Live, 15@18 per lb. Dressed, 18@23 per lb.

Jack Rabbits: 2@2.50 per doz.

Squabs: Live, fancy, 55@60 per lb. Common, 3.00@3.50 per doz.

Old Pigeons: 2.50@3 per doz.

Guinea Fowls: Young 8@10 per doz.

### LIVESTOCK

**In reviewing conditions governing the local livestock market during the past week the Federal-State Livestock Market News Service says:**

Cattle prices, per cwt. (delivered off cars from San Francisco)—Beef steers, good grades, 7.75@8; medium grade, 7@7.50; common grade, 6@6.75; beef cows, good grade, 5.75@6; medium grade, 5.25@5.50; common grade, 4@5; canners and cutters, 2@3.50; bologna bulls, 3.00@4.50.

Calves: 150 to 200 pounds, good and choice, 7.50@7.75; 200 to 250 pounds, 7.25@7.50; 250 to 300 pounds, good and choice, 6.75@7.25; over 300 pounds, 5.50@6.50.

Hogs: Good and choice, grain fed Californias, 150 to 200 pounds, 10@10.50; 200 to 250 pounds, 9.50@10; 250 to 300 pounds, 8.50@9.25; 300 pounds up, 7.50@8; smooth sows, 250 to 300 pounds, 6.50@7; rough sows, 250 to 300 pounds, 5.50@6; rough sows, over 300 pounds, 4.50@5.50.

Sheep and Lambs—Lambs, good and choice grades, 13.50@14; medium grades, 13@13.50; ewes, medium and good, 5.50@6.50; wethers, medium and good, 8.50@10.

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained December 18, between 7:30 prices obtained December 11, between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Wharf and track prices, Rivers, 80@1.00; Salinas, 1.65@1.85 cwt. Idaho Russets, 1.25@1.35 cwt. Washington Gems, 1.20@1.30 cwt. Jobbing: Rivers, 90@1.15.

Sweet Potatoes: Merced, 1¾@2 lb. Cellar, 2¼@2½ lb. Nancy Halls, 2 lb. Poor for less.

Onions: Green onions, 1.25@1.50 box. Stockton Browns and Yellows, 1.25@1.75 cwt. at wharf, white, 1.50@1.75 cwt.; jobbing prices, 25@35 higher. Garlic: 4@6.

### VEGETABLES

**Prices furnished by state department of agriculture, division of markets:**

**Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, December 18, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.**

Artichokes: 22.00@24.00 per cr.

Beans: Kentucky Wonder and Wax, .2@18 per lb.; French, 18@20; Limas, 7@9 per lb.

Brussels Sprouts: No. 1, 7@7½ per lb.

Bunched Vegetables: Carrots, 50@60 per dozen; turnips, 55@60 per dozen; beets, 50@60 dozen; parsley, 30; radishes, 30 per dozen bunches.

Cabbage: 1@1¾ per lb.

Cauliflower: Doz., 1.00@1.25.

Celery: Local, 3.00@3.75 cr.; 15@25 per half doz. bunches.

Cucumbers: Southern 2.00@2.50 small box; 3.00@3.50 lug; English, 2.00@3.00 doz.

Eggplant: Southern, lb. 6@7.

Endive: Lb., 65.

Lettuce: Local, best, 1.25@1.75 cr.; Sacramento fy., 2.50; so., 2.50@2.75.

Mushrooms: Lb., 25@40.

Peas: Imp. Valley, 10@18 lb.

Peppers: Bells, Southern, 6@8; Chili, 8@9.

Rhubarb: So. 1.00@1.50 box.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 1.00@1.75; beets, 1.00@1.25; pumpkin and squash, 1.25@1.75 sk.; lb. 2.

Spinach: 6@8.

Squash: Summer, 1.25@1.75 L. A. lug; Italian, 1.25@1.50 box; Cream lug, 1.50.

Tomatoes: San Diego best, 1.25 cr.; 2.50@3.00 L. A. lug. Los Angeles, 1.75@2.50 per lug.

### FRESH FRUIT

**Prices furnished by state department of agriculture, division of markets:**

**Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, December 18, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.**

Apples: Gravensteins, nominal. Bellflowers, best, 1.10@1.50 box. Winter Pearmains 1.25@1.50 box. Newtowns, 3½@4 tier; 1.25@1.50 box. Spitzenburg, fancy, 1.15@1.40 box. Jonathans, 3½@4 tier, 1.50@1.75 Spitzenburg, 1.50@2.00 box. Choice, 1.50@1.75. Winter Banana, 2.25@2.75 box. Lady apples, 2.50@3.75; Delicious, 2.25@2.75; Rome Beauty, 1.75@2.25; Newtowns, 1.50@1.75.

Avocados: Cal., 1.50 doz; Tahiti, 1.00@3.00 doz.; Florida, 5.00@6.00 doz.

Bananas: Best Eastern, 8@8½ lb.; Hawaiian, 7½@8.

Casabas, 50@85 crate, or 75@1.50 doz.

Cranberries: Eastern, Late Howe, 19.00@20.00 bbl.; Oregon, 5.50@5.75 box.

Grapes: All varieties, 1.00@1.65 cr.; 75@1.75 lug.

Huckleberries: Lb., 25.

Olives: Ripe, 7@8 lb.

Pears: Anjou, 2.00@2.50 box. Comice, 2@2.25 box. Glout Morceau, 1@1.25 box. Winter Nellis, fancy, 1.50@2.00 box.

Persian Melons: Nominal.

Pomegranates: 1.00@1.25 per half orange box.

Persimmons: 75@1.75 flat cr.

Quinces: 75@1.50 box.

Strawberries: 1.50@2.25 cr.

### CITRUS FRUIT

Grapefruit: Southern California, 2.00@3.00; Arizona, 4.00@5.00 box; Imp., 6.00@6.50.

Lemons: Special pack, 7.00@7.50 box. Choice, 6.00@7.25. Lemonettes, 2@4.00 box.

Oranges: Valencias, fancy, all sizes Navels, 3.50@4.50 box; Tangerines, 2.00 box; 3.50@4.00 lug.

### BEANS

Shipping prices for 100 pounds. Quotations from California Bean Growers' Association, C. R. C., 1922 beans:

Large whites, 6.25; small whites, 6.35; pinks, 6.40; Mexican reds, 5.70; red kidneys, 7.50; Henderson Bush, 10.00; cranberry, 7.75; bayos, 7.40; blackeye, 5.00.

### HAY AND FEEDSTUFF

Under date of December 16, A. W. Scott Co says:

Receipts past week 1101 as compared with 801 of previous week. General demand is not strong and prices of all grades show an easier tendency. Interior trading light. Weather and road conditions have hampered loading and interfered with country demands. Alfalfa quiet. Oversupply in Los Angeles market diverted heavy shipments to this city, depressing prices.

**We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges for switching, cartage, commission and handling expenses must be added according to conditions.) Transportation bad, scarcity and high prices for spot.**

| | |
|---|---|
| Wheat Hay, No. 1 | 17.00@20.00 |
| Wheat Hay, Fair grade | 15.00@17.00 |
| Tame Oat Hay | 17.00@21.00 |
| Wild Oat and Barley Hay | 14.00@16.00 |
| Alfalfa Hay | 19.00@21.00 |
| Stock Hay | 12.00@15.00 |
| Straw | 11.00@12.00 |
| Barley, Ground | 35.00@37.00 |
| Rolled | 33.00@35.00 |
| Oats, Rolled Feed | 45.00@48.00 |
| Bran | 37.00@39.00 |
| Millrun | 35.00@41.00 |
| Middlings | 47.00@50.00 |
| Linseed Meal | 58.00@60.00 |
| Coco Meal | 34.00@36.00 |
| Alfalfa Meal | 30.00@31.00 |
| Cottonseed Meal | 51.00@53.00 |
| Molasses Beet Pulp | 44.00@46.00 |
| Milo | 45.00@46.00 |
| Corn Meal or Cr. Corn | 46.00@48.00 |
| Whole Corn | 41.00@43.00 |
| Scratch Feed | 50.00@52.00 |

### GRAIN

Prices S. F. Grain Exchange, December 18, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 2.25@2.30; feed, 2.20@2.25.

Barley Feed, 1.47½@1.52½; shipping, 1.52½@1.57½.

Oats: 1.60@1.75.

Corn: Colored Milo, 1.80@1.90; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.80@1.82.

# Citrus Markets

Los Angeles, December 20, 1922.

Navels here had strong competetion

with Floridas and island grown fruits. Poor fruit especially are having a hard time of it. There are no high prices for lemons but market is in better condition than is the orange market.

**Shipments**

Shipments of citrus fruit to date since November 1, 1922:

Southern California: Oranges 1109 cars; lemons, 528; total, 1637. To same date last season, oranges, 941; lemons, 670; total, 1611.

Central California: Oranges, 3,250; lemons, 62; total, 3,312. To same date last season, oranges, 3,647; lemons, 20; total, 3,667.

Northern California: Oranges, 256; lemons, 19; total, 275. To same date last season, oranges, 322; lemons, 3; total, 325.

## Snappy Notes on Livestock

**By A. L. Spellmeyer**

You folks in the country want a translation of the market report, not cow circle talk, so here goes for that first, and later you can have the rest of it, if you read further.

Every old condition we describe reaches you late. If there is a calf shortage reported, by the time you get the dope it's probably a calf oversuppy; if a beef oversupply is reported, by the time you get it the market is short, etc. The only fact that runs true to form is the continued low price for the light feeder steers that straggle in.

Calves have been a drug on the market lately, the ordinary Southwest large mixed kind going from 5.25 to 5.60 and small choice in little lots up to 7 or better. Too many have come in, prices binged all over the state and now they have quit coming. Fine big steers went to 8.65 last week, and this Monday, with all last week short, they are dragging under the 8 cent mark on Monday morning. Some fleshy feeders sold today at 6.25, some near beef dehorned and good for 6.50, some good fat cows 5.50 and some up around 6 cents. Light steers are not sure of anything over 4.75 to 5 cents unless they have quality, and that's cheaper than they can be bought for on any range and shipped in.

There are stocker and feeder buyers today who are not able to get their needs. I heard of a dandy bunch of Texas cows, almost purebred and going over 900 pounds, that only cost 3.70 delivered Imperial.

The reason beef slowed up is the Christmas season with the turkey and pudding demand instead of steak and roast beef, together with the fact that a lot of cattle are offered less f. o. b. range cheaper than at the stockyards and even regulars have not been able to resist taking them on, for exactly as prices bring stockyards shipments so does price outside make outside purchase if it saves the killer anything. 6 to 6.50 outside, shrunk, means often the equivalent of 7 delivered instead of the 8 recently prevalent, and 7.50 at most.

There is a report out that next year will be short on yearling steers, and this spring will show the earliest range contracting we have known for some time. Several parties are already figuring early spring steer contracts in the face of the present apparent low feeder and stocker prices.

The range supplies are harder to get now owing to winter tie-up. A thousand steers, very nice, that weighed 550 pounds in Los Angeles recently went on up the Coast. I priced a part and was asked $38 per head. I priced another lot of 300 light 700 pound Arizona cows a buyer put up towards Paso Robles and was given $35 as a low mark. In other words after the yearlings reached good California grass they are valued at 7 cents and the cows at five cents, instead of being five cents on the range or at the stockyards for light steers, and three cents on the range or stockyards for thin stocker cows of common breeding.

Some stocker calves of fine quality have been selling at 5 to 6 cents and weighing 300 to 350 pounds as heavy veal, meaning 15 to 20 for an animal that started with the kind of feed California has this year will in two years outweigh the ordinary yearling bought next spring at a probable $30 up price, at least 100 pounds, but these California men don't seem to realize this and, though their future depends on better prices than prevalent, expect these low prices to continue indefinitely from their lack of purchase.

The latest thing at the stockyards is the new $15,000 bond and the protected market sales bank account that is being required by the order from Washington, from all commission men handling consignments. This positively protects producer consignments and makes it safe to ship to any registered commission man operating on the yards, for it's all under government supervision.—A. L. Spellmeyer.

## CERTIFIED SEED POTATO GROWERS ASSOCIATION OF CALIFORNIA

A MEETING of the following individuals and representatives of companies engaged and interested in the growing of certified seed potatoes in the state was held at Sacramento on December 13. Among those present were E. D. McSweeny, El Monte; Carl Nielsen, Valley Ford; Wulff Ranch Company, Clarksburg; Opal W. Fry, Shafter; C. G. Patton, Riverside; A. T. Hooven, Arcata; W. A. Beer, Arcata; W. A. Caldwell, Camino; E. G. Swift, Calistoga; Pasadena City Farm, Bert C. Bougher, superintendent; W. V. Shear, potato specialist, state department of agriculture.

W. V. Shear of the state department of agriculture briefly outlined the growth and development of the certified seed potato industry of California since its beginning in 1915. He referred to the work of the former association of the certified seed potato growers which had practically ceased to function and suggested the formation of a new association or the revival of the old with extended activity.

E. G. Swift of Calistoga outlined a form of organization designed to market cooperatively the 1922 crop of certified seed potatoes. It was voted to continue the old organization with certain modifications due to a number of the growers having already marketed portions of their 1922 crop and entering into contracts for future delivery. The name of the association was changed to The Certified Seed Potato Growers' Association of California and the following officers elected: E. D. McSweeny of El Monte, president; Carl Nielsen of Valley Ford vice-president, and E. G. Swift of Calistoga, secretary-treasurer.

One of the actions taken by the association to extend the planting of certified seed potatoes was the adoption of a resolution instructing the secretary to communicate with all of the county farm agents of the state, offering to supply certified seed for demonstration plats of one-half to one acre of any or all of the different varieties of certified seed at a uniform price of $2 per hundred at point of delivery in each community, no limitation placed on number of demonstration plats in any one county, all however, being under supervision of the county farm agent in order that The Certified Seed Potato Growers' Association might receive reliable and tabulated data from which deduction can be accurately drawn as to the comparative value of certified seed in comparison with uncertified seed grown under similar conditions.

Probably one of the greatest achievements of the convention was the passing of a resolution that, beginning with 1923 crop planting, no potatoes planted shall be subject to certification that have not been grown from certified seed. Should any grower desire to develop any variety not now certified, he must first make known his intention by communicating with the potato specialist of the state department of agriculture and obtain his approval of the seed that is to be planted. Likewise any person desiring to introduce from other states new seed of the varieties now being certified in this state must obtain the same approval in order to have his stock certified.

Another great forward step was the adoption of the following resolution:

"Beginning with the 1923 crop, whether one or two crops are grown in one year, from that crop must be selected from the hills that are truest to the type of each variety a quantity of seed sufficient to plant an acreage equal to one-tenth of the total acreage which that person contemplates planting for his next crop of that variety. Thus in 1924 any person desiring to have his crop certified must plant it from seed grown from certified fields which have been grown from hill-selected seed that has been certified.

Anyone desiring further information relative to the association's work for the coming year may address E. G. Swift, Secretary-Treasurer, Calistoga.

## A GREAT WINNING RECORD

WE believe one of the most remarkable performances by breeders of poultry was that of the California White Leghorn Breeding Farms of Lankershim in the Oakland show of 1922. The White Leghorn is California's long time favorite, and it is said that it was the most hotly contested of any class at the Oakland show. And yet the Lankershim institution won 1, 2, 3, 5, 6, 7 and 8 on cock; 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 on hen; 1, 2, 4, 5, 7, and 8 on cockerel; 1, 2, 6, 7 and 8 on pullet; 1, 2, 3, 4 and 5 on old pen and 1 on young pen. In addition there were winnings of sweepstakes on female, all varieties competing, on first hen; sweepstakes, male, all varieties competing, on first cock bird; also every one of the six specials offered by the National S. C. W. Leghorn Club.

Speaking of the work of the California White Leghorn Breeding Farms the Pacific Poultrycraft says:

"We find they have already sold 9,000 ready-to-lay pullets this fall and their books show orders for 2,000 more to be delivered in the next 30 days. This is in addition to the thousands of hens sold for breeding purposes.

"Farther on down we came upon five yards of 600 hens recently purchased from L. G. Wiley, of Van Nuys that won the $500 prize offered by Holly Hatchery in the flock laying contest which opened October 1, 1920 and closed September 30, 1921. These hens averaged 217 each for the entire year and now, going on their third year will without doubt make excellent breeders, giving a high fertility of eggs with plenty of stamina in the youngsters. They are mated to Tancred cockerels of 300 egg lineage or better, Hanson cockerels of the same high records and a few to Morton cockerels of 275 egg lineage or better. You simply cannot go wrong in buying hatching eggs or chicks from such wonderful matings as these and the absolute guarantee of satisfaction that is backed by a $200,000 organization is proof enough you will receive every dollar's worth of value.

"We saw yard after yard of wonderful native hens in addition to these, 1,600 in number, that will be used in breeding operations this season. They are the result of rigid culling from an original flock of 10,000 birds and are mated in different yards to Hillview, Pennsylvania Farms, Tom Barron, Hollywood, Tancred and Hanson cockerels, all of the very best egg producing lines obtainable. It would be impossible for the average poultryman to assemble in one flock the great number of the world's highest egg laying strains and breed them separately, for not only does the investment reach staggering figures but the outlay of housing yards and other equipment runs into thousands of dollars. California and Southwestern poultrymen are now offered the best obtainable from any of his favorite strains at live and let live prices and within easy shipping distance."

The farms are now owned by Messrs. Eckman and Summers of Lankershim, they having succeeded E. E. Emerson and Rancho del Martino. They have associated with them, as all around poultry expert, J. T. Milligan, formerly of Louisville, Kentucky. Mr. Milligan began his study of poultry and its problems in 1900 and successfully exhibited at many of the world's greatest poultry shows. In 1907 he purchased a farm at Stithton, Kentucky, and devoted all his time for the following ten years to his now famous flock which he bred under the name, Oak Grove Poultry Farm. During these years he accumulated thousands of ribbons and loving cups. In 1918 he went to the Kentucky state agricultural station at Lexington and was placed in charge of the egg laying contest. Past experience made it possible for him to so care for and feed the birds in competition that "Lady Walnut Hill," a S. C. White Leghorn pullet laid 94 eggs in 94 days without a miss, establishing a world's record for continuous production. Under his contract with Messrs. Eckman and Summers he will raise youngsters from exhibition matings during 1923. He will brood 7,000 chicks during January and February, a similar amount during March and April, and again in May and June he takes over another 7,000. Without doubt this man will be the means of raising the greatest amount of high class White Leghorns for the above concern ever in the history of California during one season.

## GYPSUM FOR POTATOES

Up in the San Fernando Valley, Los Angeles County, several potato growers have used gypsum during the past year with apparently excellent results. These results have been as varying as the amount applied per acre. Some claim an increased yield, some a smoother potato skin, others a small benefit in several ways. That some soils benefit by an application of gypsum is beyond question. These benefits have been reported to the county farm adviser, and L. C. Holmes, soil expert and truck crop specialist, has applied gypsum to ten trial plots in amounts ranging from 1,400 pounds to 3,000 pounds per acre. Another year we shall come a little nearer knowing in just what way and to just what degree crops are benefited by gypsum and what amounts are best to apply. But one year will not tell the whole story, and Mr. Holmes hopes to maintain these plots for a number of years, applying the same amounts each year. At the end of the third year some definite knowledge will have been obtained upon which growers may base their applications with an assurance of certain results.

## SWAPPING ALKALIES

Every possessor of alkaline soils knows that a relatively small amount of black alkali, or carbonate of soda, is highly injurious to all crops. Nearly as many know that white alkali, or sulphate of soda, is far less injurious to any crop and that some crops are tolerant of large amounts of alkali salts if no carbonate is present. It is hard to estimate the effect upon crops of these salts for black alkali is never present without one or more salts being there in quantity sufficient to affect the crop; and a chemical analysis is necessary to determine the exact amounts there are in the combination one has to combat. But none of the others nor all of them constitute such a menace to agriculture as black alkali. Faced by this foe, the farmer has remedy for reducing the amount, and that is the application of gypsum or "land plaster." This changes carbonate or "black" to sulphate or "white." This is a permanent change, for it does not change back again. The greatest practical benefit that comes from this change lies in the fact that the sulphate is the more soluble form and is therefore easily taken up in the water and washed away, and this is the only way in which soils may be rid of alkali.

**WEATHER REPORT**

San Francisco, December 16, 1922.

| Stations | Rainfall—Week | Rainfall—Season | Norm. | Temp.—Max. | Temp.—Min. |
|---|---|---|---|---|---|
| Eureka | 92 | 10.72 | 13.29 | 52 | 34 |
| Red Bluff | 78 | 10.09 | 7.77 | 54 | 30 |
| Sacramento | 3.20 | 7.95 | 5.18 | 56 | 44 |
| San Francisco | 2.91 | 11.41 | 5.82 | 61 | 45 |
| San Jose | 2.72 | 8.14 | 4.34 | 62 | 40 |
| Fresno | 1.12 | 2.90 | 2.69 | 62 | 46 |
| San Luis Obispo | 3.39 | 11.08 | 4.52 | 64 | 44 |
| Los Angeles | 2.03 | 4.65 | 3.39 | 64 | 48 |
| San Diego | .72 | 1.98 | 2.04 | 64 | 48 |

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# The California White Leghorn Breeding Farms

## Lankershim, California

## Successors to E. E. Emerson and the Rancho Del Martino White Leghorns

# Sweep Oakland Show

The Oakland Show of 1922 has the "Hottest Class" of White Leghorns ever seen on the Coast, The Panama Pacific International Exposition not excepted.

A Clean Sweep is Made by The California White Leghorn Breeding Farm of Lankershim, California.

Our Winnings follow:

| | | | |
|---|---|---|---|
| **COCK BIRDS** | **1-2-3-5-6-7-8** | **PULLETS** | **1-2-6-7-8** |
| **COCKERELS** | **1-2-4-5-7-8** | **OLD PEN** | **1-2-3-4-5** |
| **HENS** | **1-2-3-4-5-6-7-8-9-10** | **YOUNG PEN** | **1** |

**Sweepstake Female, all varieties competing on 1st Hen**
**Sweepstake Male, all varieties competing on 1st Cock Bird**
**Everyone of the SIX SPECIALS offered by the National Single Comb White Leghorn Club**

We are in position to furnish hatching eggs and baby chicks from either of the above strains which are housed and bred separately, matings having been made up on November 1st.

Other than these we have thousands of extraordinary heavy laying breeding hens mated separately to males from the admitted heaviest egg laying strains of Single Comb White Leghorns on earth; namely, Tancred, Hollywood Farms of Washington, Hanson of Oregon, Ferris of Michigan, Hillview Farms of Illinois, Pennsylvania Farms of Pennsylvania, and Tom Barron of England.

Our plans are laid to develop 30,000 pullets from these strains during 1923. If you don't care to bother with baby chicks, now is the time to make arrangements for 3, 4, 5 and 6 months old pullets to be delivered to you on the date most suitable to your needs. These pullets will be developed on free range in orchard and in corn fields and will come to you in PRIME condition for they are **bred right, hatched right, brooded right,** raised in the best of environment like wild fowl for health and stamina, and will go into the laying house prepared to give a splendid account of themselves as commercial egg producers.

### GUARANTEED 100% FERTILITY ON ALL HATCHING EGGS

We guarantee 100% fertility on hatching eggs by replacing all those found to be infertile. Two plans for replacement being given—"A" and "B."

Under plan "A" when you buy hatching eggs, for instance 100 eggs, and our incubators at that time are showing an average of 90 percent fertile we ship 100 eggs plus 11 extra eggs as a replacement on the 10 percent that should be infertile. Thus you purchase 100 eggs and we ship you 111 eggs so they may all be incubated at the same time in your machine.

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You don't have to leave home to get the best in the world either in high powered egg stuff or standard bred birds. We already have done that job for you and you can get them at prices that you can afford to pay whether you be breeder or commercial poultry man because our birds will pay interest to you on the cash you invest in them.

We have paid staggering prices for some of our breeders. We did this because as a large breeding farm we felt that these breeders would earn interest for us which they are now doing. That's why the California White Leghorn Breeding Farms were established, so that California breeders and commercial poultrymen don't have to go beyond the confines of their home State for the best there is in Leghorns. The builders of this mammoth breeding farm realized that California has twelve growing months in which to produce the world's premier White Leghorns.

We believe it just as reasonable to import from Northern and Eastern States breeding leghorns as it would be to ask those states to furnish us in oranges or other citrus fruit. The reason other states buy citrus fruit from California is because we have 12 growing months in which to produce it. For the same reason White Leghorn breeders from other states are buying their stock from our farms because they know that we have 12 growing months in which to produce it. Realizing that you can produce better stuff with 12 growing months than you can in six or eight months.

We are in the same comparative position as a manufacturing concern whose first cost for production is so high that the consumer could not afford to buy if production costs were not lower.

Our original investment in high quality blood lines and high standard breeding stock of National and International reputation is the machinery of our plant from which production in **quantity is gained** and **quality reproduced** at **prices you can afford to pay.**

### HATCHING EGGS

**Fifteen for $2.00—In lots of 100, 12c each—In 500 lots, 11c each—in 1000 lots, 10c each.**

### BABY CHICKS

**In lots of 100, 25c each—In lots of 500, 24c each, in lots of 100 or over, 23c each.**

**We always have Three, Four, Five and Six Months old Pullets from Pedigreed Trapnested Stock.**

You are cordially invited to come and see the stock from which your hatching eggs or baby chicks will be produced—also the pullets we are now offering. Or you may order from this advertisement by mailing remittances for 10 percent of your purchase.

**WRITE FOR OUR MAGNIFICENT CATALOG—IT'S FREE FOR THE ASKING**

# The California White Leghorn Breeding Farms

**R. R. 1, Box 277, LANKERSHIM,** **Los Angeles Co., Calif.**

# CALIFORNIA CULTIVATOR

and LIVESTOCK and DAIRY JOURNAL

Los Angeles — An Illustrated Weekly for the Rural Home and Ranch — San Francisco

Vol. LIX — December 30, 1922 — No. 27


## More Rural Homes Electrized in California Than in Any Other State

Hydro-electric plants in California, supplemented by a few steam plants which are maintained for standby purposes, now have a total capacity of 1,504,000 horsepower. During the 12 months ending September 1, 1922, these plants generated 4,457,782,941 kilowatt hours. Beside there are hundreds of homes fitted with small plants of possibly one kwh capacity. California is an electrical state.

Mr. Peters of the Edison Company says: "California is now the tenth state in manufactures, the principal centers being San Francisco and Los Angeles. Between 1919 and 1921 the values of manufactured products in Los Angeles increased from $653,000,000 to $911,000,000. Figures of building permits, bank clearings, exports, population, schools, telephones or any other index of conditions will all show increases proportionate to the above. To keep ahead of all this demand and have an adequate supply of power available when needed is the obligation of the public utilities. So far they have not failed and their well laid out program for future growth is reassuring to the manufacturer desiring to establish himself on the Coast. At a time when the eastern man does not know where his next's day's coal will come from, there is great comfort in the thought that in California power is generated from the great white coal and as long as the sun shines and the snows fall there will be power enough to go around."

ablished 1877 Forty-fifth Year

# ALIFORNIA JLTIVATOR

and LIVESTOCK and DAIRY JOURNAL

rnal of Horticulture, Agriculture and Livestock

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## Saturday, Dec. 30, 1922

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We guarantee our subscribers against loss through dishonesty of any advertiser in the Cultivator. We do not attempt, however, to adjust trifling differences between subscribers and honest, responsible advertisers, nor will be pay the debts of honest bankrupts. Notice of complaint must be sent us within 30 days from date of the transaction, and the subscriber must have mentioned the Cultivator when writing the advertisers.

## EDITORIALETTES

That thunder bolt descending through the night, and which was photographed by the Cultivator artist, has less of menace than appears in the illustration for it is to be captured and used for the benefit and the comfort of California farmers. In fact, it is being captured every moment. Its destructive power has been destroyed, and it has been harnessed to the irrigator's pump, the feed cutter, grain grinder, the saw, separator, churn and even the light running sewing machine which hums musically at the lightest touch of the electric button. More than all, the lighting system which makes for efficiency by night as well as by day. Pressing the button beats kicking the lantern.

* * *

The electrical age is here. It is being taken advantage of by the farmer as well as by managers of railways and largest factories. The farmer welcomes it or dreads it according to whether he has capital to equip his place for most efficient production. It is perhaps unfortunate that greater capitalization is necessary. It is, however, true of farming as well as banking, merchandising or manufacturing. Fortunately modern bankers are considering the need of agriculture and the financing of farming is somewhat better cared for than formerly. The greatest step has been the establishment of the federal farm loan system. Its limitation of $10,000 seriously limits its usefulness but bills are already introduced which will extend the maximum to $25,000. These bills are being opposed by short sighted money loaners who would retain the power secured through the control of capital and limit food production.

* * *

One of the arguments of those who are opposing the extension of the amount of the loan to be made is: "Why enact class legislation, or why pass a bill which favors the farmer and discriminates against the merchant or manufacturer?" To this we can only reply that it is not favoritism for it still lacks in giving to the agricultural interests as favorable conditions as have always been enjoyed by large commercial interests. Financing of the farmer has largely been left to mortgage concerns which have at times made loans under conditions which compel failure rather than encourage larger production. The federal farm loan has made an honest effort to reverse these conditions. It was good as far as it went. Now give us something better.

* * *

Everybody has a door bell. Many of these are connected with electric batteries which serve admirably providing they are renewed before exhausted. Electric batteries are higher priced than "before the war" so many a home owner has connected his door bell with the regular wiring of the house, using a tiny transformer in order to make the current suit the electric bell or buzzer. These transformers cost little more than the batteries and once installed never call for renewal. This hint is given merely to suggest one more advantage of electricity on the farm.

* * *

The above suggestion as to one additional use for electrical current may be considered as of infinitely small importance in the matter of total consumption of hydro-electric energy developed in our mountains. Possibly, but when the city of Los Angeles announces that during the last 365 days there has been completed in that city a new home every 14 minutes, it may be seen that it is going to take considerable hydro-electric energy to open all the doors in all the homes of California.

* * *

Sam Greene of the California Dairy Council is boosting dairymen into line to boost all of California representatives and senators into line to work and vote for the Voigt bill. The Voigt bill is an effort to induce the big manufacturers to refrain from "filling" skim milk with vegetable fats and putting upon the market a skimmilk coconut oil combination which "contains as much fat as, or even more than, the product of the dairy." Greene is wiring Washington: "California Dairy Council, comprised of every branch of dairy industry, with total annual value of production approximating $100,000,000, keenly feels need of protection which Voigt bill will provide. Earnestly urge you to exert every effort and authority your position to have bill reported by sub-committee immediately for final consideration by entire committee and reported to senate as expeditiously as possible."

Even the children on the Pullmans had their Christmas tree. The Southern Pacific supplied each train carrying observation cars with Christmas trees and each diner had packages for every child away from home and on board train on Christmas day.

* * *

'Twas a wonderful Christmas. The rain worth millions covered all the land earlier in the month. The sunshine for more than a week preceding Christmas put everybody in the best frame of mind for its complete enjoyment, and Christmas day was a wonderful day even for California. The Los Angeles Times becomes sentimental and gives the following "toast" for breakfast: "Here's to the highest mountains that ever grew outdoors and here's to the widest ocean to wash the fertile shores. 'Tis a land of wondrous visions, majestic to behold—with its face aglow with sunshine and its veins afire with gold."

## CALIFORNIA LEADS

In acreage under irrigation California has led all the states in the Union. This was true when the Hopi Indians first brought the waters of the streams onto the rich mesas, and has been true in increasing ratio since. In 1890 there were barely more than a million acres under irrigation in California. The nearest competitor was Colorado with nearly 900,000 acres. In the census of 1910, however, Colorado insisted that she had gained a slight lead over California. The wonderful development between 1910 and 1920 was sufficient to put California in a safe lead for all time to come. The census of 1920 shows California's total acreage under irrigation to be 4,219,000, while Colorado has nearly a million acres less, or a total acreage of 3,348,000.

Prof. Adams of the University of California estimates that there is needed at this moment $12,000,000 to carry out construction plans of irrigation districts and others and that there will be needed during the next five years $23,000,000 more. In addition there will be needed by new irrigation districts, plans for which are in the making or organization and promotion actually under way, $78,000,000. Besides the above other plans call for development which will reach the enormous valuation during the next five years of $174,000,000. It is also roughly estimated that this state will spend in the next ten years $350,000,000, and during the same time that the entire West will spend over half a billion. The expenditure of such vast sums is most gratifying to every Californian because of the fact that it indicates wonderful development and growth of opportunity.

Much of this increase is made possible by the development of hydro-electric energy in which California is again the long leader. Because of hydro-electric power making possible economical pumping, irrigation has increased in this state. This is shown by the fact that irrigation by gravity in the decade between 1910 and 1920 increased from 2,354,970 acres to 2,596,207 acres, while irrigation by pumping in the same period increased from 309,134 acres to 1,470,000 acres. While this increase was not all because of electrical pumping the greater portion was.

The power needs of this state can be met by fullest development of the potential hydro-electric power. The installations already made are sufficient for present needs, but there is development of other resources possible which will increase present supply by millions of horsepower. The need is for people to awake to the possibilities of hydro-electric development.

It has been estimated that industrial plants of the West (11 coast and western states) need at this moment according to figures secured by the Journal of Electricity and Western Industry; Mining, 983,672 horsepower; lumber, 703,387 horsepower; metal, 345,070; sugar, 238,385; food manufacture, 287,654; oil and gas, 202,925; flour 176,203; canning, 175,245; chemical, 142,263; pumping, 125,943; textiles, 252,083 horsepower. Food production, manufacture, refrigeration, etc., is now utilizing almost one million horsepower in these 11 western states.

Of this California uses almost as much as the other ten states.

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Big capacity means better spraying at less cost. You cover your orchard in quicker time and you get the material onto the trees when it does the most good.
There's a new light-weight big-capacity Bean this year at a new low price: the Bean Triplex Senior. The 6 H. P. Bean Engine and Bean Triplex Senior Pump deliver 15 gals of liquid a minute at 300 lbs. pressure. This outfit covers surprising acreage a day, and does thoro work as it goes. Besides this new outfit, we offer a complete line of Hand and Power Sprayers. Factories east and west, and representatives in all fruit growing sections, insure good service to Bean owners everywhere. Mail coupon.
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# California Cultivator

**Vol. LIX, No. 27** **December 30, 1922** **One Dollar Yearly**

# By Jove

## By Richard E. Smith

SCARCELY a day passes in our rapidly moving world but that a practical use is found for something that years ago was known only in myth and legend. Our grandfathers never associated electricity and cows except possibly in the superstition that a thunder storm soured milk. Now, the two have a practical association.

"By Jove," the phrase which heads this story, is not used as a denatured cuss word but is intended to refer to the innumerable tasks performed by Jove, the legendary personfication of electricity.

For some unknown reason our friends who are fortunate enough to live in the country have failed to appreciate the amount of work that electricity can do on the farm and also the suprisingly low cost for this service.

To enable the reader to visualize this situation we will devote a few minutes to a comparison between an automobile and electric service. If our farmers were as familiar with electricity and its application as they are with the automobile, there would be very few country homes without complete electric service.

For instance a farmer will invest—does invest—on an average say around $1300 in an automobile and perhaps a trailer and at the end of a year's satisfactory use of that automobile can definitely figure out in dollars and cents wherein the automobile with the aid of a trailer has saved weeks of time, has made possible marketing of perishable crops in a condition which has made them profitable, has expedited the business side of the farm and made profit out of possible loss. Still more, it has made possible comforts and educational advantages. In dollars and cents the auto proves a long winner.

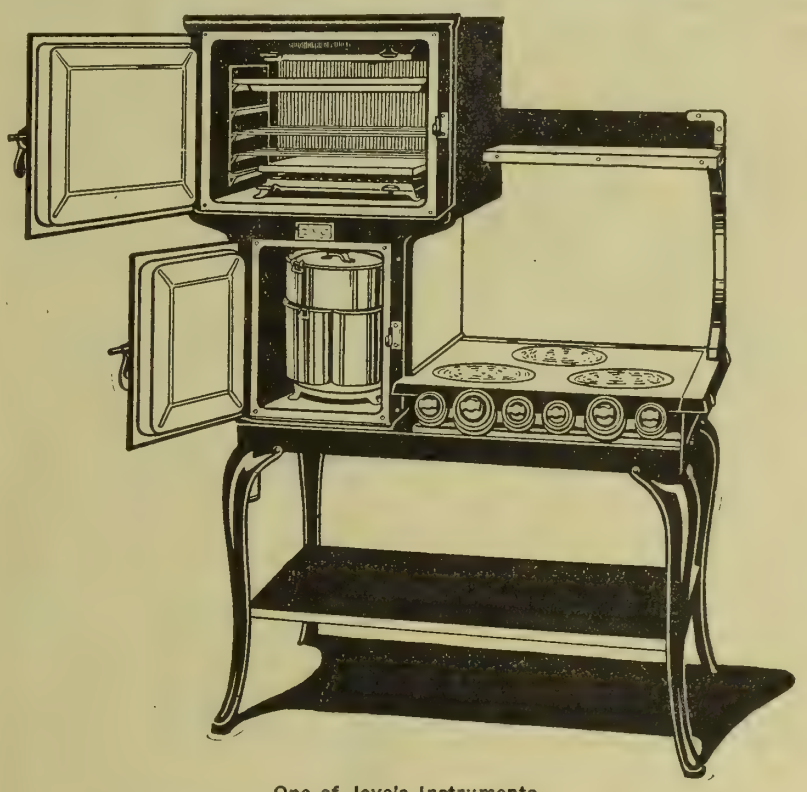
Then there is the piano. The investment of $500 or possibly $800, is not made with the idea that it is a part of the week's expense. It is an investment which adds much of comfort and edification to the home and gives opportunity for the educational advancement of the children.

Then there is the radio, the telephone and other modern day home equipment. None of these are necessary to existence but all are worth considering as a profitable investment. May not electrical equipment be equally important.

Electrical enjoyment, like charity, begins at home, and this is possible on nearly all of the farms in California where electric lines are within easy reach and the cost of service, because of the application of our water power, is reasonable.

Imagine a rural home in which the following exists: Adequate lighting in every portion of the house, abundant hot water at the turn of a switch, an electric range doing all the cooking without match, flame, odor or soot, a washing machine doing all of the laundry work, an ironing machine which handles sheets and handkerchiefs with equal dexterity, a vacuum cleaner, on the dining room table an electric percolator, toaster and waffle iron, a standard electric iron for odd jobs, a utility motor for polishing silver, grinding knives and running the sewing machine, a warming pad to displace the hot water bottle, a generous floor lamp for the living room and dainty table lamps in both mother's and daughter's rooms and a curling iron which probably will spend its time in daughter's room. Did I hear someone say, "By Jove!"

In case the master of the house feels that he has been slighted we hasten to add that when we step outdoors we will find electric lights wherever needed, including the yard, garage, shop, dairy, chicken house and hog pen. We also find a "utility circuit" run about the place with convenient connections for the two horsepower motor which will operate the pump for the pressure system, the grindstone, the feed cutter, the drill press, the wood saw and any other similar machinery. As the master of the house visualizes this, do I hear him whisper, "By Jove!"



**One of Jove's Instruments**

The electric range is the agency which will represent Jove in the modern home.

By this time the average reader may lose all interest in our story for he will say, "This is not for me."

We have not yet spent the price of an automobile, in fact, we have $200 over, which may be used for three or four things. If this family makes its living from a dairy we can add a motor for the separator and a water heater in the dairy which will furnish scalding water at all times for cleaning cans and the like.

If it so happens that this family raises chickens, we can include an electric incubator or if they already have an incubator we can give them an electric brooder. With these additional items there still remains a few dollars to be spent.

Jove is now emerging from the legendary state to become a partner in our daily life.

Having assumed that this family has invested the price of an automobile in the equipment we suggest, let us see what can be done by Jove.

Starting on Monday morning we find Jove engaged simultaneously at several duties. During the night he has kept the water hot in both the kitchen and the dairy. While breakfast is cooking in the electric range Jove is running the separator in the dairy and the curling iron in daughter's room. We speak of breakfast being cooked in the range, and this no doubt will be used in the country where larger meals are prepared than in town. Remembering what we have in our dining room, it will be easy to prepare coffee and toast or coffee and waffles right on the table, and if we invest the few dollars we had left over in a grill, we can also cook bacon, eggs, sausages, rice cakes and many other breakfast dishes right at the table.

After breakfast Jove will run the pump, the grindstone and feed cutter, wood saw or drill press, depending on what has been laid out for the day's work.

As this is wash day it will not be long before Jove is running the washing machine while the lady of the house is washing dishes. We did not make particular mention of an electric dish washer, but it could be readily included in our list, in which case Jove will attend to both the washing machine and the dish washer while mother gets out the vacuum cleaner and runs over the rugs.

If it is a bright day the clothes will be ready to run through the ironer within a few hours. This is a simple process which requires no more skill than fitting a sheet of paper into a typewriter.

While all this is going on dinner will be cooking in the electric range which is automatic.

Do I hear someone say, "By Jove!"

There is an old jingle which sets aside the duties of each day, but Jove has upset all this. We have already saved Tuesday by doing the ironing on Monday, and Wednesday, which was cleaning day, has disappeared because a few minutes with the vacuum cleaner each day keeps the house immaculate. There is no dusting to be done because there is nothing to make dust. There is no grease, soot or grime to be washed from woodwork because there is nothing to put them there. Draperies need not be washed with such frequency and windows keep remarkably clean. Baking day is gone because in our automatic range it is a side line as simple as hash.

The automatic range is the biggest feature in our labor saving program. Listen to this: for Sunday dinner we have planned a roast and three vegetables. Right after breakfast we prepare the roast and put it in the oven. We then get the vegetables ready and put them in compact containers which fit into the lower oven. Then we set the alarm clock on the stove for 3 o'clock and also set the indicating thermometers on each oven.

All we have to do now is to get into our $1300 auto and go out. We may be 50 miles away but at 3 o'clock the current will be turned on. In 20 to 25 minutes the lower oven will be hot enough and the switch will kick out. A few minutes more and the large oven will be hot enough to handle the roast and that switch kicks out. When we get back at 6 o'clock dad puts the car away while mother and daughter open the range and put the dinner on the table. I cannot imagine you reading this paragraph without saying, "By Jove!"

The best part of all this is that this money need not all be spent at one time, but on account of the expense necessary for the power company to connect the lines it will be found that they cannot afford to make the extension simply to supply lights. If an electric range is installed the power company will be in a much more favorable position to make the connection and then other equipment may be added whenever possible.

## DETERMINING FOOD IN SOIL

**By R. R. Snowden**

Keeping pace with the advance made in soil analysis, I wish to suggest that as we hear so much about the impossibility of determining the amount of available plant foods in the soil the following information might be interesting to your readers.

The official agricultural chemists of the United States in convention assembled made free use of the term "active potash" of the soil and they find: "that not only is the potash removed by crops in pot experiments directly related to the active potash originally in the soil but that the decrease of active potash in the soil is also directly related to the potash removed by crops." They determine this potash by solution in a weak nitric acid. This settles the question so far as they are concerned as to the practicability of determining the available potash in the soil.

As regards available nitrogen, a proof that the soil nitrogen is not available early in the season, the early application of nitrate of soda to a soil containing 5½ to 7 tons of nitrogen in an acre in two feet depth which is an enormous amount, increased the yield of beets 6½ tons per acre.

# Agricultural News Notes of the Pacific Coast

## Northern California

Colusa County supervisors have donated $500 toward the highway tree planting fund.

Ellis Lake is being dredged by the city of Marysville in preparation for making it part of a park site.

Glenn County turkey raisers were "paid" by one Thanksgiving turkey buyer by worthless checks amounting to $1600.

Permit has been asked to construct a $6,500,000 concrete bridge across San Francisco Bay to connect San Mateo and Alameda Counties.

The Colusa Sun calls attention to shipment of eggs now being made into the county from San Francisco to suggest that the movement be reversed.

Turkey raisers of Sutter, Yuba, Butte, Colusa, Glenn and Placer Counties will meet at Marysville early in January to perfect a marketing organization.

About 30 carloads of paddy rice of the new crop has already been shipped from Marysville. Before-the-rain rice brought an average of $2.50 per hundred; later rice $2.35.

Colusa chamber of commerce is discussing proposition of Hanford chamber of commerce that the next legislature be asked to make auto license fees collectable by county instead of state.

G. P. Rixford of the United States department of agriculture recommends to Sutter County rice growers planting of wild rice to protect their commercial crop. He says that ducks and geese prefer the wild rice.

Geo. W. Harney, horticultural commissioner of Yuba County, is busy organizing the Northern California Turkey Growers Association. A meeting will be held early in January at Marysville. Action is being taken.

The Glenn County Fair Association has organized, electing as its new directorate: L. E. Brownell, president; Allen T. Moore, vice-president; E. A. Kirk, secretary, and E. M. King, treasurer. E. A. Kirk will be secretary-treasurer.

Livermore Valley chamber of commerce has been conferring with Alameda supervisors over road improvements needed in the eastern end of the county. Paving of Livermore-Pleasanton and Cresta Blanca roads was specifically discussed.

Sutter County supervisors are having plans prepared for a 2,000 foot concrete causeway to connect the steel bridge at Nicolaus with the west levee of the Feather River spanning the low land opened to the flow of the river as a precaution against choking of the stream during freshets.

After making provision for protection of water users outside the district the railroad commission has issued a permit for the Palermo Land and Water Company and the South Feather Land and Water Company to sell their systems to the Oroville-Wyandotte irrigation district of Butte County.

It requires approximately 18 days to ship fruit from San Francisco to New York by Panama Canal, and European and Eastern ship building concerns have already been canvassing the country with the intention of forming a company to build several refrigerator ships to handle eastern shipments.

## Central California

A cannery is to be built at Riverbank, Stanislaus County.

The farm bureau lime-sulphur plant at Lindsay is expected to be ready for operation by the first of the year.

Residents of Smyrna Park, Ceres, have applied to directors of the Turlock irrigation district for light and power.

The Fresno County farm bureau has opened its annual membership drive. Meetings will be held throughout the county.

Clavicle, Tulare County, reports unusually extensive plantings of grain in that section because of plentiful rainfall.

A purebred bull association has been formed at Arvin, Kern County, with membership of 30. A Guernsey sire has been purchased.

Tulare County is preparing pleas for completion of the Sierra-to-the-Sea highway, 39 miles between Coalinga and Kings City not having been paved.

Plants of the California Peach and Fig Growers in Merced and Dinuba have been working overtime packing Christmas boxes to meet the gift demand.

There are now available for settlement in the Delhi state colony 75 farms, varying in size from 10 to 50 acres. Information may be secured from W. F. Packard, Delhi.

The ninth annual poultry show of the Stanislaus County Poultry Association at Modesto was declared eminently successful. Many sales were reported to have been made.

Settlers at the Delhi land colony are ordering trees and vines for spring planting. From the reports they have from nurserymen this spring will surpass all others in the extension of orchard and vineyard areas.

The tractor school conducted by the university extension at Watsonville last week had much larger attendance than the one held last year. Prof. E. J. Stirniman was in charge. The school has gone to Los Angeles County for the next session.

The Madera committee has finished its work of securing signatures to petition for formation of the San Joaquin River Storage District. Land owners on the west side who have not yet signed are asked to call at banks in their sections to sign petitions in order that the petition may be brought before the state engineer.

Horticultural Commissioner Brann of Tulare County states: "More rapid and efficient orange inspection was effected this season than heretofore through the 10 county testing offices and temporary force of 44 inspectors and titrators in the enforcing of the standardization requirements in the county, covering 58 packing houses.

Terminal freight rates have been assured Fresno following an intermittent legal battle covering a period of 11 years. Assurances of this victory were received this week from the interstate commerce commission by Traffic Manager Frank Hill. The fight to procure lower rates for communities having water transportation was begun in 1911. The decision just received is considered final.

## Southern California

Shipments of oranges for season of 1922-23 are estimated at 54,500 cars.

Nine carloads of lettuce were shipped from Imperial Valley on December 14.

Cotton ginning will be over in Palo Verde Valley by about the middle of the month.

The Riverside County cow testing association will start contest for six silver trophy cups on January 1.

Work has begun on state highway through the Malibu ranch, following condemnation suit filed by the state.

Chairman Nickerson of the Imperial irrigation board says that $500,000 was expended last year in levee construction.

Members of the California Bean Growers Association have received payments amounting to five cents on their crop.

An inspector for deciduous fruits is to be stationed in San Fernando Valley by Los Angeles County horticultural commission.

Quarantine inspectors recently stationed at Banning have intercepted many insect pests of citrus fruits and have found alfalfa weevil in packed goods of auto tourists.

A 24 hour inspection service is to be maintained at the Yuma crossing of the Colorado. The state pays for one inspector, Imperial for the second, the Colorado River Land Company for the third.

Lettuce growers of Imperial County held their annual meeting at El Centro, December 7. Marking of crates was one item of importance taken up. Shipping and marketing generally were considered.

A committee of lettuce growers of Imperial County will investigate wage scales in other sections for packers, box markers, etc. Committee is formed of Hugh Osborne, L. C. Siebert, Jack Leon, Roscoe Jones and H. R. Yerxa.

San Diego merchants are backing the Boulder Dam project by writing to Eastern manufacturers urging them to "jog memories of their representatives" as to importance of the project in increasing buying power of Southwest.

The San Bernardino County Beekeepers Club claims that 90 per cent of the bees in the county are represented in its ownership. Modern methods of marketing honey were discussed at the December meeting at the county court house.

At the annual meeting of the Imperial Valley Vegetable and Melon Growers Association at Brawley directors for the coming year were chosen: J. E. O'Neill, Brawley; Q. C. Webster, Brawley; J. K. Griffith, Calipatria; Alonzo Poole, El Centro; J. C. Fornter, Brawley; Ulman Hill, Calexico.

Agreements to proceed with drafting amendments to the water storage act of 1921, in order to facilitate organization of the Pine Flat water storage and conservation district, was made at a meeting of the executive committee at Fresno. Individual rights of districts will be strictly preserved according to W. P. Boone, chairman of the committee.

## The Coast and General

Australia has under wheat this year 10,000 acres.

There is considerable trade in sea turtles captured and dried in Mexican waters and shipped to China.

The olive crop of Portugal gives promise of being the largest in years. There will apparently be a surplus for export.

Over $15,000,000 worth of cane sugar was exported from the Fiji Islands in 1920. Bananas, coconut oil and paper pulp are important exports.

Italian colonists last week landed at Vera Cruz, 3000 families of them. Ten colonies of 300 families are to be established in different districts.

The most popular canned fruit imported into Indo-China is American canned white grapes which are consumed in great quantities by the natives.

Large shipments of West Coast Mexican tomatoes are being handled through Nogales, Arizona. The entire crop is figured in excess of 2,000 carloads.

There is an unusually large crop of walnuts, not only in California, but in France, Rumania and Manchuria. There is a large amount of the French crop still on hand.

Color and flavor of the citrus fruits in Florida have been greatly benefited by cool weather. Oranges are being shipped from Mississippi and Plaquemines Parish, Louisiana.

Europe in general is about 15 per cent behind her normal production of foodstuffs, says E. G. Montgomery, chief of the foodstuffs division of the department of commerce.

Courses in agriculture are to be established in all the public schools in Mexico. Short courses are being given to teachers during the Christmas holidays in the City of Mexico.

The War Finance Corporation has approved the application of the Louisiana Farm Bureau Rice Growers Cooperative Association for an advance of $500,000 to finance marketing.

The Baltimore & Ohio Railroad Company has inaugurated a new method of payment for milk shipments so that shippers may forward dairy products under a collect milk-cream waybill, collecting at destination.

Cattle and horses are in fairly good flesh in the Southwest though in Texas some stock will go into the winter in poor shape. In Oregon and Washington considerable feeding is being done.

In New England some apples have been so damaged by freezing as to limit their use to cider making. The crop has gone into storage heavily and storage facilities are reported to be full to overflowing in most areas.

The Douglas, Oregon, farm bureau turkey pool, consisting of 87,695 pounds of turkeys has been sold for 43 cents a pound, netting growers 41 cents. The birds were sent to San Francisco for the Thanksgiving trade.

During the war Russia, which before the war furnished Western and Central Europe with almost half of their grain imports, was completely eliminated as a surplus country. The Russian trade is now being supplied by the United States and Canada.

# Feeding for Eggs

By Jean A. Koethen

THE feeding of laying hens has two objects: First, to maintain the bodily health and vigor of the fowl; second, to provide material for the manufacture of eggs. There can be no eggs till bodily maintenance has been provided for.

All poultry feeds can be classified under three heads: Carbohydrates, which include all fats, sugar and starch; protein feeds, that is, feeds which contain a high per cent of protein, such as lean meat, milk, eggs and some seeds; and green feed, which contains various mineral ingredients called by the general name ash, and also, what is perhaps the very same thing, a something which we now call vitamines. Carbohydrates, protein and greens are absolutely essential to the well being of every laying hen. She may live and be fairly healthy on a diet of carbohydrates alone, but she will not lay many eggs. On a diet of protein alone she might lay eggs if the diet were not so rich as to destroy her health. Happily no feed is all carbohydrates or all protein. Corn, the most fattening of grains, contains one part protein for every eight or nine of carbohydrates, while wheat, the best all around single feed, is one part protein to about six of carbohydrates. Certain green feeds, which are not used for the protein they contain, nevertheless do add considerable of this necessary egg material to the ration. This is especially true of alfalfa, and this is why alfalfa is the best of all green feeds; it is greens and protein combined.

Since no grain is all protein or all fat or all starch it follows naturally that grains must be fed in combination with each other and with other feeds. And since no grain is sufficiently rich in protein to supply the protein needs of the body and have protein left for whites of eggs it follows that something more concentrated must be used with the grain in a laying ration. Beginning on this foundation scientists have built up an elaborate menu for the hen that is expected to lay an egg every day or at least two days out of three in addition to repairing the waste of her own body and keeping herself warm and active.

### The Scratch Feed

As it is grain that supplies heat and energy, grain is the foundation of the ration. The starch feed, containing a variety of grains, is sometimes called its balance wheel. It should contain enough fat to keep the hen warm and enough starch and sugar to keep her bones well covered and her blood circulating vigorously. One grain which is most important for every Leghorn hen in winter is Indian corn. It supplies the heat and fat which she must have before she can spare any material for eggs.

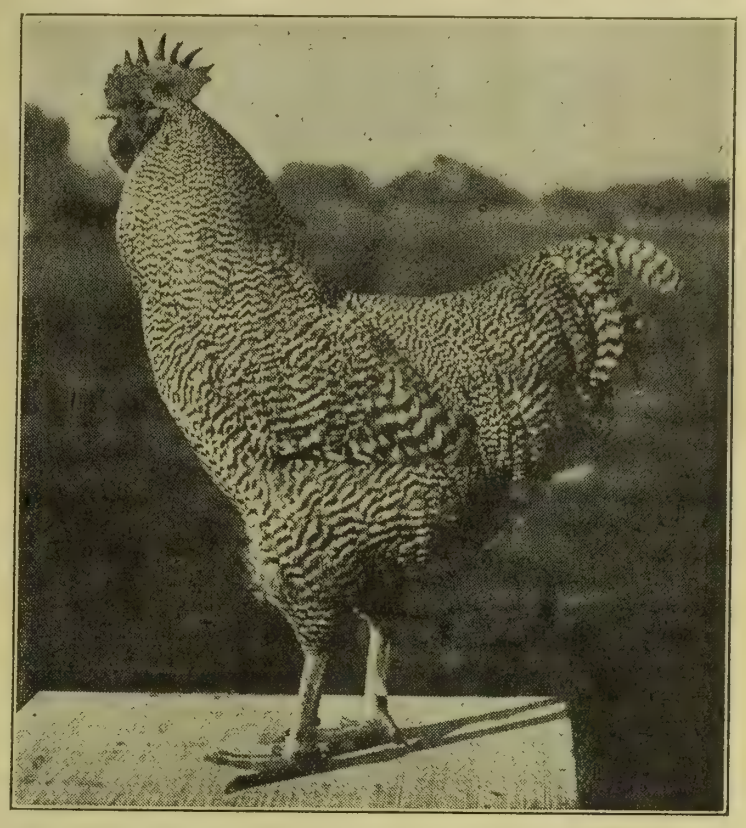
If too much hard grain is fed the hen will put on fat instead of making eggs, hence the supply must be limited. If too little hard grain is fed the hen may become so thin that she will collapse under the strain of laying. There is no hard and fast rule for amount, and the careful feeder will examine his hens on the roost from time to time to make sure that they are neither too fat nor too thin. If the abdomen feels too hard, as if a layer of fat were forming, he will cut down the grain feeding. If the hen is skinny, as if there were not an extra ounce of fat on her body, he will feed more grain.

A good grain mixture for average conditions is equal parts wheat, barley and cracked Indian corn. In hot weather the corn should be omitted. In very cold weather it may be half the ration instead of one-third. The barley may be either whole or rolled. When whole barley is used it is a good plan to sprout part of it, feeding it either with the regular scratch at night or as a separate meal in the morning.

The novice is often puzzled to know just how much scratch grain to feed. A quart daily for 15 hens is a safe allowance, but this may be cut down somewhat if increased production is desired. The poultry division of the state college of agriculture a few years ago advised the feeding of equal amounts by weight of scratch grain and mash. Now it announces that the ration may safely be made more than half mash during the heavy laying season. In one of the recent egg laying contests the grain allowance, including dry weight of sprouted oats, was 10 to 12 pounds daily for 100 hens, which is about a quart to 20 hens.

Scratch grain is usually given an hour or so before the hens go to roost, say about 4 o'clock at this season. The limited ration mentioned above is for mature hens but hardly suitable for pullets. The pullet just beginning to lay in the fall must have a little surplus fat if she is to come up to the demands made on her vitality, and a good many careful feeders believe that she should have all the grain she will eat. To this end the evening grain allowance contains all the birds will eat that night and a little more so that there will be something to start them scratching in the morning.

The poultry division has made the scratch feed a matter of careful study and experimentation and last year gave this scratch mixture to the contest layers at Santa Cruz: 80 pounds plump, recleaned barley; 120 pounds plump, whole wheat; 200 pounds clean, cracked yellow corn. The scratch mixture used in 1920-21 contained equal parts wheat, cracked corn, milo maize and whole barley. It will be noticed that the proportion of Indian corn was greater in 1921-22, and great emphasis was placed on quality.



**He Brought $70 at Cockerel Auction**

Barred Rock bred by Mrs. H. B. Kleinsmith of Hoff, Oregon, brought top price for Barred Rocks at Tulare Cockerel Auction. His dam has certified record of 245 eggs per year; his sire's dam, 304 eggs per year.

### Dry Mash

Hard grain maintains the health, energy and vitality of the hen. Mash provides material for eggs. The foundation of the mash is ground grains of several kinds, with bran as its center. Bran is the one most important feed for all ages of poultry. Hens will lay fairly well on a mash of bran alone, and chicks make a symmetrical growth on bran with a little grain added, if only they have range. To bran is added in a well balanced mash at least one other ground grain, a meal or fish meal and one kind of vegetable protein.

So many good mashes can be purchased already prepared that it is hardly worth while for any poultryman to attempt to mix his own. Certainly no amateur should try it until he has learned the how and why of a balanced ration. The following mash mixture, which was used at the Santa Cruz contest last year will serve as an example of combination required in a mash, as well as of the poultry division's opinion of the different constituents. This mash contains 240 pounds wheat bran; 160 pounds wheat middlings; 100 pounds ground oats; 100 pounds corn meal; 40 pounds soybean meal; 40 pounds linseed meal; 60 pounds fish scrap; 60 pounds meat scrap; 2½ per cent finely granulated charcoal and ½ per cent finely sifted salt.

Ground oats are not always obtainable unless the poultryman has them ground especially for his own use. When oats of good quality can be had, ground oats are probably the one best ground grain, next to bran. Corn in some form is essential, but when cracked corn is used as part of the scratch it is a very good substitute for corn meal in the mash. In this contest ration both cracked corn and corn meal are used.

Either fish scrap or meat scrap may be used in the mash, provided quality is right, but the poultry division prefers to use both rather than either one.

The choice of a vegetable meal is often difficult, and it is well to remember that the poultry division has found soybean and linseed (oil cake) the best two. In one of its recent feed letters it allows for this part of the mash, 10 pounds of soybean or linseed, and 10 pounds of coconut, soybean, linseed, cottonseed or ground beans. In other words, if only one is used, it should be linseed or soybean; if two are used, one may be cottonseed or coconut. Cottonseed, for some reason, is less digestible and more likely to clog the digestive organs. I believe soybean meal is considered the one best vegetable meal.

The mash is kept before the layers in hoppers constantly and should be replenished daily because the hens are inclined to pick out what they like best and leave the rest. When heavy laying is especially desired a moist mash fed either early in the afternoon or the last thing before the hens go to roost, is added to the dry mash. This is moistened with sour milk if it is available, otherwise with water.

### Green Feed

It is not necessary here to emphasize the great importance of green feed, except to say no one should undertake commercial poultry keeping until he has green feed or knows where to get it. In some sections alfalfa growers deliver fresh cut alfalfa two or three times a week to poultrymen, and this is the easiest way to get green feed. In most sections, however, the poultryman is thrown on his own resources and must raise his own greens or go without. Such a one will find an acre or so of alfalfa the best solution of the green feed problem during the alfalfa season. During the winter green barley is the best solution, but kale and stock beets are a great help.

Up-to-date poultry houses are now provided with a wire receptacle for greens, which is placed in the shadiest place in the house and keeps the green feed fresh all day. It is fed as early as 9 o'clock so that the hens may peck at it the whole day, just as they would if they were on range.

### POULTRYMAN'S CALENDAR—JANUARY, BEGINNING TO HATCH

While it is quite true that in California successful hatching can be done any month in the year and that fall hatching is often profitable, it is also true that the real hatching season begins with January. Most hatcheries are going at full capacity by the middle of the month so that orders for February may be promptly filled, and commercial poultrymen who do not do their own hatching are getting their brooders in readiness for the February hatch. Some poultrymen who do commercial hatching put the January chicks in their own brooders, partly because they believe January is as good a month as any for getting out chicks, partly to leave the later chicks for those who prefer them later. Brooders and brooder houses must be in order this month, breeding stock mated and plans for feeding the young stock completed. "Hatch early" is a most important rule. Early chicks are huskier, mature more rapidly and are more easily cared for. Vermin are not rampant in March and April as they are in May and June, and damp ground under foot is a decided vitalizer. Plan for as much range as possible for the youngsters. Every vacant foot of ground should be planted to barley for them to run on, and planted in such a way that each successive brood or hatch shall have its own clean yard with fresh young greens. Polluted soil is one of the greatest handicaps of the late hatched chicks.

# Prunes Other Than French

By Leonard Coates

A PRUNE is defined as a plum which may be cured without fermentation, the pit not being removed. There are, however, two very distinct types of prune coming under this definition, a fact often overlooked because of lack of knowledge or observation or both, on the pomological side of the question, and unfamiliarity with several varieties of prune of recent origin.

These types may be described as clingstone and freestone, although those coming under the former head are more properly "half-cling," and include what are commercially known as "French prunes," also Imperial, Improved French, and Sugar, although the latter would come very close to the "Freestone" type, and Robe de Sergeant. One other distinct type of prune can only be classed under the name "Silver," including Silver prune or Coe's Golden Drop, and Golden.

The varieties included under the "Freestone" heading are Italian, or Fellenberg, Splendor, Standard, and a prune originating with R. E. Burton of Vacaville, but which I do not think has been named, although it has fruited for many years. I have been privileged to test this fruit, and call attention to it because I believe it to be the best of this class, the tree, also, is phenomenal, in its tremendous vigor.

The prunes in this class will average larger than French prunes, and, when dried have a slightly more acid flavor, although sufficiently sweet to require no sugar when cooked. There are some others, notably an improvement on the Italian but which are not propagated to any extent.

The chief distinguishing feature in these prunes is in the nature and relative position of the pit, it being long, slender, smooth and entirely separate from the flesh, so much so that it will drop out of the fruit when the latter is cut open.

All of these features being recognized, the commercial significance will be appreciated, as all of these varieties, consolidated under one market name, would mean a factor in the prune industry of no small importance. The Silver prune, with others of its class, is practically a back number, having received its commercial death at the hands of the "market." The fiat went forth that the market must have prunes of this class bleached almost white, the result being that the product had such a sharp, metallic flavor that the consumer did not buy twice.

The same thing was tried with French prunes, these being sulphured until they were bright red, and called "Rubys." However, they soon followed the Silvers. As a digression, and possibly a warning, the Thompson Seedless, or Sultanina, may become so much of a bleached article that the public will buy less of it. The state department of agriculture has taken a step which will add enormously to the prestige and popularity of California fruits in insisting that nothing underripe or immature shall be shipped. May the department also watch closely that the quality of our fruits is not injured in any bleaching process!

It is a fallacy to suppose the consumer does not recognize and appreciate quality, but, unfortunately, many of the great exporting firms act on this fantastic assumption. Only a week ago I chanced to be talking with the representative of one of the largest fruit shippers and was speaking of the extra quality of certain varieties in a specific locality. "Quality, nothing; all we want is what brings the cash," was his answer.

Freestone prunes, whatever may be their commercial brand, have a great future, and California growers should act on this premise. It is significant that Oregon and the great Northwest are not content with "Italians," they are straining every endeavor to find a "French" prune which is as good or better than what is grown in California.

Had Californians equal enterprise they would be planting and curing the same prunes that have made these more northern states famous. It is fatal to rest content in one's own self imposed superiority. The taste of the consumer is varied. Some markets like the Oregon Italians, some prefer the French; we can grow both equally well; why not do it?

La France
Giant Everbearing
Red Raspberry

WARNING!
Why you should buy it directly from its originator

A valuable plant, such as La France Raspberry, which gives a continuous crop of big, juicy, sweet berries from June to November, encourages imitation. It is easy to propagate suckers, or whips under glass, or to sow the seed of the berries and get an enormous quantity in one season. But such products neither look like the original nor give rich results. The originator, John Scheepers, Inc., grows on a special farm in Stamford, Conn., nothing but the true La France berry. This berry, the only one on which you can count to be consistently hardy, prolific, and healthy, is never the product of artificial propagation or over-propagation.

A NEW MARKET FOR PACIFIC FRUIT GROWERS

The 3-day trip from the Pacific to the East softens, shrinks and makes moldy the average raspberry. La France, however, retains its original flavor and coloring. This is proved by experiences such as that of a grower in Mountainview, Clara County, California, who sent part of a carload of berries grown from La France and disposed of the entire shipment in New York at record prices. You will do well to join those shrewd growers who are planning to go into La France berries extensively for Eastern markets.

Average 3 to 4 Feet in Height

It is simple for you to know whether you are getting the original La France or a feeble offspring grown by someone who purchased a few La France plants a year ago. The original, as illustrated below, is shipped averaging three to four feet and more in height. The wood is at least a half-inch thick, and on the clump of roots several suckers may be found. Any plant claiming La France qualities and not presenting this appearance should be mistrusted.

La France is endorsed by leading horticulturists and berry growers. It has received medals and first-class certificates from the Massachusetts Horticultural Society, the Horticulural Society of New York, the American Institute of Science, and other leading agricultural and horticultural bodies.

Bundle of 25 Plants

Grown in the Gardens of

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Glen Cove, N.Y.

J. D. Rockefeller
Pocantico Hills, N.Y.

Wm. Rockefeller
Scarsdale, N. Y.

W. W. Astor
Newport, R. I.

P. S. DuPont
Wilmington, Del.

Henry Ford
Dearborn, Mich.

C. M. Schwab
Loretta, Pa.

And others who demand the World's best.

Dealers Near You

There are some important and responsible growers, dealers and nurserymen, who have purchased a great many La France Raspberry plants to sell to their clients. These are not raspberry plants, propagated by them, but they are plants procured from the La France Raspberry farm of Connecticut. If you wish to buy La France from one of these dealers in your vicinity, write to the La France Farm of Stamford, Connecticut, asking for the name of a responsible concern in your locality through which you may purchase true, strong fieldgrown stock of La France Raspberries. Or you can order them direct from us.

$5 per dozen
$25 per hundred
Wire collect for special rate on thousand lots or over

Immediate Shipment

We replace gratis any plants which do not arrive in perfect condition

JOHN SCHEEPERS
522 Fifth Ave. New York City


# Walnut Pruning Demonstration

By Ernest Braunton

LAST week the Los Angeles County farm adviser held five walnut pruning demonstrations; that is, this official or one of his assistants called the meetings to order and introduced the speaker and pruner, Walnut Specialist Hooper, of the agricultural extension service, who was appointed but a few months ago and has the state for his field.

Very little is known yet as to the very best way of pruning the walnut except that it needs little annual cutting and that little is largely confined to shaping the tree. Three pruning plots have been established in the south end of the state, but it will require several years experience and observation before anything definite or of value is known. It has been proven that a heading back will bring a heavier crop the first year of bearing, but not in after years. One serious result of heading back the young tree is to make all the branches break out from nearly the same point on the trunk. As the tree grows these compete for the restricted space around the trunk. Crowding soon begins and in time some of them have such an insufficient hold upon the mother trunk that they break away and great injury is done thereby. At considerable labor and expense some orchardists have by block and tackle brought these branches into place and bolted them securely, in the end often having a fairly good tree. But the better way is to train the young properly at the beginning.

### The Proper Start

Mr. Hooper stated that Dr. Batchelor of the Riverside station had outlined a method of training that appealed to him as being good. This is a central leader system where the original leader is preserved, or, if it has been cut off by nurseryman, a new leader has been trained to take its place. From this central support the branches are allowed to develop in every direction, restricted, of course, to the proper position and number. None of the young branches are cut off but when a foot or more long are pinched off at the terminal so they make no more length growth and will throw out leaves to shade trunk and branches until permanent branches qualify for shade when the pinched branches may be dispensed with. Little real pruning is necessary at any time if the early training is properly done.

When trees have matured without training or youthful pruning some need drastic treatment. Five points should be remembered when going over such trees. 1. Take out dead wood. 2. Remove decadent branches or those that evidently will be lost if left long enough. 3. Remove branches having a weak union with the trunk. 4. Remove crossing branches or those that spring from one side of the tree, push across the center, and come out on the other side. 5. Remove competing branches or those too close together growing in the same direction. Whenever pruning is necessary, make the cut close to and in line with the trunk or parent limb. Asphalt is probably the best paint for wounds, using gasoline as a solvent if one is found necessary.

At the close of the meeting the owner of a large orchard said it was a very hard job to establish young trees used for replacement in an old orchard. He said he had dug very large deep holes for the young trees, put plenty of manure in the bottom, below the roots, and applied liberally of manure to the growing tree. Further, he had run a sub-soiler as deeply as it was built to go, eight feet away from the young tree, circling it several times. In spite of this and continued care the old trees so pulled on the area rightfully belonging to the young trees that the latter made but slow and discouraging progress. It will be gleaned from such experiences how advisable, how necessary it is to watch carefully the whole orchard to see that no tree gets in such poor condition that it has to be removed and the attempt made to grow another in the same position.

### CITRUS INSTITUTE

The annual citrus institute is announced to be held at San Bernardino during the National Orange Show February 16-26. The theme selected by the program committee is "Fall Culture and Treatment of Citrus Trees for the Rejuvenation of Old Groves."

## PRESS THE BUTTON

By R. P. Dougherty

I HAVE always said that the next time I was born I intended to be musical and mechanical. Good music I enjoy and the results of good mechanics, but the why and the how of them both are mysteries sealed. Perhaps a poor ear can be blamed for the one deficiency but certainly it is paucity of gray matter that must account for the other. All this is a preliminary to explain the satisfaction in hearing a remark by a similarly minded unfortunate. In discussing the wonders of electricity before a small group an inventor of national fame said: "I cannot tell what electricity is nor why it gives us that incandescent light." And "the young lady across the way" interposed brightly: "Why it's quite simple—you push a button and the light appears."

And thank goodness; it is just as simple as that—for us who use it without waiting to study out the why. You push a button and the light appears that brightens a home evening or helps you to find a lost coat button that has rolled into the darkest corner of the closet.

You press a button on Monday morning and the washer begins its weekly task of making sweet and clean.

You press a button and your iron heats and stays evenly hot while you pass it back and forth over the Tuesday ironing out on the cool back porch.

You press a button and Sister watches the making of toast on the breakfast table, hot and browned just right for every member of the family.

You press a button and the bathroom is made cosy for baby's bath.

You press a button and the vacuum cleaner hums across the rug to gather up in its bag the dust and sand and lint.

You press a button and the percolator begins to bubble for the fragrant noontime coffee.

You press a button and the electric fan sends a stream of fresh air through a close, hot room.

You press a button and the sewing machine, like a beneficient fairy, takes the long seams with a whir.

You press a button and the heating pad, cosy and warm, is tucked between the cold sheets to assure a night's sound sleep.

Talk of Aladdin and his wonderful lamp! Why, Aladdin had only a big, black ugly genie to do his work. You press the button and the something we call electricity comes swift, silent and unseen and lifts and carries and churns and bakes and washes and irons and warms and cools as you direct.

"Of all the things electricity does for you what do you value most?"

"O, the lights," you say, I could give up everything but the lights—Still, I don't know, there's my iron, how could I do without that, and the sewing machine, and that heating pad—Don't let's play I have to choose just one. I feel like the poor man the debating societies used to orate over—you remember—thrown into the water with his wife, his mother and his daughter, which should be save? But one thing I am perfectly sure about, my Christmas money is going to buy the next electrical appliance on my list, number eight, I have seven already."

## PEACH AND FIG INSTITUTE

The food value of dried fruits with special reference to peaches and figs will be discussed by Professor M. E. Jaffa of the University of California at the Peach and Fig Institute which will be held at Merced, January 19 and 20 under the auspices of the California Peach and Fig Growers. All dried fruit growers in California, whether members of the association or not, are invited to attend the conferences.

One of the first comprehensive contributions to knowledge of fruit food values was issued by the government in 1901 under the signature of Prof. Jaffa, entitled "Nutrition Investigations, Among Fruitarians." His investigations brought out the fact that fig juice added to the milk diet of babies caused appreciable improvement in growth and health.

## BRIGHT PROSPECTS IN SAN BENITO

Horticultural Commissioner McKinney of Hollister writes as to conditions in San Benito County:

The apricot outlook was never so bright from the standpoint of fruit buds and spurs as now, while the early rains make one hopeful they will have all fallen before blooming time. Rains at blooming season are infinitely worse than brown rot (popular opinion to the contrary notwithstanding). Prunes too look remarkably well and from appearances now San Benito County is "set" for a banner season during 1923.

Range conditions are good, grain should be better than last year, and all in all this extremely optimistic letter is merely a statement of facts as they are.

A bill has been introduced in the legislature of Queensland, Australia, to give legal assistance and financial backing to the Queensland Primary Producers' Association, formed for the marketing of Queensland products at home and abroad. Under this bill the state will be divided into 19 agricultural districts.


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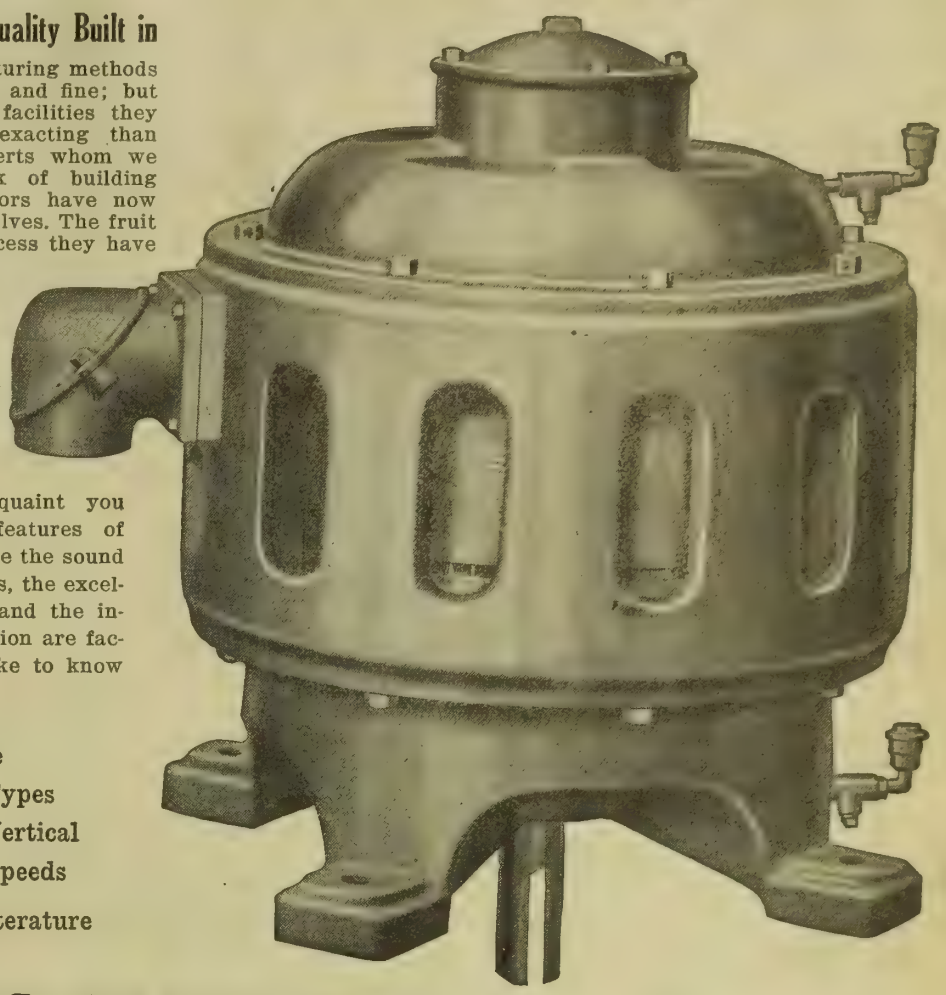

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Horizontal and Vertical
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# Legal Phases of Cooperative Associations

A discussion of the legal phases of cooperative associations in language that can be understood by the layman, is contained in Department of Agriculture Bulletin 1106, just issued. This is the first of a number of publications on various phases of cooperation which the department is preparing.

An attempt was made to examine all the decisions of courts of last resort in this country relative to cooperative associations. The principles applied and announced in these decisions are set forth together with references to the cases cited:

Some of the subjects treated are the elements and characteristics of incorporated associations or corporations, how they are formed, the nature of a charter, the liability of an association for promotion expenses, the responsibilities and liabilities of officers, directors and members, the right of an association to restrict the transfer of its stock, the legal effect of an attempt to limit the amount of indebtedness that an association may incur, and the differences between stock and non-stock associations.

The nature and characteristics of contracts entered into by cooperative associations with their members are discussed. In this connection such subjects as liquidated damages or penalties, the right of an association to pool the products of its members and to determine the grade of the products handled are treated, as well as the right of an association to a decree requiring the specific performance of a contract entered into by it with a member and the right of an association to an injunction to restrain a member from breaching his contract with the association.

As many cooperative associations act as agent for their members in handling and marketing products, the subject of agency with reference to such associations is treated, and the liability and responsibility of an association and its members under such circumstances are considered. The matter of unincorporated associations is also discussed and the rights and liabilities of members of such associations, as between themselves and with reference to third persons, are pointed out.

The bulletin also goes into the subject of monopolies and in this connection deals with the Sherman and the Clayton anti-trust acts. Section 6 of the Clayton act is specifically discussed. The Capper-Volstead act, which authorizes the association of producers for the purpose of handling and marketing their products, and which confers on the secretary of agriculture jurisdiction over such associations as comply with its terms, is discussed quite fully. The liability of cooperative associations for income taxes is also treated. In the appendix will be found a form of by-laws for use by cooperative marketing associations together with a form of crop contract.

A limited number of copies of Department Bulletin 1106, entitled "The Legal Phases of Cooperative Associations," are available for free distribution. Requests for the bulletin should be addressed to the United States Department of Agriculture, Washington, D. C.

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The California State Automobile Association has started campaign to secure from congress appropriation of $7,500,000 for building roads within national parks. Yosemite's share of this sum would be $1,500,000.

## RANCHERS AND FORESTS—THEIR MUTUAL INTERESTS

By Charles H. Shinn

When national forest work began in California the perfectly natural attitude of a majority of land owners, whether in the "Reserves" of 1900 or in the adjacent foothills or far off in the heart of the great valleys, was one of questioning doubt. Thousands of men who were toiling with might and main to improve their ranches, support their families, educate their children and lay by a few dollars for old age, could not feel any enthusiasm on the subject of forestry. They only saw that timber lands with occasional bits of tillable area were "withdrawn from entry."

The pioneers of the forest service, many of them the sons of farmers and of mountain loving ancestors, felt this situation from the first hour of their work, and felt it more and more strongly with every year. All through the beginnings of what were called "Forest Reserves" and were under the land office of the department of the interior until transferred to agriculture in 1905, the growing desire of every broad minded forest officer was to make the forests more and more useful to every owner of a ranch, near or far, in other words, to the people of California. Free permits for the use of timber needed on ranches for fencing or for firewood, grazing within the forests for livestock (and without charge for the small ranch owner's work stock and milk cows)—these were among the earlier steps taken.

But before long one felt without any definite words the growth of goodwill between the forest people and the men, women and children of the adjacent ranches. It was most fortunate from the purely human standpoint that the first ten years of forest work were long before the age of autos and when fences were few. The rangers rode everywhere, stopped over night in all sorts of places, received a vast amount of hospitality and returned it as they could; came to love and be loved by hundreds of ranch folk as mutual understanding of their respective works and aims grew.

Before long the forest officers were asked to lend books and periodicals about forestry, and some of them did a good deal of this, giving especial attention to school libraries. One of the pioneers who loved his work used to tell the ranchers: "Everybody ought to start the day with a shout of 'God bless our mountains and forests.'"

## BEST OLIVES EVER

"The best pack of ripe olives ever produced in California," is the statement made by J. J. Hoey, secretary of the California Olive Association, in discussing the present olive season's activities today. While the olive crop of the state is short, in view of the bearing acreage the quality of the fruit is exceptionally high.

As a result of the recent standardization of ripe olives by the association, the trade throughout the country is now much better informed regarding grading, quality, containers and the like, and renewed interest is being shown in the product. The demand has picked up materially in the past six or eight months and operators are feeling confident that the present crop will move out under favorable marketing conditions.

## LAKE COUNTY PEARS

A Lake County subscriber sends amount of crop and expenses incurred on his pear orchard for 1922. From seven acres 28 years old the yield was 99 tons. From six acres seven years old he picked 13 tons. For the 112 tons he received $60 a ton, or $6,720. He paid out: for picking, $450; spray material, $84; spray labor, $27; irrigation labor, $20; labor at well, $35; equipment depreciation, $32; Pear Growers Association, one dollar a ton, $112; a total of $760. This did not include his own time, for he was on the job all the year.

## INFORMATION ON GAME LAWS

Three publications of interest to the hunter and trapper have just been issued by the United States department of agriculture:: Directory of officials and organizations, state and federal, concerned with game protection. Game laws for 1922, giving summary of provisions of federal and state laws, also Canadian laws, now in effect. Laws relating to fur animals, 1922, federal, state, Canadian and in Lower California. These may be secured free from the California Fish and Game Commission, Forum Building, Sacramento, or U. S. Department of Agriculture, Washington, D. C. On last page of each of these bulletins may be found list of other publications relating to game which may be secured free or on payment of nominal charge of 5 or 10 cents.

## NEW GOVERNMENT GARDEN

Owing to the loan of 20 acres of land at Palo Alto by Stanford University the breeding of new deciduous fruits has been shifted to that place from the plant introduction gardens at Chico. This change carries the work into a district where there are large deciduous fruit interests and therefore more favorable to this line of breeding than the former location.

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J. W. Irwin of Lindsay, who has for the past 12 years taken a great interest in the production of the wonderful pomegranate, reports satisfactory prices for his crop of 40 tons of this fruit this year. He has shipped two solid carloads of pomegranates to the eastern market this fall, the first netting him $1070.94 and the second, $1044.11. The remainder of the crop was marketed locally, the fruit selling from four to seven cents per pound.

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A series of soil improvement meetings is being held through the Imperial Valley to arouse interest in crop rotation, planting of legumes, and fertilization.

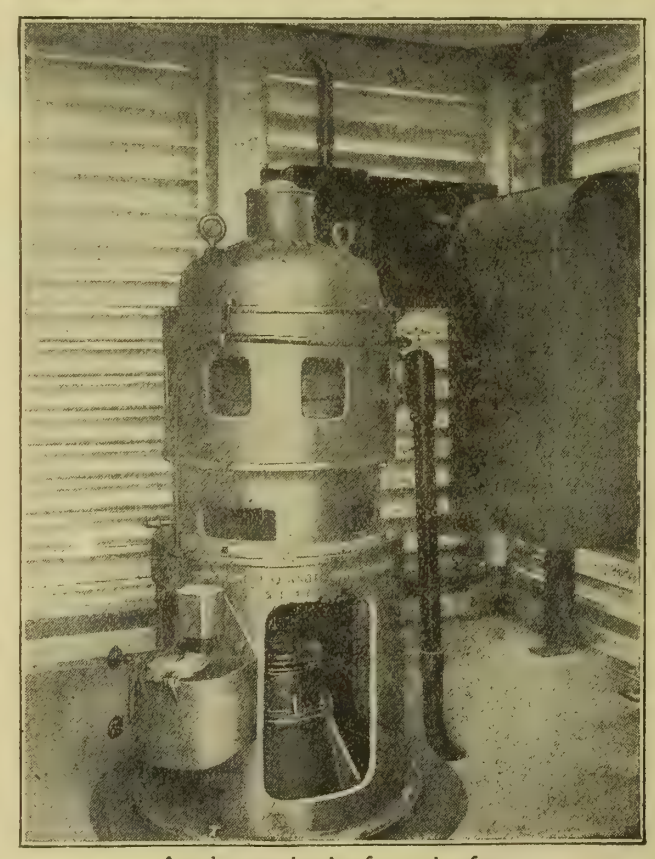

*The way to*
**Big farm returns**

PRODUCTIVENESS of the average farm depends on the availability of water. That is why a Byron Jackson deepwell turbine is the ear-mark of a prosperous farm for it places unlimited quantities of water at the owner's command.

The accompanying photograph of an installation in the San Joaquin Valley tells its own story of dependability, economy and efficiency—a worthy successor of its line, the first deepwell turbine to be built.

The Byron Jackson name plate on a pump is a guarantee of correct installation and an assurance of complete field service throughout the years of its operation.

*This is a Deepwell Turbine year.*



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# Questions and Answers

Questions to be answered in this department should be received at the office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Trellising and Fertilizing Fruit

Will appreciate information on trellising fruit trees, also on fertilizers to increase size of fruit.—Subscriber, Murphy.

Not knowing the nature of your soil or the cultural methods you have practiced it is rather difficult to say just what is needed to make your fruit size up. Usually any of the commercial fertilizers put up for citrus fruits, if properly applied and followed by good cultivation and proper irrigation, will produce the desired results, but if your soil is run down or impoverished an application of ten to 15 tons of stable manure to the acre will be very beneficial. Cover crops, when properly handled and followed by the application of commercial fertilizers, also help in making better sized fruit. In fact, anything that tends to improve the condition of your soil will make your trees more vigorous, increase production and improve the quality of the fruit.

### Grafting Navels

Please tell me if I can graft Navels to Valencias and how to do it.—Subscriber, Anaheim.

All varieties of citrus fruits can be budded or grafted on each other. Grafting is not often practiced as it is much easier to work over citrus trees by budding. For directions refer to article by Hodgson on "Top-working Citrus Trees," that appeared in the Cultivator of November 19, 1921. If subscriber does not have that issue we will be glad to mail it on receipt of name and address. We would suggest, however, that it would be better to engage a professional budder to do the work unless subscriber is familiar with budding methods.

### Keeping Veal

I am going to kill a calf. Please tell me how to keep the meat for six or eight weeks?—Subscriber, Hanford.

Let carcass thoroughly chill after killing. Cut in medium sized pieces. Rub each piece with salt in proportion of ten pounds salt to 100 pounds meat and let stand overnight. Prepare a brine of 10 pounds salt and 2 ounces saltpeter to 4 gallons water. This is about the quantity required for 100 pounds meat. Pack meat in clean barrels which have been thoroughly aired and scalded. Add brine. Keep meat submerged by wooden floats. Store in cold place till needed. Freshen in clear water when needed. If brine at any time become slimy or the odor objectionable, pour off and replace with newly made brine in same proportions. Canning of part of the veal will be found a very satisfactory way of preserving. Here is the way an Escondido subscriber does it:

We first roasted a large portion of the meat, then sliced and packed it in jars, covered with gravy and sealed. Second, we cut strips about an inch square of all the suitable meat left and placed it in a strong salt water over night. Next morning we hung it on the line in the open air, if sunny, or over the kitchen stove. Cover with cheese cloth to keep off flies and dust. It will take from two to four weeks to dry thoroughly. It should then be placed in an unwashed flour sack to prevent mold. This is what the Mexicans call jerky, and there is no meat any sweeter than roasted jerky. Third, all bones and meat left were boiled in a fireless cooker with onion and salt. When done some of the meat was packed in jars and covered with stock. The rest we ground up and made into mince meat by adding salt and pepper to taste. This was also packed in jars, covered with stock and sealed. The surplus stock was also packed in jars and sealed to be used for soups and gravies. All of this meat and stock I canned in Economy jars as they are self sealing and the only jars I have had absolute satisfaction with in canning meats. After the jars are prepared as above I place them in a false bottomed boiler (washboiler will hold 14 or 15 jars) with water to necks of jars and boil three hours. This insures their keeping.

### Yield of Strawberries

Please give me the largest yield per acre on record for strawberries; the first year or some year plants were set; largest yield for second, third or fourth year after planting; variety of berries making the record; sections where grown; if possible name of grower.—Subscriber, Summit.

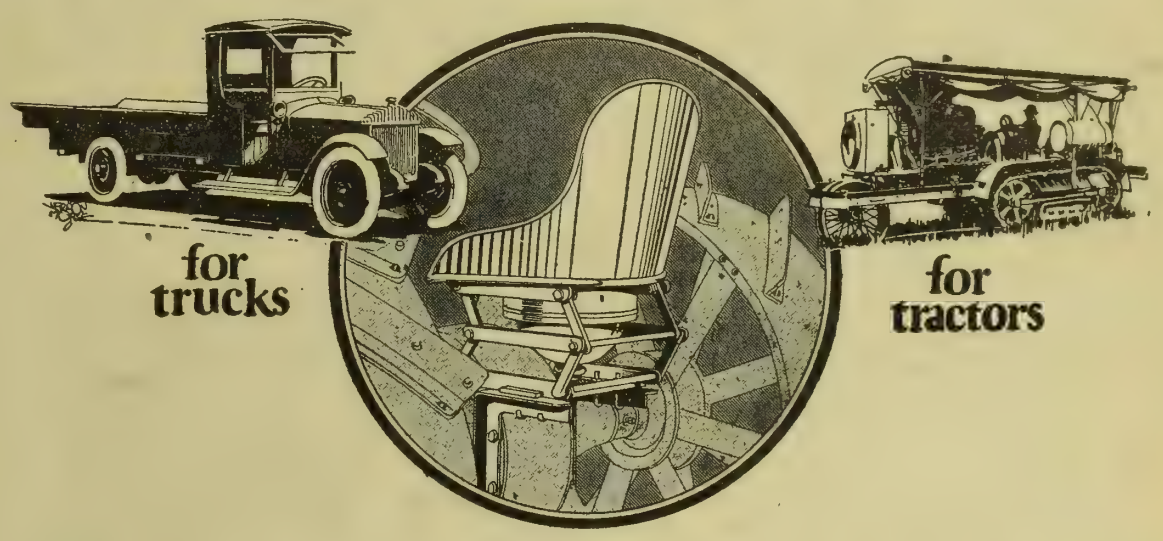
Record yields of strawberries particularized as suggested by the inquirer are not available but the Cultivator would be glad to open its columns to such items as its readers may send. The best financial return we have ever reported was some 12 or 15 years ago when Q. A. Lobingier produced a crop which brought a return of $2,600 from exactly one acre. This was on a tract a little south and east of San Gabriel in Los Angeles County. If we remember rightly the fruit was sold under contract at a flat price of 6½ cents per box. We do not recall the variety but do remember distinctly regarding Mr. Lobingier's preparation of the soil. One hundred tons of stable manure were applied to the one acre of land. It was deeply plowed under and a few months later the plants were set. We believe this was during the month of January, and one year from the time of planting the record was begun and every penny taken in from that acre during the following 12 months reported.

### Spraying Citrus

Please give me some information about spraying citrus fruit orchards, giving calendar of when to spray for the different diseases. Where can I get this?—Subscriber, Mercedes, Texas.

Complete information on spraying in California will be found in the California Cultivator of September 24, 1921, a special pest fighting issue, which is being mailed to subscriber. But we doubt if this information would apply in your section as the time of spraying depends entirely on the condition of maturity of the scale; and your climatic condition would probably change the time of hatching so that the proper spraying time would come either earlier or later than it does here in California. For scales the proper time to spray or fumigate is just after the young scale hatch out. On account of their not all hatching at the same time it is necessary to wait until the large majority are out before applying the spray. Here the proper time is usually six weeks or two months after the first young scale appear. If you wait longer than this, those first hatched out will get past the easy killing stage and poor results be accomplished. It is possible that your climatic conditions may make the hatching period more uniform, in which event a better kill will result, however it is never possible to get them all and unless the work is very carefully done so that the spray material hits every part of the tree the results are bound to be very unsatfactory. Your horticultural inspectors should be able to give you more definite information regarding the proper isfactory. Your horticultural inspectors and diseases, than anything you can get from California.


SEIBEL
AIR SPRING SEAT

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—a seat that *protects the spine and kidneys,* that rids you of the sore and stiff feeling in back and legs.

—Attach a Seibel Air Spring Seat to your tractor and truck, and finish the day *like a two-year-old.*

—Not an air cushion, but a complete seat built on the pneumatic principle—*none other like it in the world.*

—It will last for years. Replacement parts can be obtained at nominal cost. Attached in a few minutes. All tractor attachments provided.

—If you want ease and comfort—if you want to preserve your health—*try the Seibel Air Spring Seat at our risk.* See trial offer below.

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Implement, Tractor and Truck Dealers wanted

$21.00 ON TEN DAYS' TRIAL

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I enclose $21, for which send me, freight collect, a Seibel Air Spring Seat for _____ (tractor) (truck) model _____, year _____. It is understood that if I am not perfectly satisfied with it after 10 days' trial I may return it at my expense and get my money back.
NOTE: 5% Federal tax on seat when used on truck.

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## Keep Musterole on the bath-room shelf

Years ago the old-fashioned mustard plaster was the favorite remedy for rheumatism, lumbago, colds on the chest and sore throat.

It did the work all right, but it was sticky and messy to apply and my how it did burn and blister!

The little white jar of Musterole has taken the place of the stern old mustard plaster.

Keep this soothing ointment on your bathroom shelf and bring it out at the first cough or sniffle, at rheumatism's first warning tingle.

Made from pure oil of mustard, with the blister and sting taken out, Musterole penetrates the skin and goes right down to the seat of the trouble.

Order Musterole today from your druggist. He has it in 35c and 65c jars and tubes; hospital size, $3.

The Musterole Co., Cleveland, Ohio

BETTER THAN A MUSTARD PLASTER

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WILL NOT BLISTER

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## Scott's Emulsion

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Genuine Army Issue Khaki Wool Shirts. 2 pockets, reinforced elbows and lined front. World's best shirts, each $3.45 or 2 for $6.50. Army Issue Rain coats, double back reclaimed, all sizes, $2.95; new, $6.95. McClellan Saddles, world's easiest riding saddle, brand new, $8.95 complete. Order today from these prices. Write for bargain catalog of genuine Army and Navy Goods. Sent free. All merchandise shipped free. Address Dept. 13. U. S. ARMY & NAVY GOODS STORE 213 So. Main St. Los Angeles

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MORE than an incubator. Beats the hen. Stays on job every minute. Works automatically. IRON CLAD GUARANTEE. Strong, healthy chick from every good egg. No cripples. No trays to lift. Circular nest like hen's. Glass top. No smoke, no dirt, no trouble. Perfect ventilation and moisture. Shipped Prepaid. Greatest discovery in 50 years. Write for free book "How to Hatch for Profit"—card will do.

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PERMANENT PIPE FOR IRRIGATION DRAINAGE CULVERTS SEWERAGE

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# Household Department

### A NEW YEAR'S SUGGESTION

When you're criticising others
And are finding here and there
A fault or two to speak of
Or a weakness you can tear;
When you're blaming some one's meanness
Or accusing some of pelf—
It's time that you went out
To take a walk around yourself.

There's lots of human failures
In the average of us all,
And lots of grave shortcomings
In the short ones and the tall;
But when we think of evils
Men should lay upon the shelves
It's time we all went out
To take a walk around ourselves.

We need so often in this life
This balancing of scales,
This seeing how much in us wins
And how much in us fails;
But before you judge another—
Just to lay him on the shelf
It would be a splendid plan
To take a walk around yourself.—Anon.

### THE EMPTY HOUSE

By Eveline Nutter

(Concluded)

The young man laid his hand lightly on her arm. "Not to take Alice's place, dear," he began, but she stopped him with a weary shrug of her thin shoulders.

"Tell Hortense to put them to bed. I presume we'll have to let them stay till morning to satisfy him."

She looked dazed, and her voice was strained and unnatural.

"I—I believe I'll go and lie down."

Tom lifted her in his arms, and it frightened him to feel how light she was.

Her face was white and drawn and two great tears forced themselves from under her closed eyelids, and she brushed them away with a restless motion of her hand. He left her on the couch in her room and went down into the dimly lighted library to tramp back and forth, back and forth, with a dull ache in his heart and a sick feeling of the injustice of a Fate that with one blow had robbed him of wife and child. As for the two little boys Dr. McLean had left with them, he was absolutely indifferent, he told himself. And yet, if they had interested Margaret, what a pleasant experience it would have been to have filled their little stockings, to have fed them and romped with them and to have changed their wistful look, for a while, to one of jolly contentment.

"Funny thing," he muttered, "I never used to notice people's eyes much when I was happy myself."

And then he tramped on, back and forth, back and forth, with his hands thrust deep into his pockets, and his fine broad shoulders slumping, as though he indeed saw no hope ahead. At last he sank into the depths of a great leather chair, and sat, with his square chin in his cupped hands, gazing into the fire, seeing not the dying embers, but bright pictures of the past. And always there was Margaret, not wan and sorrowing and forlorn, but gay and warm with life. In those days he had called her Meg! There were pictures of a soft-haired baby, a baby that had changed so quickly to an adorable little girl. Then the fire flared up again and the picture was gone. For a moment he shut his eyes, but he could not shut out the gruesome image that had flashed into his brain. He groaned, and searching in his pocket, found a tiny miniature case. He opened it, and there looked out the radiant features of a sunny haired child. His lips unconsciously lost their grim line and curved into a smile, and his blue eyes glowed softly, just as the blue eyes, so like his own, in the painting, did.

Suddenly he heard the swish, swish of silken garments. He got up, letting the miniature slip back into his pocket, and turned. There stood Margaret.

"Tom;" she cried, breathlessly, "come and help me. The little fat one has the croup!"

"The croup? I'll telephone Dr. McLean—you call Hortense—" He paused. Margaret was smiling, a little superior, efficient smile.

"Nonsense," she said quietly. "Hortense doesn't know anything, and the others have gone out. Listen! Did you hear that?"

She was upstairs almost before he heard the hoarse brassy cough, and he followed her swiftly.

The little boys were in a huge bed, in a room far removed from Margaret's. Tom wondered vaguely how she had heard that cough, wondered as he carried out her orders, for she had taken full command.

"You might take the other one into the blue room," she began. "No use to wake him."

She was deftly arranging the pillows to prop the little fellow up, for he was gasping as though each breath would be his last.

"I'm putting a wet towel around his throat," she went on briskly. "Just look, Tom, how red his fat little face is! Can you find the ipecac? And a teaspoon?"

She was kneeling now, with one arm around the little chap.

"Poor baby!" she crooned. "We won't let him choke—poor baby!"

When Tom came back, with the ipecac, she was fastening an umbrella to the head of the bed.

"Half a spoonful, Tom," she said. "No—give to to me—here. You poor baby! We'll have to make him a croup tent, you know. That's what I'm doing. Hortense bring two sheets and my tea kettle. See, Tom, his face is perfectly purple! If the steam doesn't help him, maybe you'd better 'phone Dr. McLean. He used to give us some sort of stuff—we'd put two drops of it on some sugar, I think for little Alice," her voice broke, and then she went on bravely, "It used to help."

It was a long time before Dr. McLean arrived. Hortense, not quite so trim as usual, but looking triumphant and very happy, let him in. The great clock in the hall chimed twelve, so it was Christmas morning.

"How's Mrs. Lanier?" he asked, eagerly, as he shook himself out of his great coat. "And the little boy?"

"Mrs. Lanier is—how do you say it? she is alive again." Hortense chuckled.. "And we are to make no noise, for the petit garcon is sleeping. But see!"

She threw open the door.

Margaret Lanier, one finger warningly on her lips, hurried to meet him, and held out both her hands. Her cheeks were flushed and little damp tendrils of hair curled over her forehead and around her ears. Her eyes were soft and brooding.

"He's perfectly all right, now doctor," she whispered, leading him over to the bed. "I did—well—everything."

Old Dr. McLean looked from the sleeping baby to Tom Lanier, standing disheveled, but radiant, at the foot of the bed.

The doctor nodded his head wisely. "It was the right treatment," he said. "It worked!"

Margaret smiled, but Tom's eyes met his in a look of quick understanding.

"And he was so sick. I was afraid—just for a few minutes," she hesitated.

"That's when I 'phoned for you," finished her husband.

"Margaret Lanier, croup specialist," she laughed under her breath, and held out a hand to each man. "Let's go down to the library. I'm going to make you some coffee and sandwiches."

But at the door she dropped their hands and ran back to tuck in the covers once more.

As she poured the coffee she was very quiet, but her eyes had a misty, far-away look. All at once she sighed happily.

"Isn't he a dear!" she mused. Her lips curled in a whimsical smile. "The older one, David, you know, is much handsomer, but I'm sure I'll always love this rolly-poly baby a little the best."

### A GENTLEMAN

"He's a gentleman of the old school."

"That so?"

"Yes; whenever he calls for you in his car he doesn't sit at the wheel and honk his horn, but gets out and comes to the door and rings the bell."


## Deciduous Scales

For a thoro winter clean-up use *Ortho Crude Oil Emulsion.*

Will mix with any water, spray, or Nitrate of Soda. A permanent emulsion—and will not break down after years of standing.

Most economical and effective spray you can use.

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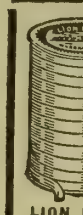

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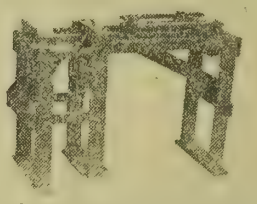

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and at the same time cut your seed just the way you want them—halve, quarter, and cut through seed end. Insures from one to two good eyes on each piece by using one of YOUNG'S POTATO CUTTERS.

One man can easily cut 30 to 40 sacks a day. Price only $13.00 F.O.B. Guaranteed to please or your money back. Order direct from

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## HOUSEHOLD QUERIES

### Recipes Requested

I am a subscriber of your paper and ask for some recipes. I wish you would publish recipes for lemon sponge pie, date pudding (as served by "The Elite" in Los Angeles, avocado cocktail, as served by Ambassador in Los Angeles), soft maple frosting for cakes, cranberry pie, coconut custard pie.—Subscriber, Los Angeles.

Lemon Sponge Pie—Dissolve package lemon Jell-O in pint boiling water. When cold and still liquid whip with Dover egg beater till of consistency of whipped cream. Keep mixture cold while whipping by setting bowl in cracked ice or very cold water. Pour mixture in cooked pastry shell. Add whipped cream or if liked a fruit whip made by whipping stiff one-half glass apple jelly with one egg white. Pile this on lemon sponge in pastry shell and slip into oven for quick browning. If you are careful you can brown the meringue under the broiler with very slight melting of the sponge underneath. Let stand to solidify again and serve cold.

Date Pudding—This is a very fine date pudding. We do not have the Elite recipe. One cup chopped dry dates, 1 cup chopped nuts, 1 cup sugar (scant), 3 eggs (well beaten), 1 teaspoon baking powder, 9 level tablespoons flour. Bake in shallow tins about 20 minutes in slow oven. Serve

> The wave is breaking on the shore,
> The echo fading from the chimes;
> Again the shadow moveth o'er
> The dial plate of time.
>
> —Whittier.

with whipped cream. Will serve about eight. The dates and nuts should be chopped fine but not ground.

Avocado Cocktail—Cut ripe avocados in quarter inch cubes, pour over sauce made of equal parts cocktail sauce (as prepared commercially) and sweet or slightly sour thick cream. Season as preferred with lemon juice, salt, pepper or tobasco sauce. Addition of walnut catsup or Worcestershire sauce is sometimes made.

Maple Frosting—One cup maple syrup, 1 egg white, ½ cup beaten cream, few grains salt. Boil syrup until it threads; pour on to the beaten white; add cream, salt, and beat until thick enough to spread.

Cranberry Pie—Line pie tin with crust. Fill with 2 cups cranberries, 1½ cups sugar, ¼ cup water, 1 tablespoon butter. Cover with upper crust or a lattice of paste strips. Where one prefers to make a filling mix 1¼ cups chopped cranberries, 1 cup chopped raisins, 1 cup sugar, ¼ cup water, 1 tablespoon butter. This is sometimes called mock cherry pie.

Coconut Custard Pie—Beat 3 whole eggs and 1 yolk until light, add ½ teaspoon salt and 2/3 cup sugar and beat again. Add 1 cup grated coconut and 2½ cups milk, mix all well together, turn into a deep pie plate lined with paste and bake until the custard is set. Beat the white of 1 egg until stiff, add 1 tablespoon sugar, beat well, spread on the top of the pie and brown in the oven to a delicate brown.

### Smoking Mutton

Is there some kind of a preparation that can be used to cure meat without smoking in regular smoke house? We can get a sheep occasionally but don't want to go to the expense of building a regular smoke house. I have heard of something that is called liquid smoke or something like that.—Subscriber, Escondido.

"Liquid smoke," "condensed smoke" are names for a preparation used with great satisfaction by many people. We quote from book of instructions published by E. H. Wright:

Few people realize how well they can use mutton in providing a meat supply for home use or market. Probably the reason for this is that they believe mutton must be consumed while still fresh. Naturally, when mutton is used like that it soon becomes tiresome. As a matter of fact, mutton can be preserved and cured like pork. The United States department of agriculture says: "More mutton would be consumed on the farm if farmers realized generally that cured and smoked mutton is as delicious as pork." In preparing farm slaughtered mutton, it should never be cured until it is thoroughly cooled, which, however, should be within 24 to 36 hours after it is killed. Neither should it be allowed to freeze before curing or during the process of curing.

Either the brine or dry method of curing can be satisfactorily used with mutton, the preference, if any, being for the dry method. This method, in detail, is as follows:

For each one hundred pounds of mutton, thoroughly mix one small bottle of ham pickle with ten pounds of salt. This will give the mutton a flavor of rare deliciousness.

Rub the mutton thoroughly with this mixture and pack it away in a tight wooden or stoneware container, with a layer of the mixture on the bottom, another layer placed between each layer of meat, and a final layer of the mixture on top, completely covering the meat. Allow it to cure, figuring one and a half days for every pound the pieces of meat average in weight.

After the curing is completed take the meat out and carefully brush off the salt. Hang it up for ten days in a clean, cool dry place.

At the end of this time, lay the meat out on a table and paint the upper side thoroughly with condensed smoke, applying it thickly with a brush and rubbing it in well, especially around the bones. After half an hour, turn the pieces over and repeat the process on the other side. Hang the meat up again and at the end of a week repeat the process. After hanging another week the meat is ready for use, with the same keeping qualities of pork, similarly treated.

### Rice Tea Cakes—Sour Cream Cookies

I would like to know if some of the subscribers would send in a recipe for cookies, the kind the Chinamen make. They are known as 'chink cookies and are very crisp. Would you please publish it for me? I am sending in a sour cream cooky recipe I think the neighbors on ranches would like. I like your household hints very much and look for them each week.—A New Subscriber, Fort Bragg.

(Perhaps these are the wafer thin cakes made of rice flour which the Japanese and Chinese serve with tea. Can any of our readers furnish directions for making?—Edit.)

Sour Cream Cookies—1½ cups butter, 3 cups sugar, 3 eggs, 1 large teaspoon soda dissolved in 1 cup sour cream, 1 teaspoon nutmeg, flour to roll. Don't roll thin. Sprinkle with sugar before baking.

### Pickling Ripe Olives

Will you please advise me in your columns the proper formula for curing and pickling ripe olives?—Subscriber, San Gabriel.

See Cultivator of December 2, pages 587 and 589, for complete directions.

### A CASE OF NECESSITY

Madge: Would you marry a man to reform him?

Mabel: I suppose I shall have to—there isn't one of them that suits me the way he is now.—(Boston Transcript.)


STANDARD LOADS of DU PONT SHOTGUN POWDERS

DUPONT (Bulk) SMOKELESS

| Kind of Game | 12 GAUGE DRAMS | 12 GAUGE OZ SHOT | 16 GAUGE DRAMS | 16 GAUGE OZ SHOT | 20 GAUGE DRAMS | 20 GAUGE OZ SHOT | SHOT SIZES ALL GAUGES |
|---|---|---|---|---|---|---|---|
| Turkey Geese | 3½ | 1-⅛ | 2¾ | 1 | 2½ | ⅞ | * 2 & 4 |
| Brant Large Ducks | 3¼ | 1-⅛ | 2¾ | 1 | 2½ | ⅞ | 4 in flight 6 over decoys |
| Medium Ducks Grouse Prairie Chicken | 3¼ | 1-⅛ | 2½ | 1 | 2¼ | ¾ | 6 |
| Squirrels Rabbits | 3 | 1 | 2½ | 1 | 2¼ | ¾ | 6 |
| Small Ducks Pheasants Pigeons Doves | 3¼ | 1-⅛ | 2½ | 1 | 2¼ | ¾ | 7½ |
| Quail Snipe Woodcock Shore Birds | 3 | 1 or 1-⅛ | 2½ | 1 | 2¼ | ¾ | 8 |
| Reed Birds | 3 | 1 | 2½ | 1 | 2¼ | ¾ | 10 |
| Trapshooting | 3 | 1 ¼ | 2½ | 1 | 2¼ | ¾ | 7½ |

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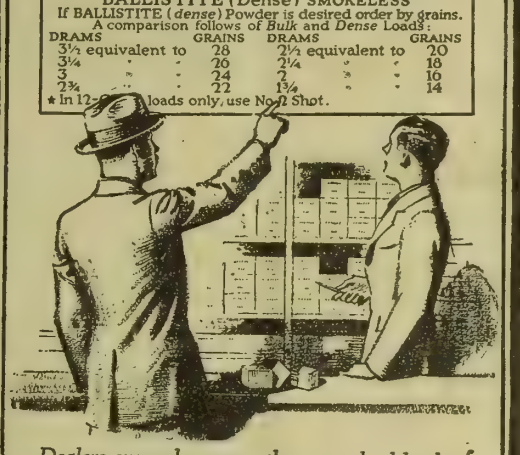
| 3½ equivalent to | 28 | 2½ equivalent to | 20 |
| 3¼ " " | 26 | 2¼ " " | 18 |
| 3 " " | 24 | 2 " " | 16 |
| 2¾ " " | 22 | 1¾ " " | 14 |

* In 12-Gauge loads only, use No. 2 Shot.



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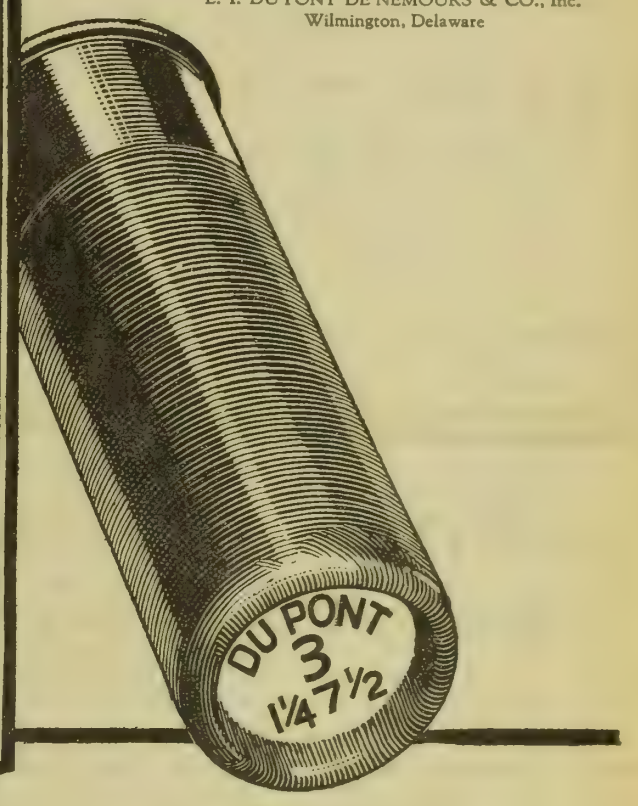


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When in Los Angeles drop into our offices, 219 Exchange Bldg., Union Stock Yards, for a chat, or make it your headquarters.



# Los Angeles Un
## New Year

The completion of the Los Angeles Union Stockyards thorou of one of the Pacific Coast's most important products, marks an in firms whose announcements appear here, extend cordial greetings to broad policy of fullest cooperation with the producer for the succe

LIVESTOCK

Weekly market summary, December 23 (Saturday) 1922, furnished by Federal-State Livestock Market News Service, 1028 Pacific Finance Building, Los Angeles.

Cattle: Receipts during the past week have been light but demands were also comparatively narrow and prices worked about 25 cents lower on beef steers and feeders. Good cows are fully steady. Strictly good steers have been scarce. The week's top was 8.25, paid Friday for 54 good Utah steers, averaging 1147 pounds. These cattle had been finished on beet pulp and hay. The 8.00 mark was reached Monday on 68 good Wyoming steers, averaging 1125 pounds. This price was duplicated Friday on a load of Jackson Hole, Wyoming, steers, averaging 1120 pounds. A string of 400 Nevada steers, averaging 1131 pounds, went at 7.85 Monday. Several shipments, mostly northern steers, ranged from 7.00 to 7.75. A few "tailings," sorted off from loads, went from 5.50 to 7.50, according to quality. Several lots of Arizona and New Mexico light steers ranged from 5.00 to 6.50, going to killers. Feeder orders took care of yearling and 2 year old Southwestern at 5.00 to 5.25. Good northern feeders sold up to 6.00 and 6.75.

Good beef cows ranged from 5.40 to 6.25, latter price being paid Monday for a load of Wyoming cows, averaging 1090 pounds. Canners and cutter cows cleared from 1.50 to 3.25. Bologna bulls ranged from 2.50 to 3.75.

Calves: The calf market has been uneven but the movement shows some improvement and prices have strengthened in some cases. Most of the arrivals have been from Arizona and New Mexico and of common to medium quality, selling slowly at 5.00 to 6.50 for the bulk. Average weights ran largely from 250 to 300 pounds, and over. A few good light calves sold up to 7.50 and better.

Hogs: Receipts at the yards and direct to packers this week were light and the market is firm. Good light hogs from Texas reached 9.60 and 9.70 Wednesday, with 465 pound packing sows at 6.00. There was good inquiry for


# A Public M
## Government

The yards furnishes the produ tive bidding.

Skillful grading by men who kn

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All rates and charges must b vision of the U. S. Dept. of Agricu

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**Los Angeles Union**

**Administration Bld**

**J. A. McNAUGHTON, Vice**

# ›n Stock Yards

## ›reetings

›odern and offering every facility for the handling and marketing
›t epoch in the livestock industry. The representative commission
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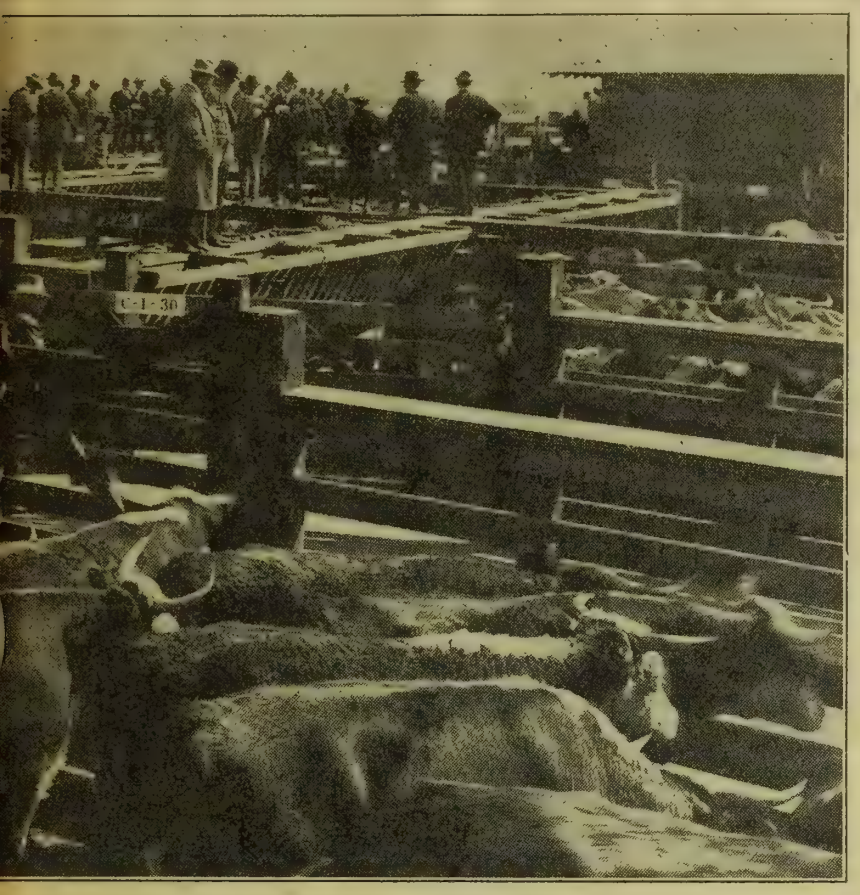
›arketing of Western livestock.

›ck pigs. A load of 109 pound pigs
›t to killers at 9.25.
›heep and Lambs: The market is
› on light receipts. A band of 224
›ice Utah lambs, averaging 86
›nds, reached 14.00 Thursday. A
›ng of 233 half-fat lambs, averaging
pounds, sold Tuesday at 11.25.
›se were from Inyo County, Califor-
. Local packers are scouring the
›st looking for choice light lambs.
›elson R. Crow, local representative.


›ket Under
›gulation

›ly cash market under competi-

›uyers' needs.

license.

›able and are under the super-

›cking House Act regulates the
›lic market at the Los Angeles
›resentative of the U. S. Depart-
. The Stock Yards neither buy
›d exercise supervision in the
› by the owner or by one of the
›gent. List of commission men
›is paper.

›kyards Company
› Angeles, Calif.
›t and General Manager


The following is a list of a majority of the sales made daily at the Los Angeles Union stockyards. It is intended as a guide for shippers.

Dec. 19: Steers, 68 Idaho good, 1120, 8.00; cows, Ida. good, 1060, 6.25; 41 Mont. good, 1050, 5.40; 9 Mont., 1150, 4.50.

Dec. 20: Steers, 3.50; Nev. 1130, 7.85; 50 dehorned, Nev. 1140, 7.85; 95 Ida., 960, 6.50; 53 Ida. 1025, 7.00; 13 Ida. 1000, 7.00; 14 Ida. 985, 6.50; 98 Colo. 1040, 7.25; 40 Colo. 1030, 5.85; 37 N. M. 925, 5.25; 305 mixed N. M., 5.50@6.50.

Cows, 50 Utah 1130, 5.75; 50 Utah 1160, 6.00.

Hogs, 303 N. M. 175, 9.70.

Calves, 117 mixed, 5.50@8.00.

Dec. 21: 255 full wool Utah lambs, 95, 14.00.

Steers, 107 Utah 1005, 7.65; 54 Utah 1120, 8.25; 22 Texas 810, 5.60; 19 Texas 800, 4.35; 25 Texas 1020, 6.00.

Hogs, 85 Utah 170, 9.50.

Dec. 22: Steers, 5 Colo. good 1206, 7.50; 29 Colo. 1020, 7.25; 19 Colo. 1000, 4.60; 21 Colo. 1000, 7.00; 270 Colo. 1090, 7.00; 30 Colo. 9.50, 7.00; 52 Colo. 1140, 6.50; 63 Colo. 1000, 6.50; 70 Colo. 975, 6.25; 27 Ida. 1140, 7.60; 25 Ida. 1040, 7.20; 305 Ida. 1000, 6.75; 25 Utah 1140, 725; 35 Utah 980, 7.75; 27 Utah 1120, 8.00.

Cows, 6 Utah 970, 6.25; 12 Utah 1020, 5.60; 20 Ida. 1040, 5.75; 111 mixed N. M., 1.60@4.50.

Dec. 23: 32 Ida. steers 990, 6.55.

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Honesty is something you can't depend upon unless it comes natural, notes Hez Heck.

---

The idle and the feeble appeal to fortune for succor. The man of resolution carves out his fortune for himself.

---

Life, to many of us, is just one harrowing dream of what is going to bat us next.

*"Sales That Satisfy"*

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**Baby Chix Electric Hatched**—Booking orders for 1923 delivery. R. I. Reds, Barred Rocks. Our S. C. White Leghorns are from hens of George England strain mated to cockerels from the A-1 matings of the trap-nested stock of the Bonnie Brae Farm at Burbank. Write for price list. RED LOCK HATCHERY, 305 North Main Street, Artesia, Calif.

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**For Sale—White Leghorn Cockerels,** hatched from high record Trapnested eggs, direct from J. A. Hanson, Corvallis, Oregon, the man who consistently wins at all egg laying contests. These are wonderful birds, hatched March, 1922. Price $10.00 each. Reference—Commercial T. & S. Bank, N. S. Kaime, Santa Barbara, California.

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**For Sale**—Barred Plymouth Rocks, prize winners, some extra fine cockerels for sale now. Eggs for hatching in season. Satisfaction guaranteed. Mrs. J. W. Snodgrass, Los Olivos, Calif.

**For Sale**—Thirty cockerels from pedigreed 272 to 290 eggs Tom Barron Leghorns. Males and dame's dames imported. 47 to 90 10/11 per cent lay this year. T. Chegwidden, Van Nuys, Calif.

**Anconas**—Cocks, Cockerels. Satisfied customers for five years. We pay return express charges if you are not satisfied. $3.50, $5.00, $7.50 each. A. S. Wilkinson, Winton, California.

**Los Gatos Hatchery is now booking or**ders for White Leghorn Chicks. Shannon Station, Los Gatos, California.

**For Sale**—Barred Rock Eggs for hatching. 15 for $2.50. Box 1, San Jacinto, Calif.

**For Sale**—Superior Buff Leghorn Cockerels. Excellent strain of prize winners. W. L. Bartholmew, Chino, Calif.

## POULTRY

**Profitable Poultry Co-Operative Hatcher**ies. Capacity 250,000 eggs. Chicks off every week. To date we've quadrupled our bookings over former years. Why? Pleased customers reorder; disappointed customers book ahead to insure choice dates on our superior chick, ducklings, Turks (every year unable to fill many orders). Prices reduced booked ahead. 180-290 egg strain Leghorns, Anconas, Reds, Rocks, Minorcas, Wyandottes, Andalusians, Brahmas, good heavy laying Orpingtons. For quarter century imported, trapnested, selected for vigor, growth, beauty, eggs. Mail address only. Profitable Poultry, 13 North Fair Oaks, Pasadena.

**Santa Cruz Chicks from Bred-to-lay** Stock. For years I have used cockerels from hens with records of 200 to 250 eggs. This year the cockerels in my breeding pens are from hens with official records of 251 to 298 eggs, their sire dam 317, 21 of these males are from the high hen. See my records in three last Santa Cruz contests 2009-2112-2185 for pen of ten hens, chicks from these matings will make layers and payers. January price 20 cents, February 17½ cents, and 15 cents for following months. Order quickly. Twenty-five per cent deposit when ordering. W. J. Neef, Santa Cruz, Calif.

**Baby Chicks of Best Quality,** hatched by experts from Healthy, Vigorous Hens that have been BRED to lay—not forced to lay. White Leghorns 14c each; Barred Rocks and Reds 20c. Strong, vigorous chicks. The kind that live and thrive. Order today! ELEC-CHIC HATCHERIES, Dept. P, Roscoe (via Burbank), Calif.

**Newton Poultry Farm**—White Leghorn Baby Chicks from our well known carefully selected stock. Best strain. Big plant. Order now for Spring delivery. Any number. Los Gatos, California, Dept. 2.

**Write the Santa Clara Valley Hatchery,** Lincoln Ave., San Jose, California, for prices on White Leghorn, R. I. Red and Barred Rock Baby Chicks. Shipping days Tuesday of every week.

**Peacock and Hens For Sale,** young ones, and two pairs old ones. Write to Fair View Ranch, Ducor, California, for information.

**Baby Chicks**—Thoroughbred White Leghorns, Hoganized. No dead or weak ones charged for. Schellville Hatchery, Schellville, Sonoma County, Calif.

## FARM LANDS FOR SALE

THE CHARLES WEEKS SYSTEM OF INTENSIVE POULTRY AND BERRY FARMS
ONE ACRE AND INDEPENDENCE
or

The fine art of earning a comfortable living on one acre in California. For those who desire to dwell in sunny California without living up hard earned capital. For 18 years proprietor of the most intensive Egg Farm in the world and Founder of the Famous Charles Weeks Poultry Colony at Palo Alto, California. The Charles Weeks Poultry Colony No. 2 is now being established at Owensmouth, California, 26 miles from Los Angeles. Write for literature. Charles Weeks, Owensmouth, Calif.

**For Sale—A Money Maker.** Can be leased for oil. Fifteen (15) acres nine year old lemon orchard in perfect condition. Splendid crop on trees at present. This grove is 23 miles from the Court House in Los Angeles with two boulevards running to it. The very best of soil. Los Angeles Aqueduct Water. In the strictly frostless foothills of San Fernando Valley. Frost is unknown in this section. Ideal spot for country home and a good income. See OWNER, 1203 Loew State Building, Phone 15118, Los Angeles, California.

BUY DIRECT FROM THE OWNER

Irrigated river bottom lands in Sutter County. Rich, deep soil with a complete irrigation and drainage system. Southern Pacific Railroad and Sacramento River Transportation. Liberal terms, six per cent interest.

Sutter Basin Company,
California Fruit Building,
Sacramento, California.

**For Sale**—$7500 excellent buy. Modern up-to-date Chicken Ranch of half acre, building 27x90, scratch pens, place planted in greens; 500 White Leghorns, young and all laying. Modern up-to-date 6 room cottage, completely furnished, first class, bath and garage. Also front and back lawn, a beautiful place. Everything included in the price. Address Owner, E. A. Weston, Inglewood, Calif., Rd. 4, Box 427.

**To Close Estate**—200 acres of the best land in California. Situated 1 mile from Chico, on paved road—rich soil 20 feet deep. In 10 acre tracts at $400 per acre. 10 per cent down, small payment each year on principal. 6 per cent interest. J. F. Morehead, Box 611, Chico, California.

**Imperial Valley**—Eighty acres highly cultivated, fruit and vegetable land close to shipping center. Edwin Yawger, Chula Vista, Calif.

**Florida**—Information Indian River Section; book 148 illustrations and letter five cents. Goodwin & Baker, Realtors, Fort Pierce, Florida.

**For Sale—Ranches, Homes, Acres,** free list. Wilson Bros., Santa Cruz, California.

**I Want Farms For Cash Buyers.** Will deal with owners only. R. A. McNown, 370 Wilkinson Bldg., Omaha, Neb.

## FOR EXCHANGE

**Trade Income For Ranch**—5 houses and 1 double apartment in thriving Fillmore, Ventura County. Rent for $1650 annually. Always occupied. Price $12,000. Will trade for walnut acreage in Glendale or vicinity Los Angeles. Farmers Realty & Investment Co., Santa Paula, California.

## HOGS

**For Sale**—Bred Sows—Choice Durocs and Hampshires Registered. I. N. Cooper, Blythe, California.

## TURKEYS

**Turkeys**—Purebred Giant Bronze, choice young Goldbank-Copper King stock from our original matings with such imported sires as Goldbank VIII, first cock Madison Square Garden Show (New York) '21; Goldbank Boy, (his son) first cockerel same show; Goldbank King (his grandson) first cockerel same show '22; Copper King's Boy, third cockerel same show '22; Copper King, Jr., first cock California State Poultry Association Show, Oakland. Secure the best blood from prize winners of America's Premier Poultry Show. Reasonable prices. Send for circular. Bronze King Farm, Merced, Calif.

**Mammoth Bronze Toms and Hens,** also eggs in season. Our stock are California State Fair Winners and graded from the best Eastern blood procurable. Twenty years of practical experience with turkeys. We offer good opportunity for turkey raising on this thirty thousand acre range. John G. Mee, breeder of turkeys and herding Collie dogs, San Miguel, Calif.

**Giant Bronze Turkeys**—Prize Winning Stock. Large boned, heavy birds, combining size and beauty. Toms, $15.00, hens $8.00 and $10.00. S. D. Ayers, Rt. D, Hanford, California.

**Purebred Bronze Young Toms** $15.00; young hens, $10.00. Buff Orpington Cockerels, $5.00; eggs, $3.50 per 15. Mrs. M. L. Trewhitt, Route B, Box 47, Hanford.

**Mammoth White Holland Turkeys.** Finest flock of purebreds on the coast. Select stock from Eastern strains at reasonable prices. Earl V. Smith, Loma Vista Ranch, Willows, Calif.

**For Sale—Wild Turkeys**—Best, cheapest, most certain and indispensable producers. Cash deposit secures stock. Blanche Dresser, Route C, Box 194, Tulare, Calif

**21 Years a Specialty Breeder of Mammoth** Bronze Turkeys. Prize winning stock. Mrs. Frank Browning, Nampa, Idaho.

**Turkeys**—Purebred Giant Bronze. Goldbank-Copper King stock. Madison Square Garden's winning strains for sixteen years. Bronze King Farm, Merced, California.

## MISCELLANEOUS

**Hay For Sale**—First class barley and alfalfa hay; also barley and alfalfa and barley and clover mixed. Apply to Montana Land Co., 2 miles south of Bellflower. Mail address, Hynes, Calif.

**Canco Spray Material.** Absolute control for mealy bug, Black Scale, San Jose Scale, etc. Write for circular. Aurora Seed Mill, Stockton, California, distributors.

**Natural Leaf Tobacco.** Chewing 5 pounds $1.75; 10 pounds $3.00; 20 pounds $5.00. Smoking 5 pounds $1.25; 10 pounds $2.00. Pay when received. TOBACCO GROWERS UNION, Paducah, Ky.

**For Sale**—About 6000 ft. of 54 inch stock fence at 2c, over 1000 ft. 26 in. at 1½c per foot. Posts, hog-troughs, oilers. Chambers Ranch, Route 4, Anaheim.

**Hemstitching and Picoting Attachment** fits all sewing machines. Price $2.00 Checks 10c extra. Light's Mail Order House, Box 127, Birmingham, Ala.

**4 Lbs. Salmon Bellies and 3 lbs. absolutely** boneless Codfish delivered by mail, prepaid, $2.00. Sixth zone and beyond, $2.25. Coffin Fish Co., Seattle, Wash.

**Lime, Gypsum, Fertilizers**—High grade, truck or car load. Write for prices. Armstrong & Co., 4211 Pasadena Avenue, Los Angeles. Phone Garvanza 4078.

**Tobacco**—5 lbs best smoking $1.90. Low grade (mild) $1.25 Postpaid. Aden Francis, Dresden, Tenn.

## CATTLE

**Holsteins—For Sale**—Jane Garden Nero Abbekirk, a son of Sir Aaggie de Kolb Acme out of a 34 pound cow. Also two of his sons, and several high class females, registered and grade. Derryfield Farm, Capital National Bank Bldg., Sacramento.

**Guernseys—Grape Wild Farms—Berk**shires—Young bulls, from calf age up to 16 months old, of May Rose breeding and out of A. R. cows. Bred sows and gilts, service boars and pigs of ooth sexes for sale. Grape Wild Farms, Escalon, California. A. B. Humphrey, Proprietor.

**Breeders of Registered Milking Short**horns, Senior Yearling and Junior Yearling Sires for sale. Also a few choice Heifers. The John Lynch Ranch, Box 321, Petaluma, California.

**Shorthorns bred for range purposes and** of Pure Scotch Blood Lines. Show herd won highest honors in 1917. Visitors welcome; information cheerfully given. T. T. Miller, Hollister, California.

**Yearly Record Holsteins**—Bulls from 500 to 1000 pounds dams and by World Record sires. A. W. Morris & Sons, Woodland, California.

**Aberdeen-Angus Cattle**—Registered bulls heifers always on hand. Everything priced to please buyer. Brook Hollow Farm, Hollister, California.

**Registered Holstein Bulls** of various ages for sale. Millbrae Dairy, Millbrae, California.

**Guernsey Bulls** from tuberculin free herd. Last test July 10th. J. A. Brown, Capitola, Cal.

**Herefords—"Veramont Stock Farm,"** H. M. Barngrover, Prop., Stockton, California.

**Registered Herefords**—Anxiety 4th strain. Breeding stock for sale. Chas. Rule, Duncans Mills, California.

**High Class Jersey Bull Calves for sale,** from R of M Dams. Grant A. Brown, El Monte, California.

## TREES

**For Sale**—Grafted Placentia and Eureka Walnut Trees, on northern stocks. Scions taken from selected bearing trees. Trees grown under expert care and conditions. Any grade from three to twelve feet—twenty-five cents per foot. Fifteen thousand Thompson seedless grape vines, extra heavy, at 5c. General line other stock. Order from this ad. Write today. Miller Nurseries, Joseph Miller, Prop. Ontario, Calif.

**Order Your Trees Now.** We have a large stock of fruit trees of all varieties including Philips and Tuscan cling peaches, Bartlett pears, cherries, plums and prunes, etc. Also all kind of grape vines, ornamental trees and berry bushes. Burke's Nursery, 100 East Lodi Avenue, Lodi, California.

**For Sale—Grafted Walnut Trees,** Placentia, Eureka and Payne, on Northern California black roots. Tuscan and Sims Cling, also Lovell's Peach trees. Stock first class, prices reasonable. Los Nietos Valley Nursery, Downey, California. Phone 692.

**Fruit Trees**—Large stock of all kinds of fruit and ornamental trees, roses, shrubs and vines, etc. Order direct from growers. Most complete line offered in Southwest. Free catalogue, express paid. CONSOLIDATED NURSERIES, Houston, Texas.

**Apple Trees**—I have a fine block of first class one year old No. 1 apple trees. Will make very special prices on same. Write number and variety wanted for my very special prices. Will ship on approval. Harry Pitts, Healdsburg, Calif.

**Large Stock Grape Vines,** Kadota Fig, Persimmon, Cherry, Apple and other fruit trees. Berry plants, grape cuttings, seedlings, etc. Write for price list. J. F. Miller & Sons Nurseries, Healdsburg, Calif.

**For Sale—Florida Sour Orange Seed Bed Stock** from fruit growers seed. All leading varieties Avocados, grafted Placentia Walnuts. Mathers' Avocado Nursery, 160 Ventura Street, Pasadena. P. O. Box 585, Phone Colorado 6044.

**Nursery Stock**—All kinds, prune, apple, pears, peaches, filberts (The Greatest Money Maker), berries, etc., at a saving to you in prices. Send right now for prices, etc. 32 years in business. Carlton Nursery Co., Carlton, Oregon.

**We Are in the Market** for several thousand first class citrus trees on sour orange roots. Seed bed stock etc. Dorton's Southwest Nurseries, Head Office, Harlingen, Texas.

JUJUBA CHINESE DATE
Grafted trees, 2 to 4 ft. high. Best fruiting types. Sample of processed and dried fruit 25c. Chas. Booth, R 3, Box 83, Chico, Cal.

**For Sale Grafted Walnut Trees** also citrus and deciduous trees. Order now for 1922 delivery. Get my prices. Ketscher's Nursery, 1101 E 4th Street, Santa Ana, California. Phone 572-W.

**For Sale—Citrus Trees**—1500 Washington Navels, 3000 Valencia, 500 Eureka Lemons. "Fruit Growers Supply Co." budsed. F. A. Tetley & Son, Riverside, California.

**Walnut Trees**—2000 Placentia Perfection; 1000 Eureka. The scions used came from the celebrated "Fay" grove of Anaheim, California. F. A. Tetley & Son, Riverside, California.

**Exclusive Wonderful Pomegranate Nursery.** Large stock of fine two year old trees. Price reasonable. J. W. Irwin, Lindsay.

**For Sale—Pomegranate Trees** (American Wonder). Also several varieties rooted vines. Sam Blumer, Route 2, box 232, Porterville, Calif.

**For Sale—Grafted Walnut Trees** for season of 1923. Placentia, Eureka, Chase and Payne. Early buyers get the best. L. W. Story Nurseries, Rivera, California.

**For Sale**—Hachiya Persimmon Trees, grafted on lotus root. Get my prices. Geo. M. Ketscher, 1101 E 4th Street, Santa Ana, California. Phone 572-W.

**Wonderful Pomegranate Trees For Sale**—Twenty dollars per hundred. E. H. Niemers, Blythe, California.

**Hachiya Persimmons**—Wonderful Pomegranates. Circular. Sherwood Persimmon Nursery, Fullerton.

**Trees of Quality** on 3 year roots. Cash Nursery, Sebastopol, California.

## WANTED

**Wanted**—Men with cars in each California County to respresent established farm paper selling and collecting. Turn your spare time into money working part all time. To responsible persons liberal guarantee, good territory and promotion. Write California Cultivator, 317 Central Avenue, Los Angeles.

**Experienced Farmer and Stock Raiser Wants Work** where ability and service required. Years experience in principal stock districts, best of references. Would consider share or buy a herd of registered Duroc-Jerseys. Clyde Strickland, 307 Grant Street, Healdsburg, California.

**One or Two Thousand Evergreen Trees**—Acacia, Carob, Bottle, Camphor, Casuarina, Lawson Cypress, Arizona Cypress, Monterey Cypress, Grevillea Pepper. Home Nursery, Maywood Station, Los Angeles.

**Wanted**—A Job to Prune vineyards or orchards. Would take care of a fruit ranch on shares or salary. Address, C. Deschicks, General Delivery, Los Angeles, Calif.

**Want to Hear From Owner** having farm for sale; give particulars and lowest price. John J. Black, 116th Street, Chippewa Falls, Wis.

**Wanted**—Walnut Meats and cull walnuts. Fred L. Mitchell & Son, 214 French St., Santa Ana, California.

## SEEDS AND PLANTS

**Gladiolus**—Halleys, Kings, Americas, Pendletons, Primilinus Hybrids. Direct from the growers. These bulbs were grown under the best possible conditions which insures our buyers strictly No. 1 stock. State how many you want. Our prices will please you. PACIFIC BULB CO., 137 Pacific Ave., Santa Cruz, California.

BUY YOUR SEEDS NOW
Sweet Clover. White Blossom Per lb. 14c
Red Clover. Fancy, Per lb. 25c
Alsike Clover. Fancy, Per lb. 23c
Alfalfa. Fancy, Per lb. 23c
Prices Subject to change without notice.
NORWALK SEED COMPANY
Norwalk—Box 203—California

**Giant Argentieul Asparagus Roots.** One year, strong, clean, equal in size to average two year roots. Free samples. Per thousand $6.75; 10 M up at $6.50; 50 M up at $6.00; 100 M up $5.00 FOB. Terms: One-fourth cash with order, rest on delivery. Claussen Nurseries, Brawley, Calif.

**Save Money—Better Stock for Less.** Japanese Persimmons, rooted Muscat, Malaga and Thompson Seedless grapes; not rooted Black Monukka cuttings. Kadota and Black San Pedro Figs. Write today. Fred W. Kelsey, Nurseryman, 2 miles west, El Monte, Calif.

**Free to All**—Genuine Trebla Strawberry Plants, created by Albert Etter, best alround berry, bears first season, holds world's record, 10 boxes to plant. Etter's strawberry book free with orders for 200 plants. Write for prices. Wizard Nursery, Fortuna, California.

**Rooted Vines**—700,000 Alicante Bouchet Rooted Vines; hardy and well rooted. These vines have been inspected, certified and guaranteed true to name. They do not require dipping. Direct from Grower to You. F. C. Chapman & Son, Box 906, Modesto, or phone 1372 or 663.

HAIRY PERUVIAN ALFALFA SEED
Recommended by the U. S. Department of Agriculture and Successful Farmers. Apply for Samples and Prices.
E. F. SANGUINETTI
Yuma, Arizona
THE HOME OF HAIRY PERUVIAN

**Raspberry Snell Has It.** The wonderful Giant everbearing Red Raspberry La-France. Many of the berries are one inch in diameter, delicious flavor. Order your plants now from Ralph L. Snell, Mountain View, California.

**Beautiful Dahlias Are Grown From Seed** and bloom freely first season, 50c and $1.00 per pkg. With each $1.00 order I will send one nice Tuber free. Mrs. Annie White, 207 Fesler Street, Santa Maria, California.

**Cory's Thornless Blackberries**—One year strong transplants from heavy producing vines. 12—$2.00 postpaid. Wm. Mortenson, Route 4, box 20, Lodi, California.

**Cory's Mammoth Thornless Blackberry Plants**—The kind that bear early and gives quick returns. By the dozen or thousand. A. H. Jacobs, 2321 West 31st Street, Los Angeles, California.

**For Sale**—Giant Argenteuil Asparagus Roots. Extra large, year old, healthy, inspected. 100 for $1.00; 1000 for $7.00. Write for prices on large quantities. Raymond Henderson, Seeley, California.

**Cory Thornless Blackberry**—Extra large plants, 12, $2.00 postpaid. Satisfaction guaranteed or your money returned. Illustrated folder. Chas. E. Mortenson, Lodi, California.

**Berry Plants Direct from Grower**—Blackberry (Cory Thornless) Loganberry, Raspberry, Strawberry, etc. Special December prices. Pure Berry Products Co., A. L. Emery, Mgr. Palo Alto, California.

**For Sale**—Thompson Seedless and Sultana Grape Cuttings. January and February delivery. Ten Dollars per Thousand at Ranch. Walter W. Horak, Upland, Calif.

**For Sale—Giant Argenteuil Asparagus Crowns.** Mather's Avocado Nursery, 160 Ventura Street, Pasadena. P. O. Box 585, Phone Colorado 6044.

**Strawberry Plants**—Brandywine, Gibson, Carolina, $5 per M. From new planting, all stock inspected. E. A. King, 1158 W. 4th St., Riverside.

**Carolina Strawberry Plants** guaranteed true to name, $5.00 per 1000, postpaid. Address I. Asbeck, Route 2, El Cajon, Calif.

**100,000 Inspected Marshall and Kellogg's** Thorobred Gibson Strawberry plants $5.00 per M. Over 10,000 special price. A. Cooley, Delano, California.

**For Sale**—Black Monukka cuttings forty dollars per thousand. Q. C. Webster, Brawley.

**Carolina Strawberry Plants** for sale $5.00 per M, 60c hundred. D. R. Bannister, Box 32, Oakdale, Calif.

**We Carry a Complete Stock of Vegetable, Flower and Field Seed.** Turlock Seed Company, Turlock, California.

**Wanted**—Ragged Robin Rose cuttings. F. G. Sheffer, 515½ W. 3rd Street, Los Angeles, California.

**Carolina Strawberry Plants For Sale** in large quantities $5.00 per thousand. Postpaid. G. M. Hawley El Cajon, Calif.

**Giant Wonder Strawberry Plants** $10 per thousand. M. C. Diffenbacher, San Fernando, California.

**Get Our Prices First** on new and approved varieties berries, seed, etc. J. L. Lawson. Reliable Dealer, San Jose, Calif.

**For Sale**—Extra fine Malaga rootings. Wendell M. Wilson, Exeter, Calif.

## GEESE

**Geese**—Purebred Toulouse. Two young ganders and two young geese, 1st and 2d prize winners at recent Oakland Auditorium Show, $12.50 each. Bronze King Farm, Merced, Calif.

## DUROC-JERSEYS

**Greenwood Farm Durocs**—An especially good lot of spring boars. Witherow & Stafford, Live Oak, California.

## MACHINERY

FOR SALE—TANKS, TANKS, TANKS
Rebuilt WINDMILLS, all sizes, save half.
50 PUMP CYLINDERS
LISTEN
We make TANKS in 10 sizes, 175 to 2000 gal. Better made for less.
A LITTLE ADVICE
Iron, pipe and solder sure going up. Order now, save several dollars. Will be compelled to raise prices soon. DEMMITT CO. 120 N Main. Yard 816 Yale, L. A.

**For Sale**—Moline Beet Cultivator, $55.00. Tee Bar Roller, $40.00. Riding Beet Plow, $40.00. Used one season. O. Gonzalez, Temecula, California.

## PATENT ATTORNEYS

WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

## HORTICULTURAL PRINTING

**Catalogues and Booklets,** office forms and correspondence stationery for the nursery, seed and florist trade; half-tone cuts of many standard plants. Correspondence invited. The Kruckeberg Press, 236 Court St., Los Angeles.

## GOVERNMENT LAND

**Attention:** Million acres Government land for farming, grazing, timber. Near R. R. Plenty water. Send for folder. Rally 941 So. Union Avenue, Los Angeles, California.

## GOATS

**Goat**—Prize Saanen Buck $10.00. A. L. Swanson, R. 5, Box 147a, Watsonville, Calif.

During the first seven months of the present year Denmark exported about 55,000 tons of butter in casks or cases, or nearly 2,000 tons more than was exported during the corresponding period of last year. England continues to be the principal buyer, taking two-thirds of the total exports.


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Are Dependable Seeds

New Carmel Golden Corn
(Pkt. 15c; lb., 50c)

Two New Table Peas
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The Lincoln
(Pkt. 15c; lb. 50c)

New Bean
Rogers Stringless Refugee
(Pkt. 15c lb. 50c)

The Wonderful
Norton Tomato
(Pkt. 15c; ½ oz. 75c; oz. $1)

Plant the best

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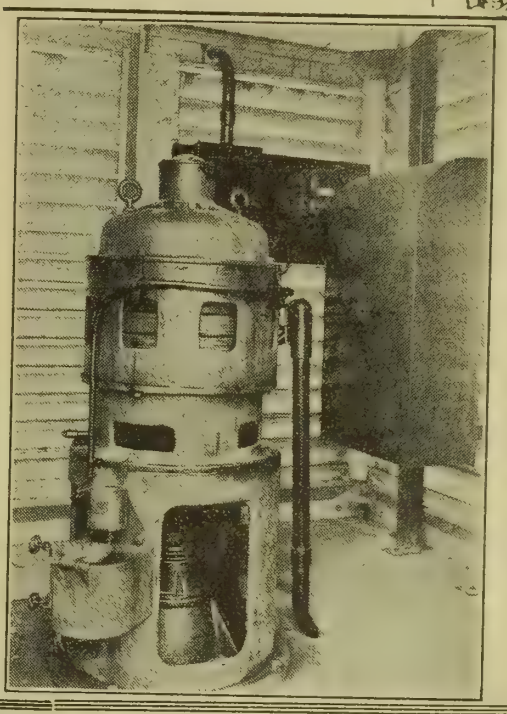
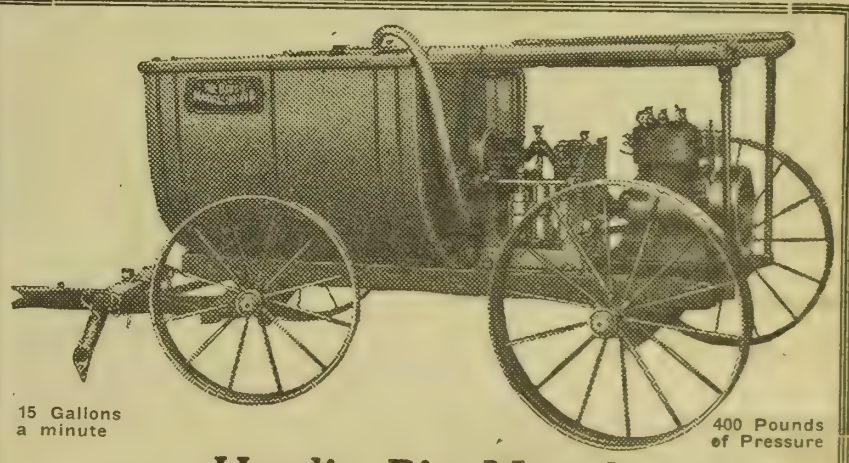


## PRESS THE BUTTON HYDRO DOES IT

It may be a lazy man's way, but the electric habit is coming. It's nice to press the button and let George do it. It hasn't exactly been in the farmer's province to press the button and have a valet appear to manicure the cows. However, it is possible to secure great benefits and real helpfulness on the farm through electric installation.

Electricity has played a highly important part on transforming California from a desert waste to the highly productive state it has now attained. The illustration herewith shows one of the most modern types of vertical motor and pump with "push button" or "remote control." The push button is in the box. This can be installed anywhere on the farm with only small additional expense. Then push the button and electricity does the work.


Hardie Big Mogul

Big enough for the largest acreage—strong enough for the highest pressure—light enough for the steepest hillside—meets the demands of the biggest growers—handles as easily as the smallest outfit—turns in a 20 foot circle—Measured by any standard, the greatest sprayer value ever offered.

Light Strong Long-Lived

The Mogul Pump is made over-size and extra strong to carry the highest pressure ever required in spraying. It has a built-in pressure regulator, a reliable 8 h. p., two cylinder Cushman Engine that runs like a watch without vibration. It is very light, weighing, the complete sprayer, only 2000 pounds with a 15 gallon a minute pump and 300 gallon tank. The truck is an all steel Autoplex with high, broad wheels for light traction and underslung to carry the load low.

Get our catalogue of the complete Hardie Line.
There is a Hardie for every Spraying Need.

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**Protect your old Roof**

If your roof leaks or is old and worn you can make it as good as new with

**SUPER-TEST**

**FIBRE LIQUID CEMENT**

**—Guaranteed for 10 Years—**

It is unnecessary to build a new roof. SUPER-TEST will renew your old one and keep it in perfect condition. Easily applied. Flows evenly into smallest crevices and sets quickly into a firm, rubbery surface. Will not crack, run or peel under the hottest sun or severest cold. Cheaper than paint.

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**Jacks For Sale**

Five registered Mammoth Jacks ready for spring breeding, ranging from two to five years of age.

**Rancho Las Delicias**
Santa Susana Calif.
Ed. R. Maier Owner, L. C. Reed Supt.



**GUERNSEY COWS**

produce practically all of the milk in this country which sells at a price considerably above the market price of ordinary milk. Guernsey grades produce the same kind of milk and they are in demand at good prices.

Every grade dairyman should own the best Guernsey bull he can buy. Write us if you want Guernseys.

**ROSEMOOR FARM**
W. H. Dupee, Owner, Riverside, Calif.



**YOU CAN'T CUT OUT** A BOG SPAVIN OR THOROUGHPIN

but you can clean them off promptly with

**ABSORBINE**
TRADE MARK REG. U.S. PAT. OFF.

and you work the horse same time. **Does not blister** or remove the hair. $2.50 per bottle, delivered. Will tell you more if you write. Book 4 R free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Varicose Veins, Ruptured Muscles or Ligaments, Enlarged Glands, Wens, Cysts. Allays pain quickly. Price $1.25 a bottle at druggists or delivered. Made in the U. S. A. by W. F. YOUNG, Inc., 244 Temple St., Springfield, Mass.

**BARREN COWS** are the results of **CONTAGIOUS ABORTION**

Prevent this by using ABORNO. Easily administered by hypodermic syringe. Kills abortion germs quickly without harming cow. Write for booklet with letters from users and full details of Money-Back Guarantee.

ABORNO LABORATORY
15 Jeff St. Lancaster, Wis.


# Inyo County Calf Clubs

A shipment of 14 registered heifer calves arrived at Bishop, Inyo County, December 9, from the Sacramento Valley, these calves to become the nucleus of Inyo County calf clubs. Five were Holstein heifers from the James MacGillivray herd at Sacramento. They were from nine to 13 months of age. Two were Ayrshires from the Clyde LeBarron herd at Valley Ford, in Sonoma County. The LeBarron herd is one of the foremost herds of Ayrshire catttle in the West. Four Shorthorn heifers were obtained from the T. S. Glide herd at Davis and the H. M. Elberg herd at Woodland. Three Milking Shorthorn heifers were in the lot, from the Alexander and Kellogg herd at Davis.

These calves were distributed among George Linscott, Laws; Henry Gibson, Bishop; John Christian, Bishop; Robert Christian, Bishop; Harold Benner, Big Pine; Earl Compton, Bishop; Francis Hines, Big Pine; Ed Blake, Big Pine; Bruce Albright, Bishop; Archie Albright, Bishop; Elma Wonacott, Bishop; Orville Krehbiel, Bishop; Richard Ehlen, Laws.

Several boys in the county purchased calves locally. Ernest and Timothy Linscott and Robert Gillespie bought Holstein heifers, and Willie Alpers purchased an excellent heifer calf from the George Watterson herd. A total of ten boys are starting out in the dairy calf club, and seven in the beef calf club.

There has been a great deal of enthusiasm among the boys in this calf club work. The boys were helped financially by the Inyo County Bank. W. R. Ralston, assistant state club leader, Charles Reeves, county physical instructor, and J. P. Hertel, county agent, have been instrumental in helping the clubs to get a start, and to make the thing more worthwhile the Inyo Creamery has put up a prize of $100 for the dairy calf club, and the Inyo County Bank has donated $75 for the beef calf club.

No doubt these clubs will be instrumental in developing not only an appreciation for better livestock in Inyo County, but in educating these younger fellows in the care, management and financing of better livestock.

# Successful Pig Club Contest

A successful pig feeding contest has recently been concluded in Los Angeles County. In this contest there were 39 pigs, weighing at the beginning of the contest an average of 45 pounds. At the close of the contest these pigs averaged 138 pounds each, representing a gain of 93 pounds per pig, or a total of 3,630 pounds for the 39 pigs. This represents an average daily gain of 1.05 pounds per head.

Mr. Ernst, Los Angeles County Club leader, makes a statement that this gain was put on at a profit. After all the expenses were deducted, including the original cost of the pigs, cost of feed, labor and miscellaneous expenses, the balance showed a net profit of $114.77, or an average of $2.94 per pig.

Where good feeding methods were used economical gains were obtained. in a few cases there were losses sustained, this being due to a lack of green feed or careless feeding and management. The best results were obtained by the feeding of rolled barley, supplemented by a nitrogenous concentrate, either skimmed milk or tankage. Where tankage was fed, it was fed in the proportion of 9 parts barley and one part tankage, by weight. In addition, green alfalfa, either as pasture or cut and thrown to the hogs, provided succulent feed. In most instances the hogs were used to clean up waste products of the farm, thus getting rid of waste and at the same time helping to provide a profit.

Some of the interesting results of this contest are as follows: The 29 boys who took part in the contest demonstrated that pork can be raised at a profit in southern California, the average cost of gains for the 39 pigs being 6½ cents per pound. The keeping of accurate records, the effort required to take care of these pigs, provided a means of educating these boys in taking care of livestock and furnished business experience as well. Mr. Ernst concludes that these hogs were produced economically in an intensive agricultural community.

# Chloroform Treatment for Lung Worms in Cattle

Lung worm infestations in cattle and sheep cause rather extensive losses among livestock. Sheep and cattle kept on low marshy ground are very likely to contract this trouble. The affected animals generally show gradual loss of flesh accompanied by progressive weakness and a slight cough which may at times develop into paroxyms of coughing, generally expelling some of the threadlike parasites and their eggs. If this material expelled lodges on feed consumed by animals not yet affected, they may acquire the disease. In severe outbreaks large numbers may die.

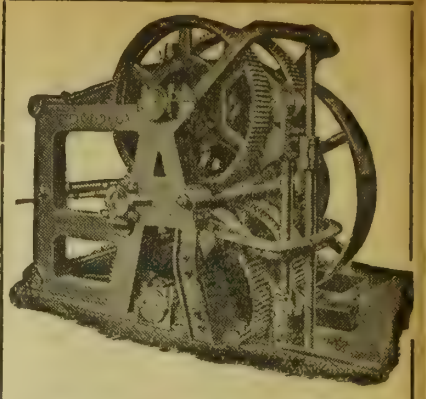
Various forms of medication have been suggested for destroying lung worms. The delicate nature of the lung tissue precludes the use of strong active agents, hence in the past the disease was looked upon as incurable. More recently, however, the use of chloroform by inhalation has been tried on a large number of cattle and sheep, and under certain conditions has proved a very good remedy for destroying the worms in the lungs without injuring the animals treated. Sheep are rather sensitive to the action of chloroform but cattle apparently are not injured and when mildly affected often are freed from the trouble after one or two treatments, provided they are otherwise given the proper care and attention.

The chloroform method was used on the Del Monte Cattle Ranch about a year ago. A communication from Carlton Earle Miller, owner and manager, states: "We accomplished a complete cure at the ranch with the chloroform treatment. All the cattle became fat and were sold for a good price. The chloroform treatment as outlined by you was 100 per cent perfect." The Del Monte Ranch had at the time of treatment about 2,000 head of cattle and had lost approximately 500 head before calling on the department of agriculture for advice. Information as to the use of chloroform for lung worm infestation may be secured from the Division of Animal Industry of the California Department of Agriculture, Sacramento.—J. G. Jackley.

### ACCURATE BUTTER FAT TESTS

Wherever milk and cream are paid for on the basis of the butter fat content, the use of accurate glassware in making the test is most important to the dairyman. Since 1900 milk dealers and farmers in New York have been protected by law against faulty Babcock glassware. All jobbers and manufacturers of glassware are required to submit their goods to the New York agricultural experiment station for examination before they are offered for sale. All glassware meeting the requirements is branded S. B., or State Branded, by the station officials and is then ready for market.

The station authorities have felt for some time that butter fat tests in New York state could be made still more accurate if further legal restrictions were placed on the number of kinds of bottles and pipettes that may be legally used in making these tests. During 1921 the experiment station tested more than 39,000 pieces of Babcock glassware representing more than 24 distinct types. Many of these

**THE POMONA**

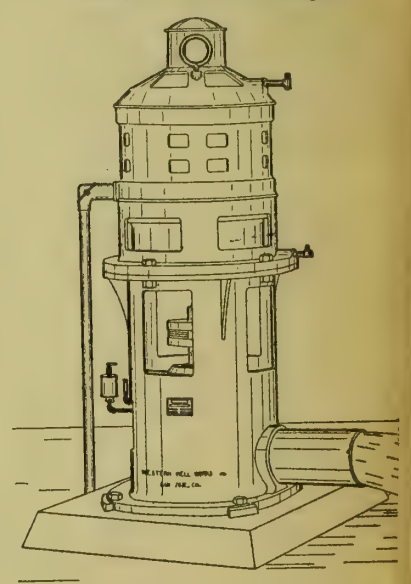
**Duplex Plunger Deep Well Pumps**

are solving the pumping problems for many users during the period of low water levels. They will lift the water to the surface, and, if desired, deliver it to high elevations above ground and at lower power cost than any other system of pumping water.

**Pomona Manufacturing Co.**
POMONA, CAL.
Manufacturers of the
POMONA Irrigation Gates and Valves



**Western Turbine Centrifugal Deep Well Pumps**



represent a highly developed construction of a simple practical pump. They are manufactured to meet rigid inspection and deliver long uninterrupted service. The cost of maintenance is very small over many years of severe use.

Made in capacities from 100-4500 G. P. M.
**WESTERN WELL WORKS, Inc.**
SAN JOSE, CALIF.



**Bred Berkshire Sows**

We have a carload of sows and gilts guaranteed safely bred to our great boars.

For Sale Singly or in Lots

**Italian Vineyard Company**
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**Big Money Boring Wells**

One Man One Team

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Earth augers, rock drills and combined machines. Engine or horse power. *Write for easy terms and free catalog.*

LISLE MFG. COMPANY
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bottles and pipettes although accurately made, were so constructed as to lead to errors in butter fat tests when used by the average person.

By an amendment of the agricultural law passed at the last session of the legislature only five types of glassware can now be legally used in making butter fat tests in New York. These include the usual 8 per cent milk bottle, the 9 gram short and long cream bottles, the 18 gram long cream bottle, and the plain 17.6 centimeter pipette. The present law now complies with the provisions for Babcock glassware as set forth by the United States bureau of standards.

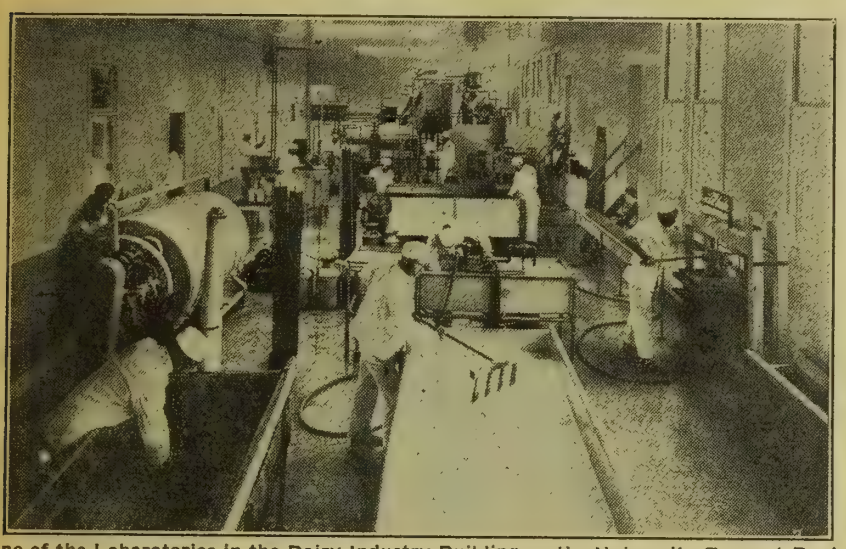
## COW TESTING ASSOCIATIONS PROVE PROFITABLE

From the office of Noel Negley, extension specialist in dairying, comes report of the cow testing work of the 28 cow testing associations in this state. It has been noted that generally the associations which were first organized are showing best averages. This association has resulted in weeding out the unfit and, so far as possible, replacing with high producers.

From the November reports we find that better use is being made of cow testing association work. Thirteen associations report 185 unprofitable cows sold. L. H. Meads of the Patterson Association in Stanislaus County reports 76 unprofitable cows sold, and Ferndale No. 3 reports 30 sold. Testers are not neglecting the importance of urging their members to use good purebred bulls as 21 have been purchased during the past month. However, there is still plenty of work to be done for 11 associations reporting on the subject state that 61 grade or scrub bulls are in use.

Following is a summary of the November reports:

| Assoc. | Cows Tested | 40 pound Cows | High Herd Owner | Pounds Milk | Pounds Fat |
|---|---|---|---|---|---|
| Arcata | 1630 | 100 | Albert A. Otto | 516 | 40.8 |
| Cheleno-Salmon Cr | 780 | 75 | Molseed Bros | 721 | 39.7 |
| Delhi | 55 | 16 | L. E. Dickover | 1172 | 43.8 |
| Ferndale No. 1 | 1185 | 36 | W. E. Elliott | 713 | 41.3 |
| Ferndale No. 2 | 1201 | 65 | Joe A. Regli | 630 | 34.8 |
| Ferndale No. 3 | 1171 | 23 | Chas. G. Guiliere | 600 | 33.0 |
| Fresno | 199 | 21 | A. G. Quist | 1024 | 37.9 |
| Harmony Valley | 317 | 21 | J. C. Tanner | 800 | 36.7 |
| Inyo County | 382 | 16 | E. Sluithers | 675 | 30.5 |
| Kern | 862 | 95 | J. L. Sebastian | 1772 | 51.6 |
| Kings | 561 | 92 | G. U. Clarke | ..... | 41.1 |
| Klamath River | 393 | 4 | F. B. Feheley | 642 | 34.0 |
| Los Angeles | 4282 | 1140 | F. F. Pellissier | 1715 | 57.1 |
| Merced No. 1 | 916 | 52 | Duarte Bros | 915 | 35.4 |
| Merced No. 2 | 865 | 28 | A. C. Garcia | 777 | 30.0 |
| Orange | 79 | 238 | M. Babylon | 1087 | 45.2 |
| Petaluma | 823 | 179 | Henry Gianni | 1318 | 47.9 |
| Point Reyes | 972 | 114 | D. McIsaac | ..... | 35.7 |
| Riverside | 703 | 125 | W. R. Elliot | 1270 | 47.7 |
| San Bernardino | 645 | 181 | H. F. Kincaid | 888 | 47.9 |
| San Diego | 749 | 134 | Art Miller | 1018 | 42.0 |
| San Joaquin | 1259 | 153 | E. J. Wilson | 744 | 44.4 |
| Sonoma-Marin | 482 | 99 | David Gleason | 942 | 48.2 |
| Stanislaus No. 1 | 958 | 97 | E. W. Looney | 1238 | 41.8 |
| Stanislaus No. 2 | 468 | 64 | J. S. Gabriel | 869 | 37.9 |
| Stanislaus No. 3 | 888 | 39 | Gonzalves Co. | 767 | 30.3 |
| Stanislaus No. 4 | 694 | 32 | John Gulart | 790 | 30.6 |
| Tulare | 648 | 21 | F. S. Borror & Son | ..... | 45.2 |



**One of the Laboratories in the Dairy Industry Building on the University Farm at Davis**

California has been exceedingly generous in providing the new Dairy Industry Building and equipment which has just been completed. The construction of the new building is the culmination of five years planning, which included a study of all important dairy industry buildings in this country. In this building will be held four short courses in dairy manufacturing, February 5-15. It is an opportunity which should be taken advantage of by every one engaged in dairy manufacturing. There will be courses for milk plant operators, butter makers, cheese makers, and ice cream makers. The equipment in the dairy manufacturing building is all electric. The entire building is electrically equipped.

## BIG TYPE HOGS FAVORITES

There is no "best" breed of swine, but within the different breeds the "big type" hog is now finding most favor in nearly all parts of the country, says the United States department of agriculture in a recent Farmers' Bulletin, 1263, Breeds of Swine, by E. Z. Russell. The bulletin, which is well illustrated with photographs of specimens of all the leading breeds and of some minor ones, gives a brief history of the origin of all the breeds now found in the United States, descriptions of the characteristics and names of the record associations, with names and addresses of the secretaries.

The usual classification under lard and bacon types is given. The breeds included under the first are the Duroc-Jersey, Poland China, Chester White, Berkshire, Hampshire, and Spotted Poland China. The Tamworth and the Yorkshire are the only breeds of the bacon type grown to any extent in this country and are the only ones included. The minor breeds given a place in the bulletin are the Mule-Foot, Large Black, Kentucky Red Berkshire, Cheshire, Essex and Victoria.

The big type animals are found in all breeds, but are more numerous in some breeds than in others. Owing to an increasing demand for cured hams and bacon of high quality the type of hog becomes a matter of much importance. Hams weighing from 12 to 16 pounds are more likely to cure with high quality and flavor than lighter or heavier pieces. Neither hams nor bacon should carry excessive quantities of fat but should be "well marbled." The opportunity for producing meat of this character is greater in the quickly grown big type hog than in the distinctly small type. The most profitable hog is the one that can be grown to the required market weight in the shortest time. Well bred and well fed animals of the right type will make the market weight in from seven to ten months. The best market weight is generally from 175 to 225 pounds.

Copies of the bulletin may be obtained free by addressing Department of Agriculture, Washington, D. C.

## PROFIT FROM STUDY OF FEEDS

How to feed economically and profitably is an important thing for a dairyman to know. In all sections of the country where investigations have been carried on the United States department of agriculture has found that feed is the most expensive item of cost of milk, and intelligent feeding offers the biggest opportunity to reduce costs.

The analysis of many figures by the department shows that in Vermont the winter costs of keeping a herd were made up of 63.1 per cent feed and bedding, 17.5 per cent labor, and 19.4 per cent other costs. In summer feed and bedding represented 41.6 per cent of the total expense, labor 26.7 per cent, and other costs 31.7 per cent.

In the south the costs are distributed somewhat differently. Figures obtained in Louisiana show that in winter 56 per cent of the expense is for feed and bedding, 22.4 per cent for labor, and 21.6 per cent other costs. The summer costs in that region do not differ from the winter costs so much as they do in the north. The figures for summer in Louisiana show that 50.5 per cent of the total cost of milk is for feed and bedding, 26.2 per cent for labor, and 23.3 per cent for other costs.

Although it is advisable for a farmer to economize wherever he can do so wisely, these figures show that the dairyman who studies feeds and feeding has a big opportunity to increase his profits.

## OVER 3000 TESTED

The November cow testing report of the Stanislaus County farm bureau dairy department shows 3008 cows tested. The ten high cows were owned by: J. Chapman, Dairyland, Holstein, 84.0 pounds fat; Guy Miller, Ada, Jersey, 78.9 pounds fat; Six Bros. Dairy, Fern, Holstein, 75.9 pounds fat; J. Pelanda, Sissy C. V., Holstein, 71.0 pounds fat; J. Driver & Son, Nigger, Grade Holstein, 67.8 pounds fat; J. Chapman, Maria, Holstein, 67.2 pounds fat; Six Bros. Dairy, Walhalla, Holstein, 66.4 pounds fat; F. L. Hogue Co., Daisy, Holstein, 66.4 pounds fat; J. Gulart, 66, grade Holstein, 64.1 pounds fat; L. Hadley, Mate, grade Jersey, 66.2 pounds fat.

Fairchild's News Service through the National Wool Growers' Association: "As end of the year approaches there is considerable speculation here as to how much unsold wool there is in Boston market. General opinion is that supply is exceptionally low. Many of the larger houses reporting their stock of domestic wools smallest in years. Market remains quiet with prices of high grade wool slightly softer. Quotations: fine medium staple, $1.40; three-eighths blood staple to $1.10; fine medium clothing, $1.15; scoured basis.

On Saturday, December 9, the Northern California Wool Growers Association held the largest meeting in the history of the organization, although there was a driving rain and snow. Over 70 sheepmen representing Glenn and Tehama Counties turned out for the meeting. Seven representatives of the Southern Pacific and two representatives of the state department of agriculture and U. S. biological survey were on hand to discuss shipping of livestock, railroad land rentals, corral accommodations and the control of the coyote.

J. D. Story, public service commissioner of Queensland, Australia, is in the Pacific Coast states gathering information to assist farmers of Australia in marketing and kindred problems, especially of the dairy industry.

Following a visit of an expert to America, during which methods of the California Dairy Council were studied, British dairymen are planning a "Milk Publicity Campaign," with the expenditure of nearly $1,500,000.

The sheepmen of Tehama County have decided to adopt the federal method of exterminating the coyote and will interview their board of supervisors at once.

Fifty-two head of registered Herefords sold at the International sale for a total of $43,576—an average price of $838 a head. Twenty-four bulls averaged $1,100 each and 28 cows aver-


# OIL LIGHT BEATS ELECTRIC OR GAS

## BURNS 94% AIR

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal oil).

The inventor, W. V. Johnson, 31 N. Fifth St., Portland, Ore., is offering to send a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help him introduce it. Write him today for full particulars. Also ask him to explain how you can get the agency, and without experience or money make $250 to $500 per month.

**KINKADE GARDEN TRACTOR and Power Lawnmower**

A Practical, Proven Power Cultivator for Gardeners, Suburbanites, Truckers, Florists, Nurserymen, Fruit Growers.

Catalog Free

**American Farm Machine Co.**
2531 Uni. Av. S.E., Minneapolis, Minn.

# You Should Not Buy a Bull Unless:

You have seen his dam and know that she is the type you want his daughters to be.
Or you have seen a good picture of her with a close-up picture of her udder.
She is a big producer of milk with a high percentage of fat.
Our cows are the tops of all the big sales in the state for the past three years.
Practically all of them have high 7 day and yearly records. They hold 4 world's records.
Our herd bull is Aaggie De Kol Mead, whose five nearest dams average 1130.64 pounds of butter in a year testing over 4%.
You should have one of his sons out of a high record dam.
Call or write for our long-time, easy payment plan.

**Lankershim, Cal.** *Fred Hartsook* **Visitors Always Welcome**

# It Runs in the Family—Do You Know

That the Highest Record Daughter of King Korndyke Pontiac 20th, with 1158.2 lbs. Butter and 27,481.3 lbs. Milk as a 3-year old, is a half sister to our Junior Herd Sire, King Korndyke Pontiac Mead, from a daughter of our Senior Sire, King Segis De Kol Mead, or practically the same cross we are now using as the main framework of our herd?

Can you think of a better strain from which to select your future herd leader than this proven nick within the wonderful Valley Mead strain?

**Los Angeles County Farm. Holstein Breeders, Hondo, Calif.**
Three Miles South of Downey on the Downey-Long Beach Boulevard

**Cotton Seed Meal or Cracked Cake**
**For Stock Feed or Fertilizer** Phone 620-18 — Write or Wire
H. E. BRIDGES, 515 I. W. Hellman Bldg., Los Angeles, Calif.

# Los Angeles Markets

Los Angeles, December 27, 1922.

### BUTTER

Butter: Creamery extras, Produce Exchange price 53 cents.

### CHEESE

Brokers' prices:
California flats, 23.

### EGGS

Produce Exchange closing prices: Eggs, cases included, fresh extras, 50; case count, 49; pullets, 48; pewee pullets, 34.

### POULTRY

Price to producers L. A. produce exchange: Hens, 20; colored, 28; broilers, 30; roasters, 26; old roosters, 14; fryers, 26; ducks, old, 20; ducklings, Pekin, 3½ up, 26; others, 22; geese, 25; turkeys, live, young toms, 33; dr., 38; old, live, 31; dr., 36; hens, live, 32; dr., 37; small hen and tom, 15; squabs, 25@50; capons, 30@35. Belgian hares, 12@18; old, 8.

### LIVESTOCK

(See Page 693).

### POTATOES AND ONIONS

These are the actual prices obtained Tuesday, December 27, 1922, furnished by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. There may be slight fluctuations during the day's trading.

Potatoes: Northerns: Rivers, 1.50@1.75; poor, low as 1.40 cwt. Idahos: Russets, 1.50@1.75. Sweet Potatoes: Locals, Nancy Halls, 2@3½; Jerseys, 2@2½ lb. Northerns: Nancy Halls, 3@4.

Onions: Stockton Browns, 2.25@2.50; Whites best, 4.25@4.50; poorer, 3.75@4.00 cwt. Locals: Yellows, 75; Spanish, 1.00 per lug; 3.00 per cwt.

Garlic: Mex. and Northern, best, 9@10; poorer, 7.

### VEGETABLES

These are the actual prices obtained between 7 and 8 o'clock, December 27, by wholesalers in their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk.

Artichokes, 1.75@2.00 doz.; small, 1.25@1.50 doz.

Beans: Local green, best, 14@16; Coachella, Ky. Wonder, 18@19.

Bunched Vegetables: Per dozen bunches: Turnips, beets, 25@30; carrots and spinach, 20; parsley, 15; onions and radishes, 10@15; parsnips, 35@40.

Cabbage: Local and Northern, best, mostly 1¾@2.

Cauliflower: Per doz., 75@90.

Celery: Wide range in quality and prices. Locals: best, 3.00; poorer, 2@2.50. Northerns: 3.00@3.50 per crate according to quality.

Cucumbers: Southern, 1.85@2.00 per flat.

Lettuce: Local, best, 1.00@1.10; ordinary, 75@90 per field cr.

Lettuce: Local, best. 1.25; ordinary, best, 13@14; local, 8@12;.

Peas: Orange County and Carlsbad, best, 10@12; local, 8@10; Imperial 14@15.

Peppers: Locals: Bells, mostly, 6; Chilis, 6; Cherry Chili, 16@18.

Sacked Vegetables: Per sack. Beets and Carrots, 1.00; Turnips, 1.25@1.50.

Squash: Summer best, 1.50@1.60 lug; Hubbard, 2@2½; Cream, 3@3½.

Tomatoes: Local: lugs, ripe best, 1.25@1.50; poorer, 75@1.00.

### FRESH FRUIT

These are actual prices obtained December 27, by Los Angeles wholesalers from their sales to retailers, peddlers, hotels, restaurants, cafeterias, etc., as compiled by the U. S. Bureau of Markets. Terms, cash on the walk.

Apples: Northerns: Bellflowers fancy, 3½ tier 1.25@1.35; 4 tier 1.35@1.45; Utahs: Jonathans loose, 3½@4 lb.; poorer, 3: Delicious, 6@7 lb. Idahos: Jonathans loose, 3@4; Ganos, 3 lb. Washingtons: Jonathans packed, extra fancy, 2.00; fancy, 1.75@1.85; Delicious, extra fancy, 2.50@3.00; Yellow Newtowns, fancy, 1.60@1.75 per box. Oregons: Spitzenburgs extra fancy, 2.10@2.25.

Cranberries: Cape Cods: Late Howes. 16.00@18.00 per barrel; 8.00@9.00 per half barrel crate. New Jerseys: Late Howes, 14.00@16.00 per barrel, poorer, 10.00@12.00.

Grapes: Locals and Northerns: Malagas, best, 6@7; poorer, 4@5; Red Emperors, 5; poorer, 3@4 lb.

Pears: Northerns and Locals: Bartletts, best, 6@7; poorer, 3@5.

Persimmons: Lb., 10@12; poorer, 7@8.

Pomegranates: Lb., 6@8; few large, 9.

### CITRUS FRUIT

Grapefruit: Arizonas: 64-96 sizes, seedless, 4.50@5.00 per box. Imperial Valley, special brands, 4.50@6.00 per box. Northern, 3.00@3.25 per box.

Lemons: Special brands, fancy 7.50@8.50; choice, 6.00@7.00 box; market pack, 3.50

Oranges: Northerns: Special brands, Navels, 3.50@4.50 per box, market pack, 3.25@3.50 per box. Tangerines, Arizonas, 9@10 lb.

### BEANS

California Lima Bean Growers Association estimates regular Limas remaining in California by January 1, 1923, 420,000 bags, from which seed must be deducted. Prices quoted Dec. 10:

| | |
|---|---|
| Limas | 8.50 |
| Baby Limas | 10.50 |

### HAY

Following are prices in the general market to growers f. o. b. Los Angeles in carload lots; handling and commission must be added to obtain retail prices on new hay:

A slightly weakened condition obtains because of increased receipts, but it is thought to be only temporary.

| | |
|---|---|
| Tame Oat | 22.00@24.00 |
| Barley Hay | 16.00@18.00 |
| Rabbit Alfalfa | 24.00@26.00 |
| No. 1 Dairy | 22.00@24.00 |
| Standard Alfalfa | 16.00@18.00 |
| Wheat Straw | 10.00@12.00 |
| Barley Straw | 9.00@11.00 |

Prices for alfalfa being received by growers on the ranch vary greatly. As approximate figures we may say that Rabbit Alfalfa is bringing the growers around 25.00@27.00 as a fair average. No. 1 dairy is varying from 15.00@18.00 with 16 as a mean or average price. Standard, 10.00@12.00.

### GRAIN

Prices L. A. Grain Exchange, December 26:

Milo, 100 ton lots, January del., 1.90.
Barley, 100 ton lots, January del., 1.65.
reports December 26:

Market conditions about as follows:

Wheat: Milling, 2.40@2.45, sackage deductible; seed, 2.20@2.30 according to quality.

Barley: Stronger, 1.67½@1.70.

Corn: Excess supply makes local prices lower than shipping prices, 1.72½@1.75 bulk.

Milo: Slightly weaker. Ordinarily the season begins early in the fall; this year it began earlier, and the market will be much stronger, presumably, in January.

# San Francisco Markets

San Francisco, December 26, 1922.

### BUTTER

Sales on Dairy Exchange:

Following quotations carry a jobber-to-jobber discount of 10 per cent, plus a seller's handling charge of 2 per cent of net invoice:

| | |
|---|---|
| Extras (Dec. 27) | 53½ |
| Firsts (Dec. 27) | 53 |

### CHEESE

Dairy Exchange quotations:

| | |
|---|---|
| California Flats (Dec. 27) | 24½ |
| Cal. Y. A. fy (Dec. 27) | 28½ |

### EGGS

Dairy Exchange Quotations:

| | |
|---|---|
| California Extras (Dec. 27) | 58 |
| Extra Pullets (Dec. 27) | 53 |
| Undersized (Dec. 27) | 47½ |

### POULTRY

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock the morning of December 26, by San Francisco jobbers from their sales to retailer, hotels, restaurants, cafeterias, etc. Slight fluctuations may be noted during the day's trading.

Broilers: 1 to 1¼ lbs., 33@35 per lb.; 1½ to 1¾ lbs., 30@32 lb. Colored, 25@27 per lb.

Fryers: Leghorn, 2 lbs., 25@28 per lb. Colored, 2 to 3¼ lbs., 25@27 per lb.

Young Roosters: Colored 3½ lbs. and up, 21@27 per lb. Staggy, showing spurs, 21@23 per lb.

Old Roosters: Colored, 17@18 per lb. Leghorn: 14@15 per lb.

Leghorn Hens: 2½ to 3 lbs., 18@28 per lb.

Large Colored Hens: 26@28 per lb. Off stock 23@25 per lb.

Ducks: Young, 18@20 per lb. Off stock, 15@18 per lb.

Geese: Young, 20@25 per lb., according to quality.

Live Turkeys: 30@34 per lb.

Dressed Turkeys: 33@38 per lb.

Belgian Hare: Live, 15@18 per lb.

Jack Rabbits: 2@2.50 per doz.

Squabs: Common, 2.00@3.50 per doz.

### LIVESTOCK

In reviewing conditions governing the local livestock market during the past week the Federal-State Livestock Market News Service says:

Cattle prices, per cwt. (delivered off cars from San Francisco)—Beef steers, good grades, 7.75@8; medium grade, 7@7.50; common grade, 6@6.75; beef cows, good grade, 5.75@6; medium grade, 5.25@5.50; common grade, 4@5; canners and cutters, 2@3.50; bologna bulls, 3.00@4.50.

Calves: 150 to 200 pounds, good and choice, 7.50@7.75; 200 to 250 pounds. 7.25@7.50; 250 to 300 pounds, good and choice, 6.75@7.25; over 300 pounds, 5.50@6.50.

Hogs: Good and choice grain fed Californias, 150 to 200 pounds, 9.75@10.00; 200 to 250 pounds, 9.00@9.50; 250 to 300 pounds, 8.00@8.50; over 300 pounds, 7.00@7.50; smooth sows, 250 to 300 pounds, 6.50@7.00; rough sows, 250 to 300 pounds, 5.50@6.00; over 300 pounds, 4.50@5.50.

Sheep and Lambs—Lambs, good and choice grades, 13.50@14; medium grades, 13@13.50; ewes, medium and good, 5.50@6.50; wethers, medium and good, 8.50@10.

### HOG AUCTIONS

California Farm Bureau Marketing Association reports:

| No. Hogs | Av. Wt. | Dock | Price |
|---|---|---|---|
| **Fresno, Dec. 12** | | | |
| 37 | 172 | .... | 8.50 |
| 5 | 174 | .... | 8.00 |
| 2 | 240 | .... | 7.50 |
| 9 | 266 | .... | 6.00 |
| 53 hogs | | | |
| ½ car. 4 consignors, $780.00. | | | |
| **Tulare, Dec. 19** | | | |
| 94 | 172 | .... | 9.10 |
| 104 | 157 | 20 | 8.80 |
| 92 | 185 | 30 | 8.60 |
| 8 | 127 | .... | 8.55 |
| 92 | 186 | .... | 8.50 |
| 90 | 198 | .... | 8.20 |
| 17 | 191 | 20 | 8.05 |
| 42 | 233 | .... | 7.55 |
| 2 | 340 | 40 | 5.05 |
| 1 | 760 | stag | 4.25 |
| 15 | 67 | feeders | 12.00 |
| 557 hogs | | | |
| 6 cars, 43 consignors, $8,559.32. | | | |
| **Visalia, Dec. 20** | | | |
| 88 | 173 | .... | 9.05 |
| 95 | 171 | .... | 9.00 |
| 23 | 186 | .... | 9.00 |
| 3 | 313 | .... | 8.70 |
| 83 | 208 | .... | 8.70 |
| 31 | 128 | feeders | 8.10 |
| 82 | 121 | feeders | 7.50 |
| 26 | 239 | .... | 7.05 |
| 16 | 302 | .... | 6.55 |
| 3 | 333 | 50 | 5.05 |
| 450 hogs | | | |
| 5 cars, 18 consignors, $6,647.16. | | | |
| **Hanford, Dec. 21** | | | |
| 59 | 188 | .... | 9.25 |
| 78 | 159 | .... | 9.25 |
| 95 | 135 | .... | 9.00 |
| 65 | 96 | feeders | 8.60 |
| 12 | 236 | .... | 8.25 |
| 1 | 420 | .... | 7.50 |
| 1 | 230 | .... | 8.25 |
| 4 | 357 | 70 | 6.25 |
| 1 | 500 | .... | 5.00 |
| 316 hogs | | | |
| 4 cars, 21 consignors, $4,267.11. | | | |
| **McFarland, Dec. 22** | | | |
| 99 | 156 | .... | 9.20 |
| 4 | 185 | .... | 8.50 |
| 34 | 195 | .... | 8.50 |
| 39 | 116 | .... | 8.25 |
| 14 | 223 | .... | 8.00 |
| 9 | 330 | 120 | 5.50 |
| 199 hogs | | | |
| 2 cars, 13 consignors, $2,856.26. | | | |
| Totals: 1,015 hogs, 17½ cars, 99 consignors, $23,109.85. | | | |

### POTATOES AND ONIONS

Sales to Retailers: Averages of actual prices obtained December 26, between 7:30 and 9 o'clock by San Francisco wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on the walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Potatoes: Cwt. 90@1.85.

Sweet Potatoes: 2@2½ per lb.

Onions: Cwt. Brown, Yellow and White at wharf, 1.50@1.75; green bx., 1.50@1.75.

Garlic, 5@8.

### VEGETABLES

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, December 26, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Artichokes: 22.00@24.00 per cr.

Beans: Kentucky Wonder and Wax, 6@7½ per lb. French, 18@20; Limas, 7@9

Brussels Sprouts: No. 1, 6@7½ per lb.

Cabbage: 1@1¾ per lb.

Cauliflower: Doz.. 1.00@1.25.

Celery: Local, 2.50@.75 cr.

Cucumbers: English, 2.00@3.00 doz.

Eggplant: Southern, lb. 6@7.

Endive: Lb., 65.

Lettuce: 1.25@3.25 cr.

Mushrooms: Lb., 25@40.

Olives: Ripe, 7@8.

Peas: Imp. Valley, 8@16 lb.

Peppers: 5@8.

Rhubarb: So. 1.00@1.50 box.

Sacked Vegetables: Carrots, 1.00@1.25; turnips, 1.00@1.75; beets. 1.00@1.25; pumpkin and squash, 1.25@1.50.

Spinach: 3@5.

Squash: Summer, 1.25@1.75 L. A. lug.

### FRESH FRUIT

Prices furnished by state department of agriculture, division of markets:

Sales to Retailers: Below are listed averages of actual prices obtained between 7:30 and 9 o'clock, December 26, by wholesalers from their sales to retailers, hotels, restaurants, cafeterias, etc. Terms: Cash on walk. Slight fluctuations may be noted during the day's trading, while higher prices are sometimes obtained where credit is given or goods are delivered.

Avocados: Doz., 1.50.

Grapes: Cr., 1.00@1.65.

Pears: Bx., 1.00@2.75.

Persimmons: 75@1.25 flat cr.

Quinces: 75@1.50 box.

### CITRUS FRUIT

Grapefruit: Southern California, 2.00@3.00; Arizona, 4.00@5.00 box; Imp., 6.00.

Lemons: Special pack, 6.00@6.50 box. Choice, 5.00@6.00. Lemonettes, 2@4.00 box

Oranges: Navels, 3.50@4.50 box; Tanger-Navels, 3.50@4.50 box; Tangerines, 2.00 ines, 3.50@4.00 lug.

### BEANS

Shipping prices for 100 pounds. Quotations from California Bean Growers' Association, C. R. C., 1922 beans:

Large whites, 6.25; small whites, 6.35; pinks, 6.40; Mexican reds, 5.70; red kidneys, 7.50; Henderson Bush, 10.00; cranberry, 7.75; bayos, 7.40; blackeye, 5.00.

### HAY AND FEEDSTUFF

Under date of December 23, A. W. Scott Co says:

Receipts past week 1402 compared with 1101 previous week. Local market weak and lower. Receipts heavier than could be comortably handled. Export and coast shipments have been steady. Interior trading light and scattered. Alfalfa continues quiet and depressed. Prospect of weaker market in Nevada. Pasture conditions are excellent and have a tendency to depress demand.

We quote today wholesale prices in carload lots as appear from dealers' transfers upon the market in San Francisco (for prices to consumers, charges for switching, cartage, commission and handling expenses must be added according to conditions.) Transportation bad, scarcity and high prices for spot.

| | |
|---|---|
| Wheat Hay, No. 1 | 17.00@20.00 |
| Wheat Hay, Fair grade | 15.00@17.00 |
| Tame Oat Hay | 17.00@21.00 |
| Wild Oat and Barley Hay | 14.00@16.00 |
| Alfalfa Hay | 19.00@21.00 |
| Stock Hay | 12.00@15.00 |
| Straw | 11.00@12.00 |
| Barley, Ground | 35.00@37.00 |
| Rolled | 33.00@35.00 |
| Oats, Rolled Feed | 45.00@48.00 |
| Bran | 37.00@39.00 |
| Millrun | 35.00@41.00 |
| Middlings | 47.00@50.00 |
| Linseed Meal | 58.00@60.00 |
| Coco Meal | 34.00@36.00 |
| Alfalfa Meal | 30.00@31.00 |
| Cottonseed Meal | 51.00@53.00 |
| Molasses Beet Pulp | 44.00@46.00 |
| Milo | 45.00@46.00 |
| Corn Meal or Cr. Corn | 46.00@48.00 |
| Whole Corn | 41.00@43.00 |
| Scratch Feed | 50.00@52.00 |

### GRAIN

Prices S. F. Grain Exchange, December 26, f. o. b. S. F. warehouse and storage charges paid.

Wheat: Mill, 2.25@2.30; feed, 2.20@2.25.

Barley Feed, 1.47½@1.52½; shipping, 1.52½@1.57½.

Oats: 1.60@1.75.

Corn: Colored Milo, 1.80@1.90; No. 2, bulk, 1.80@1.85; No. 2 Eastern Yellow, 1.80@1.82.

# Citrus Markets

Los Angeles, December 27, 1922.

The opening of the new season finds the market in a rather unsatisfactory condition. In its comment on the situation the Fruit World finds that "Experience of the past year throughout the nation indicates limited buying power in many parts of the country. Sales are made freely when prices are kept down. But sales resistance becomes almost insurmountable when prices are advanced in the present situation. Many of the financial industrial factors indicate business prosperity, but attempts in all lines to speed up business and raise prices have been brought to a halt by the lack of buying power. The trouble nationally lies in the wide disparity between prices of different commodities and especially between those prices the agriculturalist has been getting for what he sells and pays for what he buys or consumes. This is a severe brake on trade generally. It means a lack of buying power on the part of about half of the people."

At the present moment some holdover holiday fruit is being rapidly unloaded but usually at rather low prices. Florida's shipments are largely in excess of last year at same date. These shipments will continue heavy during the entire season.

Lemons are going forward in limited quantity and are being quickly sold around prices equivalent to 4.00 to 6.00 f. o. b. California.

### Shipments

Shipments of citrus fruit to date since November 1, 1922:

Southern California: Oranges 1171 cars; lemons, 588; total 1759. To same date last season, oranges, 1126; lemons, 801; total, 1927.

Central California: Oranges, 3537; lemons, 70; total, 36607. To same date last season, oranges, 3804; lemons, 27; total, 3831.

Northern California: Oranges, 266; lemons, 20; total, 286. To same date last season, oranges, 343; lemons, 3; total, 346.

### AT THE AUCTIONS

**December 26**

Boston: 7 cars Nav. 5 lem. Nav. 2.10@4.90, lem. 3.50@7.15.

Philadelphia: 3 Nav., 1 lem. Nav. 2.05@3.15, lem. 3.95@5.10.

New York: 25 Nav., 2 lem. Nav. 2.90@5.45, lem. 3.60@6.85.

Pittsburgh: 3 Nav., 1 lem. Nav. 1.95@4.00, lem. 5.05.

St. Louis: 1 Nav., 1 lem. Nav. 2.70@3.00, lem. 3.85@4.95.

# Snappy Notes on Livestock

**By A. L. Spellmeyer**

Christmas and the holidays always affect cattle markets. Beef showed strength for quality when packers paid 8.25 last week for some 1120 pound beet pulp steers and 7.90 for some light but well finished steers. Cows and heifers showed advancing strength with prices 5.50 to 6.25. Calves seem draggy though fresh lots will be in demand shortly. There has been a big demand for light feeder pigs around nine cents, few were in, but they are now coming. There is a demand for good grade weanling steers 400 average up from 5.00 to 5.50 and quality might bring more. Half of the cause of uneven prices on some lots of feeder steers is because they cannot be secured in three to six car lots as the California men want them. Again the California demand is for quality cattle. They see what top beef brings as compared to ordinary and want to reach that grade instead of common. Cows were scarce of common kind last week, but some are coming in now around the five cent mark fat enough to kill.

There is increasing demand for feeder and young grass cattle and feeder hogs throughout California, but the local stockmen don't realize on these markets; it's quick cash business, and when they see something it's too late to go back and talk it over with their bank, or that a buying order must be accompanied by instruction from their local bank, as irrespective of parties the demand of government direction of stockyards makes imperative the full and thorough protection of producers on a cash basis at markets.

No increase is noted on common twos feeder steers or common yearlings as they hang around the 5 to 5.25 prices, though a quality feeder brings more. Everywhere in California there is a call for cattle and yet small lots drag cheaper than they can be bought on ranges in these ordinary Arizona cattle. Some cracking good registered bulls and heif-

rs are being offered generally to California at prices from 100 to 150 per head.

The meeting of the American National Livestock Association is scheduled to take place in Los Angeles January 30-31. Carry the word, for this will be one of the greatest meets of cattlemen ever held in this U. S. A. Arrange to come. Let's get the California problems threshed out on a national basis. Around the stockyards things are gradually shaping up, and it is now reported the bus line will start from 26th and Santa Fe, New Year's week. Most of the commission men have already secured and filed their $15,000 bonds in addition to the $5000 stockyards bond. This, together with the market sales accounts ordered by the government, fully protect producer consignments.

E. W. Baker is here from Washington, taking over the market reports temporarily until a permanent man arrives to replace Nelson R. Crow who resigned recently. Mr. Baker is one of the crack market men of the department of agriculture, and has a wide reputation along that line.

Another producer protection offered by private parties is the arrangement to pasture cattle up to 500 head within 30 miles and 75 cents per head railroad rate from Los Angeles. The pasture offered is fine green, well watered and fenced, with bur clover and alfileria in low frostless browse hills, with unloading near. The rate is from 6 cents to 10 cents per day for fattening green feed, with all stray loss guaranteed. No doubt other places will follow the lead of these parties who figure to handle cattle towards yards or from yards. California generally is a garden now.—A. L. Spellmeyer.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B. T. S. (dry barium sulphur) 40-50 lbs.
Bordeaux Paste 36-40 lbs.
Bordeaux Powder 18-20 lbs.
} 200 gal. tank

This is the right spray for the full control of California Peach Blight and Brown Rot. Now is the time to use it. If scale insects are present, or if more sticking quality or penetration is desired, add Miscible Oil and Glue to the above formula as outlined in our Deciduous Bulletin.

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(If scale insects alone are present)

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|---|---|---|---|---|
| 25 .. lbs. | | B. T. S. | 15 | lbs. |
| 2½ gals. | | TRIUMPH | 1½ | gals. |
| | | and | | |
| 1 | lb. | GLUE | 1 | lb. |
| | | or | | |
| | | LIME SULPHUR | | |
| 10 | gals. | TRIUMPH | 4 | gals. |
| 2½ | gals. | | 1½ | gals. |
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| 1 | lb. | GLUE | 1 | lb. |

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### AGRICULTURAL LEGISLATIVE COMMITTEE BUSY

When the agricultural legislative committee presented its recommendations for appropriations for the state institutions that have to do with agriculture, it told Governor-elect Richardson that while it had pruned the budgets as closely as possible in conformance to his announced economy policy, increases would be necessary for the interest of agriculture in California. Accordingly, the recommendations for the college of agriculture of the University of California provide for increased appropriations of $675,000 for the next biennium; and for the department of agriculture, $126,049.

Many economies are suggested in the state department of agriculture. The divisions of insecticide control, and of weights and measures, for instance, the committee believes should be made self supporting through fees. The viticultural division, upon the advice of grape growers, is eliminated in the recommendations and its work transferred to the college and the California Cooperative crop reporting service.

The greatest increase recommended is for plant quarantine work which the agricultural legislative committee believes is vitally important to the fruit industry of the state. For this work the committee recommends appropriations of $234,310 for the biennium, an increase of $125,430 over the present appropriation. An increase of $5,140 is recommended in the plant pest control work; but the appropriation for this includes $62,000 for biological control which the committee advises be transferred to the college of agriculture as it is of a research nature.

In the college of agriculture the increases recommended include one item of $375,000 for capital expenditures, such as buildings, equipment, etc. The other increases are these: poultry, $17,000 for an investigation of the deterioration of the quality of eggs and of food elements in poultry nutrition; $33,000 for work in agronomy; $62,500 for dairying; $89,000 for work on deciduous fruits, viticulture and vegetables; $8,000 for goat and bee investigations; $44,200 for work in subtropical fruits; $58,000 for livestock work; $52,000 for agricultural extension; and $11,500 for miscellaneous work.

The agricultural legislative committee, which is composed of 31 commodity organizations in California, with 60,000 producers as members, will follow its recommendations with an active campaign in the legislature to secure their adoption. Two years ago the committee was successful in winning every fight of any importance that it undertook.

In addition to the work on appropriations, the committee will watch every bill introduced, and through its secretary, R. N. Wilson, will closely scan those pertaining to agriculture. A digest of their provisions will be made and forwarded to the groups whose interests are affected by the measures. In this way they will have an opportunity to oppose or support the bills in the legislature as their interests are threatened or benefited.

The North Dakata Federation of Wool Growers Associations reports the sale of its entire pool at prices which will net the consignor 35 cents per pound. President J. A. Power says that growers are now signing a three-year agreement.

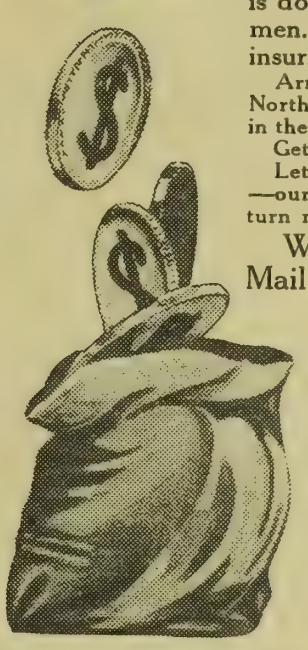
### WEATHER REPORT

San Francisco, December 23, 1922.

| Stations | Rainfall Week | Rainfall Season | Norm. | Temp. Max. | Temp. Min. |
|---|---|---|---|---|---|
| Eureka | .23 | 10.95 | 14.90 | 62 | 38 |
| Red Bluff | .07 | 10.15 | 8.88 | 66 | 38 |
| Sacramento | .22 | 8.11 | 6.18 | 58 | 40 |
| San Francisco | .85 | 11.91 | 7.08 | 60 | 41 |
| San Jose | .28 | 8.24 | 5.32 | 64 | 36 |
| Fresno | .06 | 2.94 | 3.04 | 62 | 42 |
| San Luis Obispo | .50 | 11.58 | 5.01 | 74 | 40 |
| Los Angeles | .04 | 4.69 | 4.26 | 80 | 52 |
| San Diego | .03 | 2.01 | 2.55 | 74 | 50 |


# there's money in---

## Armstrong Walnut Trees



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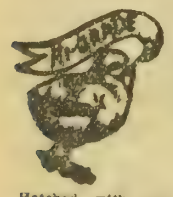

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# Arrowhead Chicks

By Jean A. Koethen

CLOSE up against the foot of the San Bernardino Mountains and right in the shadow of the Arrowhead, looking out on a view that includes the city and valley of San Bernardino is a 5000 hen ranch that is both complete and up-to-date. When Mr. and Mrs. Butler L. Pierce bought their ten acres on this beautiful slope they planned for a combination fruit and poultry ranch, and the combination has been an unqualified success. The growing pullets have the run of the orange grove and store up strength and vigor for the strain of production while the fertilizer produced by 5000 hens and twice as many chicks is a wonderful help to the grove.

The long houses on Mr. Pierce's ranch are divided into sections 18 by 18. Ten of these 18 foot sections are changed at the beginning of the hatching season to brooder houses, and here, when I visited the ranch in March, 5000 chicks were being brooded.

**Profitable Producers**

Flock of layers at Pierce Ranch, just below Arrowhead. Note the sections equipped for brooding at right end of long house.

### Quick Transformation

It is only a couple of days work for Mr. Pierce and his man to change ten laying houses into brooder houses. Roosts and droppings boards are removed, temporary partitions put in, air shafts built on opposite sides of each room, canvas or wooden shutters fastened over the open front, the big Kresky stove put up in the middle of the brooding room, slatted roosts arranged in the playroom, the floor covered with clean sand and scratching material, and the thing is done. Two rooms are allotted to each 1000 chicks, the brooder room and an unheated room adjoining. The brooder room has no exit into the outside run. In order to get out of doors the chicks must go through the playroom. At the right of the picture may be seen the portion of the house used for chicks, with its separate yard and low door in every other room.

### Starting the Chicks

When the chicks are first placed in the brooder room the corners are wired off with two inch mesh if necessary. It is not always necessary but when a thousand chicks are brooded around one stove there is always danger that some will wander away and pile up in the corners.

The heat is started at 80 degrees and gradually reduced to 68 degrees at the end of three weeks. The first meal, given when the chicks are about 72 hours old, consists of commercial chick feed. This is fed on small, new pie plates, and the chicks have no other feed for four or five days.

After five days a mixture of mash and chick scratch is fed for a day or two, and then the chicks go onto a regular schedule of three feeds of scratch and two of mash daily. The mash is mixed on the place and consists of 100 pounds corn meal, 80 pounds coarse red bran, 40 pounds shorts, 10 per cent bone meal and 5 per cent charcoal. No beef scrap is given till the chicks are six weeks of age.

Until the end of the sixth week the grain given is commercial chick scratch. A gradual change is then effected to an equal mixture of cracked corn, cracked wheat and hulled barley. When this mixture has been fed for a short time the mixture is gradually changed, or, to use Mr. Pierce's expression, "tapered off" to cracked corn and whole wheat, the barley being eliminated.

The regular feeding schedule after the first nine or ten days is as follows: Early morning, scratch grain left over from previous night. 9 a. m. mash in troughs, what the chicks will clean up in a half hour. 12 o'clock, scratch in litter. 2 p. m., mash. 4 or 4:30 p. m., scratch for night and morning.

As soon as pullets are separated from cockerels they are given the run of the orchard, and it is this unlimited free range which is responsible, Mr. and Mrs. Pierce believe, for the splendid production and vitality of their hens. Seven hundred and thirty hens were laying in March an average of nearly 500 eggs daily and were on a ration which consisted of 75 per cent mash, a proportion of mash which could be digested only by very vigorous birds.

### Early Layers Best

By segregating the pullets that begin earliest to lay and comparing their record with that of pullets that began a little later Mr. Pierce has proved to his own satisfaction that early layers are the best producers. Last year 750 pullets were picked out at 3½ months by their comb development and other indications of approaching maturity, and these pullets produced from 6 to 10 per cent more eggs than the rest of the flock.

### Kelly Ranch

Half a mile below the Pierce Ranch on Arrowhead Avenue is another well equipped and very profitable poultry ranch, that of Mr. and Mrs. A. C. Kelly. The eggs from the Kelly ranch find a steady market at the Arrowhead Sanitarium for disabled soldiers, where they bring the highest retail price the year around.

Mrs. Kelly has made a very careful study of the problems of chick raising, and last year lost only ten per cent out of 2000 chicks the first ten weeks, an unusual record for a large flock. She showed me a beautiful lot of pullets hatched January 3, some 800 or 900 in all, with hardly a cull in the bunch. Cockerels from this hatch were removed from the third week on, or as soon as their sex was evident, and were fattened and sent to market when they weighed about one pound each. One hundred eight weeks old cockerels sold for $160, and 300 later for $120, and there were still about 300 in the flock. Mrs. Kelly figured on getting enough for her cockerels to cover the $360 the chicks cost.

### Careful Feeding

The nursery feed of the baby chicks is chick feed and oat flakes mixed half and half. This mixture is fed for three days, and water and grit are before them. The third day mash is fed at 9 a. m., one quart of mash being allowed to 200 chicks. The same day they are given their first meal of green feed, which consists of alfilaria cut fine. Mrs. Kelley considers alfilaria the best of all greens for chicks.

After another three days, during which they learn to eat mash and

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greens, the chicks are put on this schedule:

Grain at daylight, mash at 9 a. m., greens at 11 a. m., grain at 1 p. m., grain at 4 p. m.

They are allowed all the grain they will eat, but the allowance of mash is limited at first to a quart to 200 chicks per day. After three days the amount is increased to 1½ quarts to 200 chicks, and then is very slowly increased till at the age of ten weeks nine gallons of buttermilk mash is allowed daily for a flock of 800 pullets. This limiting of the mash, Mrs. Kelly believes, is largely responsible for the fact that there has been no coccidiosis in her flock this year.

Clean, commodious, well ventilated houses, the best possible drainage and most exacting care all combine to make the Kelly ranch profitable and interesting. As we drove away over a boulevard smooth as glass I could not help recalling the days 30 years ago and more when Riverside young folks used to drag through the sand and a wilderness of sage brush over that same road for picincs at Arrowhead. It was an all day trip then from Riverside to Arrowhead and back. Now boulevards through a country dotted with attractive ranches make it a short pleasure drive and San Bernardino reaches almost to the foot of the grade.

## RABBITS FOR MARKET

By William A. Bixler

SPEAKING from experience, it is my opinion that there is as much real money in raising rabbits for the meat pen as in raising them for fancy stock to be sold for breeding purposes only.

Rabbits bred from select does and bucks for fancy stock must necessarily receive more care and there are fewer litters. They bring fancy prices where there is a market for such stock, but the same purebred stock bred and fed to produce weight will bring more and heavier animals for the meat pen.

It is possible to breed Red and White New Zealands, American Blues and Flemish Giants so that the young will average four pounds at two months of age. As there is a steady demand for young rabbits during this season at a market price of 18 to 20 cents a pound, live weight, it is plain to see what a doe will produce in dollars and cents.

Many people of California consider domesticated rabbit an important part of their dinner menu. One buyer in Los Angeles sends trucks to neighboring towns as far distant as 80 miles and handles from 400 to 600 rabbits a week. Many others are also handling large quantities. At all well regulated meat markets, if there are any to be had, can be found dressed rabbit.

Rabbit buyers demand that the prevailing price be for rabbits weighing four pounds and under; but it is a fact that the flesh from animals of a more mature age has a more delicious flavor when properly cooked.

Some people have the idea that because the rabbit will eat anything, green weeds, vegetable tops, apple and potato parings, etc., that this is all the feed necessary. Let me drop a word of warning right here, it is not safe to feed green tops from vegetables purchased at the market as sometimes poisons are used on vegetables to kill insects.

It is true that young rabbits will eat green feed, but their flesh will not be as firm nor will they put on weight as fast as when fed more solid food.

The best feed to produce good firm flesh is rolled barley and dry alfalfa hay. Growing rabbits for market should be fed about all they will clean up twice a day; the barley in a small crock and the hay in a feeder made of one-inch mesh woven wire. Hay should never be thrown loose into the hutch for the rabbits to tramp on.

Plenty of clean fresh water should be kept in the hutch at all times. Good airy, sanitary hutches with plenty of room are conductive to rapid, healthy growth.

---

Kerosene is a satisfactory engine fuel only in engines built for the purpose.

## SONOMA EGG LAYING CONTEST

The 43 entries of 10 birds each with two alternates, all Single Comb White Leghorn pullets, finished the first month of the third annual contest at Petaluma with an average production of 35.6 per cent for November. Production for the first week was 35.5 per cent, 32.1 per cent for the second week, 37.2 per cent for the third week of eight days, and 38.2 per cent for the fourth week of eight days. It will thus be seen that the birds have overcome the handicap of moving, changed quarters, etc., and the egg production is increasing.

### Feed

The following ration is being used in the contest this year: Mash: 160 pounds, bran 100 pounds mids, 130 pounds ground corn, 60 pounds ground barley, 50 pounds 50 per cent protein beef scrap, 50 pounds 58 per cent protein fish scrap, 15 pounds charcoal and three pounds salt. The grain mixture is based on the following proportions of 200 pounds cracked corn, 100 pounds wheat, 100 pounds recleaned whole barley.

During the month the birds consumed an average of 2.6 pounds mash, 3 pounds mixed grains and 4.4 pounds green feed per bird. Feeding of a damp, crumbly mash was started November 15 and 225 pounds were consumed by the flock during the remaining part of the month. During the first week the birds were fed grain at the rate of 12 pounds per hundred hens per day, for the purpose of building up their body weight. However, as shown in the above figures it was found that they were not consuming sufficient mash and the grain feed was cut down to ten pounds per hundred hens which resulted in a greater consumption of mash. The total consumption of feed, grain and mash per hen for each week period for the month was first 1.08 pounds, second 1.22 pounds, third 1.51 pounds, fourth 1.52 pounds. It will thus be seen that the consumption of feed increased as the rate of production of eggs increased.

### Feeding Schedule

At 7:30 a. m., 10 per cent of the daily grain ration; 10 a. m., chopped green feed, barley and kale, which lasts until approximately 3:30 p. m.; 12 m, crumbly mash, 14 pounds of the laying mash mixed with finely chopped greens and water; 4 p. m., 90 per cent of the daily mixed grain ration; 4:30 p. m., another feeding of chopped greens sufficient to last until approximately 9 o'clock the following morning. Shell, grit and charcoal are kept in the hoppers before the birds at all times.

### Electric Lights

Starting November 1, the first day of the contest, the lights were turned on at 5 a. m. Starting the second week they were turned on at 4:45 a. m., the third week at 4:30 a.m. They will be continued thus throughout the winter and spring until approximately February 15.

### High Pens First Month

T. B. Purvine, Two Rock, 158; V. H. Guthrie, Petaluma, 157; James Gage, Novato, 155; T. P. Purvine, Two Rock, 155; Ernest Williams, Sebastopol, 150; Ernest Williams, Sebastopol, 141; E. O. Hussey, Petaluma, 137; H. J. Hardin, Petaluma, 132; V. H. Guthrie, Petaluma, 132; Brown Bros., Petaluma, 130.

### High Hens

James Gage, Novato, 23; Ernest Williams, Sebastopol, 23; Garica & Sarich, Sonoma, 22; James Gage, Novato, 22; Ernest Williams, Sebastopol, 22; Ernest Williams, Sebastopol, 22; S. P: Nielsen, Petaluma, 22; T. B. Purvine, Two Rock, 22; J. E. Iddings, Two Rock, 22; T. B. Purvine, Two Rock, 22; M. D. MeLeod, Sebastopol, 22.

## SOUTHERN CALIFORNIA EGG LAYING CONTEST

Total production for the contest flock for November was a little less than that for October but about five per cent higher than that for the same month last year. M. & M. Poultry Ranch S. C. R. I. Red won high place for the month with a production of 26 eggs. Two Leghorns tied for second place with 25 each.

### Highest Pens

Average eggs: Geo. B. Wilken, 14.67. Highland Ranch, 13.97. Ferd Heying (S. C. R. I. R.) 13.52. C. H. Taylor, 13.27. M. L. Frick, 13.23. Geo. F. Dair, 12.47. J. P Steward, 11.67. J. D. Jacks, 10.97. Frick, 8.44. S. S. Foote (Brd. P. R.) 8.37.

### Highest Birds

Average eggs: M. & M. Poultry Ranch (S. C. R. I. R.) 26. E. Phipps, 25. Frick, 25. Blackman & Mumford, 24. Heying, 24. Geo. F. Dair, 24. Taylor, 24.

### Highest Birds to Date

Blackman & Mumford, 51. M. & M., 49. Heying, 48. Taylor, 45. E. Phipps, 45. Dair, 45. E. E. Eisenberg, 44. Heying, 44. Taylor, 43. Blackman & Mumford, 43. Wilken, 43. J. P. Steward, 43.

## UTAH BUYS CHICKS FROM SONOMA COUNTY

Benjamin Brown and H. Metzger, representing the Utah State Poultry Association, visited California recently to place an order for 100,000 chicks. The first visit was made to Sonoma County where M. W. Buster, assistant farm adviser, and E. R. Temperli, inspector for the Sonoma County farm bureau accredited hatcheries, showed them around the poultry districts of the county and explained to them thoroughly the organization and operation of the breeding projects being conducted in this county, particularly the Sonoma County farm bureau accredited hatchery project. The result was that they placed their entire order with a number of the Sonoma County farm bureau accredited hatcheries instead of dividing with other poultry sections of the state as they had originally intended.

---

The largest oil producing area of the United States is known as the Mid-Continent field, embracing Kansas, Oklahoma, Northern and Central Texas, Northern Louisiana and Arkansas. Nearly 55 per cent of the country's oil comes from this section.

---

The meal hour should be a happy, cheerful one. Avoid if possible discussion of business affairs. Remember that "A meal well chatted is half digested."

---

A laugh is worth a hundred groans in any market.—Charles Lamb.


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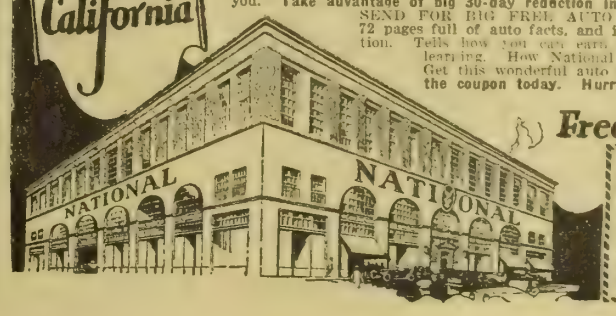


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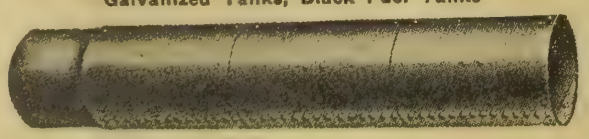

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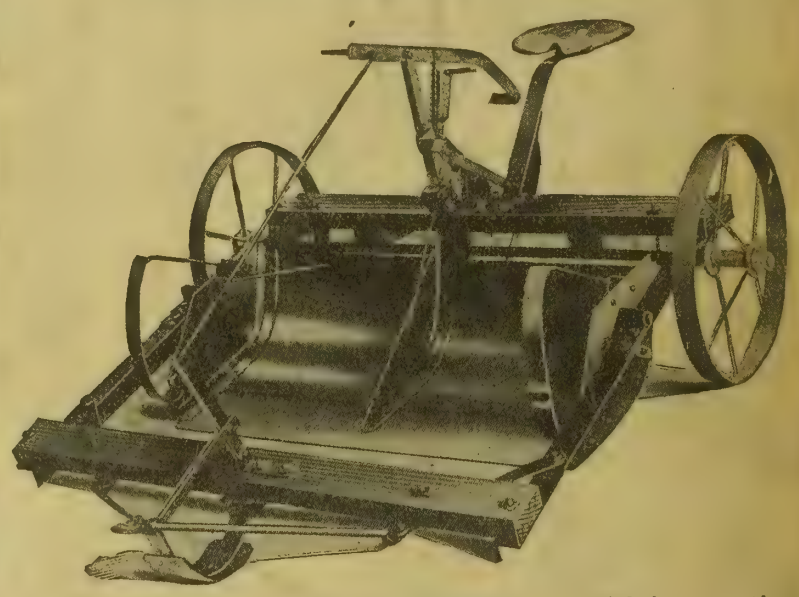

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